System Automation for z/OS
Version 4.Release 1

Operator's Commands

IBM

Note

Before using this information and the product it supports, read the information in <u>Appendix A,</u> <u>"Notices," on page 483</u>.

Contents

Figures

Tables

Accessibility

Accessibility features help users with physical disabilities, such as restricted mobility or limited vision, to use software products successfully. System Automation for z/OS supports several user interfaces. Product functionality and accessibility features vary according to the interface.

The major accessibility features in this product enable users in the following ways:

- Use assistive technologies such as screen reader software and digital speech synthesizer, to hear what is displayed on screen. Consult the product documentation of the assistive technology for details on using those technologies with this product and screen magnifier software
- Operate specific or equivalent features using only the keyboard
- Magnify what is displayed on screen.

The product documentation includes the following features to aid accessibility:

- All documentation is available to both HTML and convertible PDF formats to give the maximum opportunity for users to apply screen-reader software
- All images in the documentation are provided with alternative text so that users with vision impairments can understand the contents of the images.

Using assistive technologies

Assistive technology products, such as screen readers, function with the user interfaces found in z/OS®. Consult the assistive technology documentation for specific information when using such products to access z/OS interfaces.

Keyboard navigation of the user interface

Users can access z/OS user interfaces using TSO/E or ISPF. Refer to *z/OS TSO/E Primer*, *z/OS TSO/E User's Guide,* and *z/OS ISPF User's Guide Vol 1* for information about accessing TSO/E and ISPF interfaces. These guides describe how to use TSO/E and ISPF, 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.

About this publication

This publication provides detailed information and reference material for operating IBM System Automation for z/OS (SA z/OS).

Throughout this publication references to MVS™ refer either to MVS/ESA, or to the MVS element of z/OS.

Who Should Use This Publication

This information is intended primarily for operators and system programmers. It may also be useful for others, for example, help desk personnel and customer engineers.

Where to Find More Information

The System Automation for z/OS Library

Table 1 on page xix shows the information units in the System Automation for z/OS library. These manuals can be downloaded from IBM Documentation.

Table 1. System Automation for z/OS library		
Title	**Form Number**	**Description**
Get Started Guide	SC27-9532	This book is intended for SA z/OS beginners. It contains the information about early planning, configuring the product, making it secure, customizing your automation environment, and the basic operational tasks that you perform on a daily basis.
Planning and Installation	SC34-2716	Describes SA z/OS new capabilities and how to plan, install, configure, and migrate SA z/OS.
Customizing and Programming	SC34-2715	Describes how to adapt the standard installation, add new applications to automation, write your own automation procedures, and add new messages for automated applications.
Defining Automation Policy	SC34-2717	Describes how to define and maintain the automation policy.
User's Guide	SC34-2718	Describes SA z/OS functions and how to use SA z/OS to monitor and control systems.
Messages and Codes	SC34-2719	Describes the problem determination information of SA z/OS, including messages, return codes, reason codes, and status codes.
Operator's Commands	SC34-2720	Describes the operator commands available with SA z/OS, including their purpose, format, and specifics of how to use them.
Programmer's Reference	SC34-2748	Describes the programming interfaces of SA z/OS and the definitions for the status display facility (SDF).

Table 1. System Automation for z/OS library (continued)		
Title	**Form Number**	**Description**
End-to-End Automation	SC34-2750	Describes the end-to-end automation adapter for z/OS and how it enables end-to-end automation and how it connects to Service Management Unite Automation.
Service Management Unite Automation Installation and Configuration Guide	SC27-8747	Describes how to plan, install, set up, configure, and troubleshoot Service Management Unite Automation.
Product Automation Programmer's Reference and Operator's Guide	SC34-2714	Describes how to customize and operate product automation components (CICS, Db2, and IMS automation) with SA z/OS to provide a simple and consistent way to monitor and control all of the CICS, Db2, and IMS regions, both local and remote, within your organization.
TWS Automation Programmer's and Operator's Reference Guide	SC34-2749	Describes how to customize and operate TWS Automation.

Related Product Information

For information that supports System Automation for z/OS, visit the z/OS library in IBM Documentation (https://www.ibm.com/docs/en/zos).

Summary of Changes for SC34-2720-01

This document contains information previously presented in System Automation for z/OS V3R5.0 Operator's Commands, SC34-2720-00.

You may notice changes in the style and structure of some content in this document—for example, headings that use uppercase for the first letter of initial words only, and procedures that have a different look and format. The changes are ongoing improvements to the consistency and retrievability of information in our documents.

This document contains terminology, maintenance, and editorial changes.

New Information

The following information and commands have been introduced:

INGSUSPD command
> This new command can suspend and resume automation for one or more resources.

INGWHY command
> This new command can initially analyze why a resource is in the displayed status or why it cannot be brought into the desired status.

INGE2E command
> This new command can provide the operational API for the end-to-end automation adapter and the end-to-end agent.

INGDB2 command
> Security considerations is added to INGDB2 command.

INGREQ and INGRUN commands
> Value SUS is added to the OVERRIDE parameter of these two commands.

INGSET command
> The request types Suspend_Only and Suspend_All are added.

Changed Information

Information has been updated for the following commands:

System Operations

In DISPFLGS command, the automation flag abbreviations and flag values are updated.

In INGAMS command dialog panel, PA column is replaced with E2E column. And SUSPENDFILE parameter is added, which specifies how syntax errors in the suspend file are handled.

In INGLKUP command, the ANALYSE request type becomes deprecated; resource parameter and the output for REQ=COLLECT are updated.

In INGREQ command, the resource parameter is updated to explain that resources of type DMN are not supported and the value ALL for OVERRIDE parameter is updated.

The INGVOTE command syntax is updated to add the REQ parameter used as a filter.

In SETSTATE command, START and OVERRIDE parameters are deleted from the command syntax and dialog panel.

Processor Operations

(OA59957) The "Restrictions and Limitations" section of ISQIPSWT command is updated. If ICMP PINGs are disabled, use the FORCE(YES) parameter to switch connection addresses. The switch is done, even if the alternate IP address cannot be reached.

The supported Console Workplace version is updated to 2.10 and later in CBU command.

SE Workplace Version numbers and their related IBM System names are updated in CBU, OOCOD and POWERMOD commands.

The target hardware requirement in STP and STPDATA commands is updated.

Deleted Information

The following information has been deleted:

- INGTOPO command
- Information relevant to I/O Operations commands
- Information relevant to NetView Management Console (NMC)

Part 1. Introduction

This part gives an overview of System Automation for z/OS commands — how to enter them, their format, and the various types of commands.

Chapter 1. Overview of Commands

gives a brief overview of the System Automation for z/OS commands. This overview describes the various types of commands, their functions and where they can be entered. For detailed information about how to issue commands, see *IBM System Automation for z/OS User's Guide*.

Table 2. Overview of Commands

Type of command	Function	Where entered
System operations commands	Control and maintain resources in the enterprise from a single point of control	NetView console
Processor operations commands	Common commands for automation	API, NetView console **Note:** Precede with ISQCCMD command
	Control hardware processors	NetView console
	Ensemble commands for System z® zEnterprise® BladeCenter Extension (zBX) automation	API, NetView console **Note:** Precede with ISQECMD command

Chapter 2. Understanding Terms

This section contains details of various terms that are used throughout this book.

Resource

In SA z/OS the term *resource* denotes any entity that can be automated. The automation manager administrates resources.

A resource is identified by its name. The resource name must be unique within the automation manager name space. The format of the resource name is *name/type[/system]*. The three components of the resource name can be the following:

Name
Specifies the name of the resource, for example the subsystem name for an application (APL) or the automation name for an application group (APG).

Type
Specifies the type of the resource. The type parameter is optional. It can have the following values:

APL
Indicates that the resource is a subsystem.

APG
Indicates that the resource is an application group.

EVT
Indicates that the resource is an event.

MTR
Indicates that the resource is a monitor.

SVP
Indicates that the resource is a service period (schedule).

SYG
Indicates the group of all resources of a system. SYG is created automatically. This is the application group that contains all resources of a particular system.

SYS
Indicates that the resource is a system.

System
Specifies the system/image name where the resource is defined. The system parameter is not used for sysplex resources, for example, sysplex application groups, events or service periods.

If the resource that you specified is not unique within the domain of the automation manager, a selection panel is displayed where you can select what you want to work with, as shown in .

```
AOFKSEL4                   SA z/OS  - Command Dialogs      Line   1   of 4
Domain ID   = IPSNO        ---------- INGINFO  ----------  Date = 02/24/00
Operator ID = NETOP1                                       Time = 11:12:00

Multiple instances found for TSO
Select one item to be processed, then press ENTER.

Sel  Name         Type System   Description
---  -----------  ---- -------  ----------------------------------------
     TSO          APL  KEY1      Time Sharing Option
     TSO          APL  KEY2      Time Sharing Option
     TSO          APL  KEY3      Time Sharing Option
     TSO          APL  KEY4      Time Sharing Option




Command ===>
     PF1=Help     PF2=End      PF3=Return
     PF6=Roll                                     PF12=Retrieve
```

Figure 1. Resource Selection Panel

Specifying Resources

There are various ways of specifying automation manager resources in System Automation for z/OS. The scope of the automation manager is a sysplex or SA z/OS subplex (that a group that shares the same XCF ID).

Using Components of Resource Names

Components are the parts that make up the name of a resource using automation manager notation.

Here are a few examples of how to specify resource names using components:

TSO
All resources that have the name TSO.

TSO/APG
All resources that have the name TSO, and the type APG.

TSO/APL
All resources that have the name TSO, of the type APL, on all systems in the sysplex.

Using Wildcards

You can also use an asterisk (*) to substitute one or more components of a fully-qualified resource name. Components are optional and may be replaced by an asterisk (*).

For example, a specification for TSO expands with TSO/*/*.

Here are a few examples of how to specify resources using wildcards:

*/APL/SYS1
All resources of type APL, on system SYS1.

TSO/*/SYS1
All resources that have the name TSO, of any type, on system SYS1.

/SYS/
All resources of type SYS, on any system in the sysplex.

//*
All resources of any type on any system in the sysplex.

You can specify wildcards for a component of the fully-qualified resource name. The following shows a few examples:

TSO*/APL/KEY*

All resources starting with TSO, of type APL, on the systems whose names start with KEY.

TSO/AP*/

All resources whose names end with TSO, of any type starting with AP, on any system in the sysplex.

You can use the percentage sign (%) as a *placeholder* for one character. This means that *any* character in that position of the resource name matches. The following shows a few examples:

%TSO*

All resources whose names contain TSO starting in character two.

TSO/S%S/*
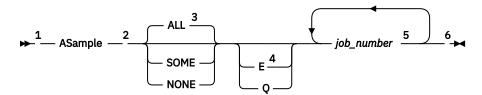
All resources whose names start with TSO and where the first and last character of the type is S, on any system in the sysplex.

Chapter 3. Format of Syntax Diagrams

The description of each command and routine includes the format of the command in a syntax diagram. The diagram shows the operands for the commands. Use blanks to separate the operands, unless otherwise stated or diagrammed.

To construct a command from the diagram, follow the diagram from left to right, choosing the path that suits your needs. Following is a sample syntax diagram that explains how to construct a command. This sample command is for illustration only.

Notes:

^{1} Start here. ►►— indicates the start of the diagram.

^{2} You can type ASAMPLE or abbreviate it to AS. The uppercase characters are the abbreviation. Operands on the main line are required.

^{3} Choose one of the options. The default is always above the main line. In this case, ALL is the default. If the option includes punctuation marks, include them too: =()., .

^{4} Choose E, Q, or neither. Operands below the main line are optional.

^{5} Repeat *job_number* any number of times. Variables are shown in italics. Replace them with a real name or value. Note that if you specify more than one *job_number* you must put them in brackets.

^{6} End here. —►◄ indicates the end of the command.

If a command continues to the next line, you see —► and ►—. ├and┤ indicates a fragment for a specific condition or option.

Examples:

```
===> asample none q DAF00821 DAF00832 ELD00824
===> as some DLR01445
```

Part 2. SA z/OS System Operations Commands

This part describes SA z/OS system operations commands — their format, and specifics of how to use them.

See *IBM System Automation for z/OS User's Guide* for general information about the SA z/OS commands.

Chapter 4. System Operations Commands

Using System Operations Commands

General Information

You can issue any system operations command by typing the command and its parameters on the command line of any NetView or system operations panel.

In addition, System Automation for z/OS provides a menu of command dialogs that allows you to select a command dialog panel for a specific system operations command. For further information on how to issue system operations commands, see *IBM System Automation for z/OS User's Guide*.

Overview of Commands that Operate Sysplexwide

The following system operations commands operate sysplexwide (which means that they also operate across an SA z/OS subplex):

    DISPEVT/DISPEVTS
    DISPMTR
    INGAMS
    INGCF/INGCFL
    INGCFG
    INGCICS
    INGEVENT
    INGHIST
    INGIMS
    INGINFO
    INGLIST
    INGMOVE
    INGTWS
    INGPLEX
    INGRELS
    INGREQ
    INGRUN
    INGSCHED
    INGSET
    INGSTR
    INGSUSPD
    INGTRIG
    INGVOTE

You can issue sysplexwide commands from any system within the sysplex, regardless of where the resource resides.

If no target is specified, the command that was issued will find the affected resources in the sysplex.

Specifying the target system parameter is only required when routing the command from the focal-point system to a system in another sysplex or to a single remote system.

For further information about sysplexwide commands, see *IBM System Automation for z/OS User's Guide*.

Additional Parameters for System Operations Commands

The following parameters are available for a number of system operations commands.
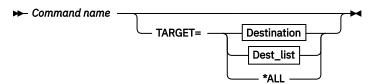
TARGET Parameter

Purpose
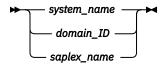
The TARGET parameter lets you specify the system where the command is to be processed. You can direct the command to:

- A particular system in the sysplex, or enterprise
- A subset of systems in the sysplex, or enterprise
- A sysplex
- All systems currently active in the local sysplex

Format

Destination

Dest_list

Values

system_name
    Specifies the name of the z/OS system

domain_ID
    Specifies the NetView domain identifier

saplex_name
    Specifies the name of the sysplex

*ALL
    SA z/OS specifies that the command should be routed to all SA z/OS systems that are currently active in the local sysplex.

    Note that not all of the commands that support the TARGET parameter also support the *ALL value. Refer to the syntax diagrams to find out whether *ALL is supported.

Processing

The search sequence to locate the target is as follows:

1. System name within the local sysplex
2. Domain ID within the local sysplex

3. Local sysplex name

If it is a human operator, the search continues in the following sequence:

- Domain ID within the enterprise
- System name within the enterprise
- Sysplex name within the enterprise

If no value is specified, and the command does not refer to a defined resource, it is processed on the local system.

Non-Sysplexwide Commands

If you do not specify the TARGET parameter, and the SA z/OS command refers to a defined resource, SA z/OS processing is as follows:

- If the resource is only defined on one active system, the command is routed to that system.
- When processing the command in line mode, SA z/OS checks whether the resource is defined on the local system. If it is, the command is processed locally. Otherwise, an error message is issued.
- If the resource is defined on more than one active system, and the command is not running on an autotask, SA z/OS displays a selection panel such as in Figure 2 on page 15 where you can select the resource or resources that the command is to be routed to.

If you enter dispacf mvsesa a panel similar to Figure 2 on page 15 is displayed.

```
AOFKSEL1                   SA z/OS  - Command Dialogs      Line   1   of 4
Domain ID   = IPUFA        ---------- DISPACF  ----------  Date = 06/27/00
Operator ID = NETOP1                                       Time = 17:43:12

Multiple instances found for MVSESA in sysplex(es) AOCPLEX
Select one or more items to be processed, then press ENTER.

     Sel   System    Domain
     ---   --------  --------
           AOCA      IPUFA
           AOCB      IPUFB
           AOCC      IPUFC
           AOCD      IPUFD




 Command ===>
     PF1=Help     PF2=End      PF3=Return
     PF6=Roll                                         PF12=Retrieve
```

Figure 2. Resource Selection Panel: Non-Sysplexwide

If the target is within the local sysplex, the communication method is via XCF facilities. Otherwise, the NetView RMTCMD command is used.

Sysplexwide Commands

Sysplexwide commands are processed locally.

If a target is specified and the resource is not defined on the specified system, SA z/OS issues an error message.

If you enter ingvote stdt000* a panel similar to Figure 3 on page 16 is displayed.

```
AOFKSEL4                   SA z/OS  - Command Dialogs      Line   1   of 32
Domain ID   = IPUFA      ---------- INGVOTE  ----------    Date = 06/27/00
Operator ID = NETOP1                                       Time = 17:50:39

Multiple instances found for STDT000*
Select one item to be processed, then press ENTER.

Sel  Name          Type System    Description
---  -----------   ---- --------  -------------------------------------------
     STDT000AN00  APL  AOCA      Parent for all STD* appl 05/16/00 06:25
     STDT000AN00  APL  AOCB      Parent for all STD* appl 05/16/00 06:25
     STDT000AN00  APL  AOCC      Parent for all STD* appl 05/16/00 06:25
     STDT000AN00  APL  AOCD      Parent for all STD* appl 05/16/00 06:25
     STDT000AN1A  APL  AOCA      Child of AN10 (child tree ---  AN1B)
     STDT000AN1A  APL  AOCB      Child of AN10 (child tree ---  AN1B)
     STDT000AN1A  APL  AOCC      Child of AN10 (child tree ---  AN1B)
     STDT000AN1A  APL  AOCD      Child of AN10 (child tree ---  AN1B)
     STDT000AN1B  APL  AOCA
     STDT000AN1B  APL  AOCB
     STDT000AN1B  APL  AOCC

Command ===>
     PF1=Help      PF2=End      PF3=Return
     PF6=Roll                   PF8=Forward                PF12=Retrieve
```
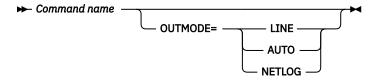
Figure 3. Resource Selection Panel 2: Sysplexwide

OUTMODE Parameter

Purpose

The OUTMODE parameter lets you specify the output mode of a command.

Format

Values

LINE

If you specify LINE, the output is displayed in line mode, independent of the task type. Further characteristics are:

- No color attributes are set for data that is shown in line mode.
- The sequence of the fields may be different in line mode than in fullscreen.
- Not all fields from the fullscreen display may be shown in line mode.
- Line mode output is shown in a multiline message.
- System operations commands can be issued within a NetView PIPE by using the OUTMODE=LINE parameter, unless noted otherwise in the command description.
- Line mode output is not processed by the NetView automation table and is not written to the netlog. To write output from a command such as DISPSTAT to the netlog, use a PIPE command, for example:

```
PIPE NETV DISPSTAT OUTMODE=LINE | LOGTO NETLOG
```

- Line mode output cannot be processed by a TRAP and WAIT.
- System operations commands that support the OUTMODE=LINE option can be used in user-written command lists. Note, however, that the format of the output may change in later releases.

- If you work with OUTMODE=LINE no prompt panel is displayed.

AUTO
    Specifies that when the task that the command list runs on is unattended, the output of the command is written to the NetView log. Otherwise the output is written to the console.

NETLOG
    Specifies that the output of the command is written to the NetView log.
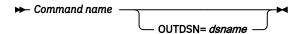
Note: If no value is specified, the decision whether to display the command output with a fullscreen panel or in line mode is based on the NetView task type that the command is running on.

OUTDSN Parameter

Purpose

This parameter lets you specify the name of the data set that is to contain the output of the command.

Format

▶▶─ *Command name* ─────────────────────▶◀
            └─ OUTDSN= *dsname* ─┘

Values

dsname
    The data set name. You can specify a sequential data set or a member of a partitioned data set.

    The record format should be variable-blocked and recommended is VB 1024.

Restrictions

The data set must already exist.

The OUTDSN parameter forces OUTMODE=LINE.

Note: If OUTDSN specifies a data set that is already allocated to NetView (for example DSILIST), the exclusive ENQ that is issued when OUTDSN is used will not be removed until NetView is stopped. Thus, it is recommended that you do not use pre-allocated data sets for OUTDSN.
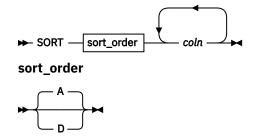
Varying the Format of the Command Output

Most of the commands in fullscreen mode support the SORT and FIND subcommands.

Sorting a List

The SORT subcommand lets you change the order that data is displayed in.

The syntax of the SORT subcommand is as follows:

▶▶─ SORT ─┤ sort_order ├─┬─────────┬─▶◀
               └─ *coln* ─┘

sort_order

▶▶─┬─ A ─┬─▶◀
   └─ D ─┘

You can specify the following:

sort_order

The sort order. It can be:

A

The list is displayed in ascending order. This is the default.

D

The list is displayed in descending order.

coln

The column to be sorted on. You can specify more than one column, separated by a comma or a blank.

For example, specifying SORT D,3 1 4 sorts the display in descending sequence and in the order column 3, 1, and 4.

For commands that support horizontal scrolling (for example, DISPSTAT or INGLIST), the column title (header) can be used instead of column number. The title can be abbreviated. First match is taken. For those commands you can also enter SORT without parameters which leads you to the column tailoring panel. There you can assign sort orders and sort keys to the columns. You can also hide columns or change the column sequence and whether a column is to be prefixed (show on every panel) or not. Refer to the online help on the column tailoring panel for further capabilities of SORT.

Searching for Strings

The FIND subcommand searches the display data for a specified string.

It can be abbreviated to F. The RFIND (repeat find) command is used to find the next occurrence of the string in the display data. It can be abbreviated to RF.

The syntax of the FIND subcommand is as follows:

▶▶─ FIND ── *search_string* ──│ direction │──▶◀

direction

```
        ┌─ N ─┐
▶▶──────┤     ├──────▶◀
        └─ P ─┘
```

You can specify the following parameters with the FIND and RFIND commands:

search_string

The string that is to be searched for. The search starts at the first line shown in the display.

direction

The direction that is used for the search. It can be:

N

Find the next occurrence (forward direction). This is the default.

P

Find the previous occurrence (backward direction).

ACF

Purpose

The ACF command loads, displays, and modifies automation control file entries. You can use ACF to refresh data of a particular system if it does not affect automation manager configuration data.

For modification and display actions to work, the automation control file must be loaded into storage. Once loaded, the displays and modifications affect an in-storage version of the automation control file, allowing you to make *temporary* changes. To make permanent changes, change the automation policy using the customization dialogs, generate the automation control file member, then reload the new

version using INGAMS. This ensures that the configuration matches the automation manager and the automation agents.

Recommendations:

1. Use the INGAMS command rather than the ACF command to load or refresh an automation control file. This ensures that the configuration matches the automation manager and the automation agents.

2. Changes to automation policy that are made using the SA z/OS command dialogs or the ACF command are temporary. They modify the current in-storage version of the automation control file directly. They do not modify the automation control file that is stored on disk. To change an automation policy setting permanently, make sure you also change the automation policy (using the customization dialogs) that is stored on disk.

3. If the customization dialogs are used to rebuild the automation control file on disk, the changed data on disk will replace the data in storage at ACF REFRESH.

4. Use scope-checking to limit operator use of ACF to load and display operations.
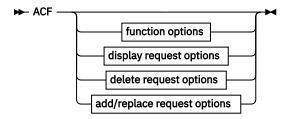
The following syntax diagrams show how to use the ACF command to perform the different functions ACF supports. Do not combine syntax from the separate diagrams in the same ACF call.

Note: The ACF command is freeform:
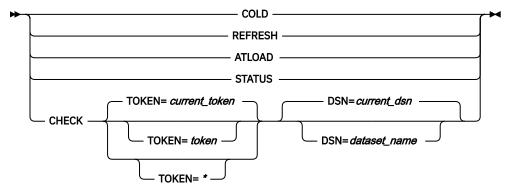
- Commas are optional
- More than one space can separate keywords
- Keywords can be specified in any sequence
- Any parameters specified must follow the keyword that they apply to

To replace or add information in the automation control file use the following syntax:

Syntax
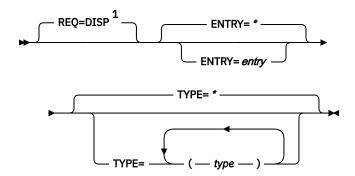
function options

display options

ACF
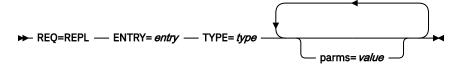
[Syntax diagram showing REQ=DISP with ENTRY= * / ENTRY= entry, and TYPE= * / TYPE= (type) branches]

delete options

►►— REQ=DEL —— ENTRY= *entry* —— TYPE= *type* —►◄

add/replace options

►►— REQ=REPL —— ENTRY= *entry* —— TYPE= *type* ——[parms= *value*]—►◄

Notes:

[1] The specification of either REQ=DISP or ENTRY=entry is required.

Parameters

COLD
Reloads the currently loaded automation control file data from disk. Automation is disabled while the automation control file load is performed. It deletes all global variables that were associated with the Entry/type pairs defined in the policy database. It also deletes all exceptional messages and disabled timers. Statistical data provided by the INGRPT command is also deleted.

Note: It is not recommended to use ACF COLD. Especially for cleanups, use the INGCLEAN command. For further details, refer to the INGCLEAN command reference in *IBM System Automation for z/OS Programmer's Reference*.

REFRESH
Updates the currently loaded automation control file data. Automation is not disabled while the automation control file load is performed. Only data that has been changed will be loaded, everything else remains the same as before. This is the safe way to update the automation control file. Refresh will not load data of a subsystem that is currently in the process of being started or stopped by SA z/OS. SA z/OS will automatically retry the refresh five minutes later for the data that cannot currently be processed.

Note: ACF REFRESH will not delete global variables that were associated with Entry/Type pairs, that were deleted from the policy database before the last build was done, if those Entry/Types were not associated with a subsystem, a monitor resource, or an application group. However, if a keyword/ value is removed from the Entry/Type, this is a change to the Entry/Type, and consequently an ACF REFRESH will rebuild the Entry/Type with the result that the deleted keyword/value pair is removed from the global variables. All deleted Entry/Types and their associated global variables will be reset during the next SA z/OS NetView restart or during ACF COLD processing or by using the INGCLEAN command. For further details, refer to the INGCLEAN command reference in *IBM System Automation for z/OS Programmer's Reference*.

ATLOAD
Reloads the NetView automation tables that are specified in the System Info policy item and the message revision table, depending on the value of AOFSMARTMAT.

STATUS
Displays information about the automation control file that is currently in storage.

CHECK
>   Verifies the ACF for validity and tests the automation tables that are specified in the System Info policy and also the message revision table, depending on the value of AOFSMARTMAT.

TOKEN
>   The configuration token that the ACF should be validated against.
>
>   ***current_token***
>   >   The token that is currently in use (displayed with ACF STATUS). This is the default.
>
>   ***token***
>   >   The configuration token used as the reference.
>
>   *****
>   >   Specifying an asterisk (*) means that the token validation should be omitted.

DSN
>   The data set name that contains the ACF data.
>
>   ***current_dsn***
>   >   The data set that is currently in use (displayed via ACF STATUS). This is the default.
>
>   ***dataset_name***
>   >   The configuration data set name containing the ACF data.

REQ
>   The type of request for automation control file information the ACF command performs. This value can be one of the following:
>
>   **DISP**
>   >   Displays information in the automation control file. This value is the default if this parameter is not coded.
>
>   **DEL**
>   >   Deletes information in the automation control file. This value must be coded when using ACF to delete automation control file information.
>
>   **REPL**
>   >   Replaces or adds information in the automation control file. This value must be coded when using ACF to replace automation control file information. REPL adds the entry specified on the ENTRY parameter if the entry does not already exist in the automation control file.
>   >
>   >   REQ=REPL will update data in place. That is, only data that is to be replaced needs to be specified in the command. All other existing data will be retained.

ENTRY
>   The entry field of the automation control file. This value can be up to 32 characters long, without imbedded blanks, commas, or quotes.
>
>   If information in the automation control file is displayed (REQ=DISP), and no value is specified in the entry field, ENTRY=* is used.

TYPE
>   The type field in the automation control file. The following values can be specified:
>
>   *****
>   >   Specifying * returns all type fields that are associated with a given *entry*, for example, all SUBSYSTEM or NTFYOP entries. * is the default value when REQ=DISP (display). REQ=DISP supports the use of * as a wildcard character when specifying type names, with the following restrictions:
>   >
>   >   - The wildcard character, ⋆, must be the last character in the type name. If an asterisk appears in any other position in a type name then it will be treated as a literal. If an asterisk appears in any other position in a type name with an asterisk as the last character then no wildcard processing occurs and *both* asterisks are treated as literals.
>   >   - If you update an entry, you must specify the ENTRY= operand without a wildcard.
>   >   - If no matches are found, a final search is performed with a type name of DEFAULTS.

For other ACF request types (delete and replace), you must specify an actual type name.

type
> The name of the type field. REQ=REPL requests allow you to enter only one type.
>
> When ENTRY=SUBSYSTEM, type can be up to 11 bytes long. In all other cases, *type* can be up to 32 characters long, without imbedded blanks, commas, or quotes.

(type,type,...)
> Multiple types may be specified for DISP and DEL requests. Type names should be enclosed in parentheses and separated by commas. For REQ=DISP, only the first type name found is displayed. For REQ=DEL requests, all the type names will be deleted.

parms=value
> The data associated with the specified ENTRY and TYPE fields. This field is valid only with the REQ=REPL option. Specify this field as the parameter value, an equal (=) sign, and the value, without any spaces in between; for example, AUTO=NO.
>
> The value can be any character data. It can have imbedded quotes, commas, and blanks, provided that single quotes, double quotes, or parentheses frame the value. If the value contains parentheses, then you cannot use parentheses as delimiters.
>
> SA z/OS defines several ENTRY, TYPE, and parms=value fields. A parms=value example is the JOB=jobname parameter in the SUBSYSTEM automation control file entry.
>
> **Note:** REQ=REPL will update data in place. That is, only modified data is updated. All data will be retained.

Restrictions and Limitations

- If you use the COLD parameter, automation is disabled while the ACF LOAD is in progress. If you use the REFRESH parameter, automation continues.
- An automation control file cannot be loaded by an operator using the ACF command if the automation flag for major resource MVSESA is set to 'N'. If the automation flag for the MVSESA.RELOAD.CONFIRM minor resource is set to 'Y', the operator can reload the ACF.
- ACF must comply with the automation manager configuration, otherwise message AOF618I is issued.
- The ACF command should be used with care to change or delete automation policy settings. All changes are only temporary changes and may get lost during the next configuration refresh. The changes are definitely lost during an ACF COLD or after processing the INGCLEAN command.
- The number of entries in the automation control file is limited only by the amount of storage in the SA z/OS address space or region. If you have a very large configuration, you may have to increase the REGION size in the SA z/OS procedure.
- Not all data can be changed using ACF REQ=REPL, for example, service periods, events, triggers, and dependencies cannot be changed. ACF REQ=DEL and ACF REQ=REPL cannot be used to add or delete an application (subsystem), an application class, an application group or a monitor resource. It is NOT recommended to change data of existing applications, application groups and monitor resources via ACF REQ=REPL to avoid data mismatch between automation agent and automation manager. Use the customization dialogs to define these items and/or change those data.
- Changes to System Defaults and Application Defaults policy items are not propagated to the instances that have inherited this data.

Security Considerations

The ACF command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	When function option is REFRESH or ATLOAD
	CONTROL	When function option is COLD and for delete (REQ=DEL) or add/ replace requests (REQ=REPL)

Usage other than listed in the table does not cause a resource level security check. For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Return Codes

0
> Function completed successfully.

1
> Control file inactive.

3
> ACF token mismatch.

4
> Invalid parameters were used in the call.

12
> No valid ACF member available.

20
> ACF reload not allowed by automation flag settings.

24
> Resource level security check failed

100
> Other error.

Usage

- ACF performs two flag checks when the automation control file is reloaded. The checks are of the Automation flags for MVSESA.RELOAD.CONFIRM and MVSESA.RELOAD.ACTION. The action flag is checked only if the reload is to continue.

  MVSESA.RELOAD.CONFIRM
  > This lets you:
  >
  > – Turn the flag off and thus disable an automation control file reload by an operator.
  > – Tell SA z/OS to ask for confirmation by setting the AOFCONFIRM TGLOBAL to YES in a flag exit.
  > – Use a flag exit to perform additional checks and processing before deciding to either cancel or proceed with the reload.
  >
  > If the flag is found to be off, the operator cannot reload the automation control file.
  >
  > **Note:** You need to be aware of this if you turn the MVSESA automation flag off.
  >
  > If the flag is on, the AOFCONFIRM task global is checked. If it is set to YES, SA z/OS will post a message requesting confirmation of the reload request. If AOFCONFIRM is null, SA z/OS will proceed with the reload.

  MVSESA.RELOAD.ACTION
  > This provides an opportunity for you to do your own processing once SA z/OS is committed to reloading or restoring the automation control file. You can use a flag exit to call your own code. Your exit should return 0, indicating that the flag is turned on. If you return a nonzero return code, subsequent exits defined for the flag will not be invoked.

Note that there is no way of preventing the reload from an exit on this flag. See *IBM System Automation for z/OS Defining Automation Policy* and *IBM System Automation for z/OS Customizing and Programming* for further information.

- When you use ACF REQ=DISP to request a certain ENTRY value with one or more specific TYPE values, ACF searches for those types in the order specified in the command. When the first match is found, the information is returned to the requester as a multiline message. If there are no matches, it performs a final search with a *type* of DEFAULTS for that ENTRY value. If there is still no match, a message is returned to the requester. If the *type* DEFAULTS is found, that information is returned to the requester.
- If, when ACF is used to display an automation control file entry, a specific TYPE is found, it is treated as a complete entry. Only that specific entry is displayed.

Messages

The following lists the messages that are issued during the operation of ACF.

For the load function (COLD/REFRESH):

```
AOF042I MEMBER ACFZ999 NOT FOUND
AOF100I 16:05:09 : 'ACF REFRESH' COMMAND ISSUED
AOF618I NO VALID ACF FOUND FOR sysname - detail description
AOF782I AUTOMATION CONTROL FILE PROCESSING COMPLETED
```

For the status function (STATUS):

```
AOF005I MEMBER ACFZ992 CURRENTLY BEING USED FOR THE CONTROL FILE
AOF006I BUILT      BY OPER1    ON 04/29/12 AT 11:43:03
AOF006I REFRESHED BY OPER1    ON 04/30/12 AT 08:52:20
AOF006I CONFIGURATION TOKEN   = 2012049090119000C6F7A2084
AOF006I CONFIGURATION DATASET = OPER1.USER.V34.ACF
AOF002I END OF MULTI-LINE MESSAGE GROUP
```

For the delete and replace function (REQ=DEL/REPL):

```
AOF001I REQUEST REPL SUCCESSFUL FOR JES2-$HASP098
```

Note: In a display where the *type_name* is asterisk (*), multiple sets of AOF112I and AOF113I messages may be displayed. When the type is omitted or specified as asterisk (*), the DESIRED TYPE is not displayed in the AOF112I message.

For the display function (REQ=DISP):

```
AOF041I UNABLE TO FIND entry type

AOF111I AUTOMATION CONFIGURATION DISPLAY - ENTRY= entry_name
AOF112I ACTIVE TYPE= act_type, DESIRED TYPE= desired_type ...
AOF113I DATA IS data=value
AOF002I END OF MULTILINE MESSAGE GROUP
```

For example, the following may occur:

```
AOF111I AUTOMATION CONFIGURATION DISPLAY - ENTRY= NTFYOP
AOF112I ACTIVE TYPE= NETOP1
AOF113I DATA IS OPER='OPER 1'
AOF113I DATA IS CLASS=(10,40)
AOF112I ACTIVE TYPE= NETOP2
AOF113I DATA IS CLASS=(10)
AOF002I END OF MULTILINE MESSAGE GROUP
```

Note: Use of the replace parameter (REPL) adds an entry if none exists, resulting in a successful message.

Generic error messages that can occur:

```
AOF013I SPECIFIED OPERAND operand INVALID FOR PARAMETER parameter.
AOF025I SYNTAX ERROR
```

Examples

The ACF command to display the Start automation flag for the CICST subsystem is:

```
ACF REQ=DISP,ENTRY=START,TYPE=CICST
```

The response is:

```
AOF111I AUTOMATION CONFIGURATION DISPLAY - ENTRY= START
AOF112I ACTIVE TYPE= CICST     , DESIRED TYPE= CICST
AOF113I DATA IS AUTO=Y
AOF113I DATA IS NOAUTO=(TUESDAY,10:00,12:00)
AOF002I END OF MULTILINE MESSAGE GROUP
```

In this example, a Start automation flag exists for the CICST subsystem. The operator or automation procedure processes the command to display the entry, and the associated response is returned as a multiline message.

Use the following automation procedure to update ACF data for an entry. It allows you to modify the automation agent configuration data without affecting other automation agents or the automation manager.
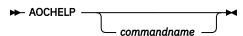
```
/* ************************************************ **
** Function:                                       **
**    - Read ACF Fragment                          **
**    - Modify ACF entries                         **
** ************************************************/
'PIPE (NAME ACFREPL)',
'QSAM (DSN) -dataset-',    /* read ACF fragment    */
'! NLOC 1.1 /*/',          /* skip comments        */
'! COLLECT',               /* collect to multiline */
'! NETV ACF REQ=REPL',     /* call ACF command     */
'! CONS'                   /* issue msgs to console */
```

AOCHELP

Purpose

AOCHELP displays information about SA z/OS commands, and enables you to execute them.

Syntax

▶▶── AOCHELP ──┬──────────────┬──▶◀
              └─ *commandname* ─┘

Parameters

commandname

Specifies the SA z/OS system operations command that you require information about. The result is the same as if you had specified help *commandname*.

Restrictions and Limitations

- Some commands may not be executed from the AOCHELP command dialog. Attempts to execute these commands produce SA z/OS message AOF709I.

- Help is available only in fullscreen mode.

- The AOCHELP command can only be used when SA z/OS has initialized.

Usage

If you type `aochelp` by itself, you see a list of commands to choose from, as shown in . From this panel you can ask for help on a command by entering its item number.

Examples

To get help, specify the associated number of the command.

```
AOFPH000                 SA z/OS  - Command Dialogs      Line  1  of 62
Domain ID   = IPUFA      ---------- AOCHELP  ----------   Date = 09/01/12
Operator ID = NETOP1                                      Time = 11:57:56

      1  AOCHELP         Display help for SA z/OS commands
      2  AOCTRACE        Control the SA z/OS internal trace
      3  CROSS DOMAIN    Dealing with other domains
      4  DISPACF         Display control file information
      5  DISPAOPS        Display automated operator information
      6  DISPAPG         Display Automation group information
      7  DISPASF         Display status file information
      8  DISPAUTO        Display commands
      9  DISPERRS        Display error information
     10  DISPEVT         Display event information
     11  DISPEVTS        Display all events in a Sysplex
     12  DISPFLGS        Display automation flag information
     13  DISPGW          Display NNT gateway information
     14  DISPINFO        Display subsystem information

 Enter n for help or nX to execute the command (if possible).

 Command ===>
    PF1=Help     PF2=End        PF3=Return                  PF6=Roll
                 PF8=Forward                                PF12=Retrieve
```

Figure 4. AOCHELP Command Dialog Panel

To execute the command, specify the number associated with the command followed by an x, for example, 9x.
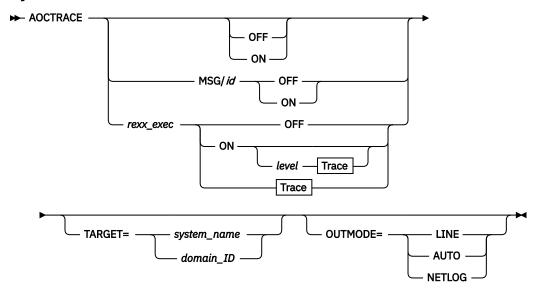
AOCTRACE

Purpose
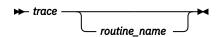
The AOCTRACE command turns the SA z/OS system operations debugging feature on or off. AOCTRACE allows you to activate:

- Debugging globally
- Debugging for specific REXX script
- Debugging at a certain level of detail
- Tracing for a particular message
- REXX trace for a specific REXX script

Syntax

```
►►─ AOCTRACE ──────────────────────────────────────►
                        ┌─ OFF ─┐
                        └─ ON ──┘
              MSG/id ──┬─ OFF ─┬──────
                       └─ ON ──┘
         rexx_exec ──┬──────── OFF ────────┐
                     └─ ON ─┬──────────────┤
                            ├─ level ─┤Trace├┤
                            └────┤Trace├─────┘

►─┬──────────────────────────────┬─┬─────────────────────────┬─►◄
  └ TARGET= ─┬─ system_name ─┬───┘ └ OUTMODE= ─┬─ LINE ───┬──┘
             └─ domain_ID ───┘                 ├─ AUTO ───┤
                                               └─ NETLOG ─┘
```

Trace

```
►►─ trace ─┬──────────────┬─►◄
           └─ routine_name ┘
```

Parameters

MSG/*id*
The message that is being traced.

rexx_exec
The name of the REXX script that you want to debug.

ON
Turns the debugging feature on.

If you *do not* specify a REXX script or message, AOCTRACE activates a global debugging flag. This causes each SA z/OS system operations REXX script that is invoked to write a record (AOF700I) to the netlog showing the parameters that it was invoked with.

If you *do* specify a REXX script or message, only that REXX script or message writes messages to the netlog. The netlog shows when and where the REXX script was called, and what parameters were given.

If you specify a REXX script or message but not a trace, an intermediate level of debugging is activated for the specified REXX script or message. This causes the REXX script to issue a number of messages describing its actions. Note, however, that not all REXX scripts support this facility.

OFF
Turns the debugging feature off.

If a REXX script is specified, this option deactivates both the intermediate and REXX tracing for the specified REXX script.

If a message is specified, this option deactivates message tracing for the specified message.

If a REXX script or message is not specified, this option disables the global trace.

trace
The type of REXX trace that you want for the specified REXX script. Valid values are:

A
All

R
>   Results

I
>   Intermediates

C
>   Commands

E
>   Errors

F
>   Failures

L
>   Labels

O
>   Off

N
>   Normal

routine_name
>   The REXX script that is being traced.

level
>   Specifies the debug level that allows you to limit the amount of debug information that is written to the netlog. The meaning of the level depends on the particular REXX script.
>
>   **NORM**
>   >   This is the default. Control flow and important data area is written to the netlog.
>
>   **MAX**
>   >   Extensive logging of control flow and data areas and structures.
>
>   **/AM**
>   >   Indicates that data received from the automation manager is not traced.
>
>   **/SLAVE**
>   >   Indicates that data received from the command slave is not traced.

TARGET
>   For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
>   For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

For further information about AOCTRACE command usage, see "Appendix C - Problem Determination" of *IBM System Automation for z/OS User's Guide*.

Restrictions and Limitations

The trace operand can only be used on interpreted REXX scripts.

Using the trace on certain REXX scripts can cause execution problems, particularly with REXX scripts that trap messages.

The REXX trace setting of S (Scan) is not available.

Message tracing only works from the command line.

Note: The debugging facility is not active if REXX traces A, R, or I are used.

Examples

If you enter `aoctrace on` you see a message indicating that the debugging facility has been enabled. While the debugging facility is enabled, message AOF700I is written to the netlog for each procedure being processed.

If no parameter is specified Figure 5 on page 29 is displayed.

```
AOFKAANL                 SA z/OS  - Command Dialogs     Line  1   of 8
Domain ID   = IPSFP    ---------- AOCTRACE ----------   Date = 08/16/08
Operator ID = NETOP1                                    Time = 17:41:18

Enter ADD in the Command line to create an entry
Cmd:  A Add    C Change    D Turn off Debug    R Reset    T Turn off Trace

Cmd CLIST     System  Dbg Level    T Subroutines/Messages being traced
--- --------  ------- --- -------- - --------------------------------------
    *GLOBAL* KEY4      Y
    *MSG*    KEY4                    IEF403
    *MSG*    KEY4                    IEF404
 _  EVJEATDF KEY4      Y           R
 _  EVJESPRQ KEY4      Y
 _  EVJESPSC KEY4      Y
 _  EVJESRST KEY4      Y
 _  INGRMORD KEY4      Y
 _  INGRYST0 KEY4      Y             Y  AOF_SHOW_LIST_PANEL



Command ===>
   PF1=Help     PF2=End        PF3=Return                PF6=Roll
                               PF9=Refresh  PF10=ALL_OFF  PF12=Retrieve
```

Figure 5. AOCTRACE Main Command Dialog Panel

The panel shows all the REXX scripts (that is, clists) and messages that have debug mode or REXX tracing turned on.

The first entry is the *GLOBAL* entry. This entry is always shown. It shows whether the global debug option is on or off. You cannot modify the setting with a command code. To set the global debugging option specify AOCTRACE ON or AOCTRACE OFF on the command line.

MSG in the **CLIST** column indicates a message trace entry. The message ID is shown in the **Subroutines/Messages being traced** column. As with the Global entry (*GLOBAL*), message trace entries cannot be modified on this panel: you must use the AOCTRACE MSG*id*,ON|OFF command entered at the command line to do so.

The following information is shown:

- The **CLIST** field shows the name of the REXX script.
- The **System** field shows the name of the system where debugging or tracing is active.
- The **Dbg** field indicates whether or not debug mode is on. Y indicates that debug mode is turned on.
- The **Level** field indicates the debug level.
- The **T (Trace)** field shows the Trace option specified for the REXX script.
- The **Subroutines/Messages being traced** field shows the list of subroutines that are being traced.

The **Cmd** field lets you specify the command codes shown on the panel. Type the appropriate letter next to the resource name and press Enter. The following command codes are available:

A

Allows you to add debug or trace settings for another REXX script. The panel shown in Figure 6 on page 30 is displayed where you can specify the REXX script name and optionally overtype the other settings.

C

Allows you to modify the debug or trace settings of the selected REXX script. The panel shown in Figure 6 on page 30 is displayed showing the current settings. Here you can overtype the appropriate values.

D

Turns off the debug option for the selected REXX script.

R

Turns off the debug and trace option for the selected REXX script.

T
Turns off the trace option for the selected REXX script.

Use the PF9 key to refresh the data displayed.

Use the PF10 key to turn off the debug and trace option for ALL displayed REXX scripts.

The ADD command can also be entered at the command line to define the debug or trace settings for a REXX script.

Figure 6 on page 30 is displayed when the command code A or C is specified on the panel in Figure 5 on page 29, or a REXX script name is specified as the only parameter of the AOCTRACE command. You can use this panel to enable and disable the automation debugging facility for a given REXX script.

```
AOFKAAND                      SA z/OS  - Command Dialogs
Domain ID   = IPUN8     ---------- AOCTRACE ----------     Date = 08/16/08
Operator ID = NETOP1                                       Time = 17:50:21

 Specify or revise the following parameters:

     Clist name              INGRVRP0
          debug mode         ON_         (ON or OFF)
          debug detail level  _____    (NORM, MAX, /AM, /SLAVE)
          REXX trace option   _           (A, R, I, C, E, F, L, O N)

     Subroutines to be traced: (* for all)
     _____
     _____
     _____

  - or -

     Message ID                     _____



Command ===>
     PF1=Help    PF2=End    PF3=Return    PF6=Roll              PF12=Retrieve
```

Figure 6. AOCTRACE Command Dialog Panel for a Specific REXX Script

The following fields can be entered:

Clist name
Specify the name of the clist (that is, REXX script) When turned ON, the REXX script will write debug information to the NetView log. Note that if you have already specified a REXX script with the AOCTRACE command, or entered the command code C next to a REXX script on the main AOCTRACE panel, this field will contain that REXX script name and cannot be changed.

debug mode
Specify ON to turn on the REXX script's debug mode.

debug detail level
Specify the debug level for the REXX script. The meaning of the debug level varies from REXX script to REXX script. Standard values are:

NORM
This is the default. Control flow and important data area is written to the netlog.

MAX
Extensive logging of control flow and data areas and structures.

/AM
Indicates that data received from the automation manager is not traced.

/SLAVE
Indicates that data received from the command slave is not traced.

REXX trace option
Specify the trace setting for the REXX script. It can be one of the following:

A
> All

R
> Results

I
> Intermediates

C
> Commands

E
> Errors

F
> Failures

L
> Labels

O
> Off

N
> Normal

–
> Default

For more information about trace settings, see TRACE in *z/OS TSO/E REXX Reference*.

Notes:

1. The REXX script debug setting need not be ON to use REXX script trace.
2. Specifying REXX trace option A, I, or R makes individual REXX script debugging ineffective.

Subroutines to be traced
> Specify the list of subroutines to be traced. By default, only the REXX script main routine will be traced. You can specify more than one subroutine name separated by a blank character. Specify '*' to trace all subroutines.

Message ID
> Specify the message identifier to be traced.

ASF

Purpose

The ASF command is a file manager command that displays records from the automation status file. The automation status file records are maintained in a VSAM data set. ASF interfaces with the VSAM file to obtain control information that is vital to SA z/OS, such as:

- Automation status
- Time and date information for specific events within the lifecycle of an application
- Whether an error threshold has been exceeded
- Time and date information for error conditions

You can also use the ASF command to reset occurrences of threshold errors by updating records in the automation status file.

Syntax

To display single or multiple records use the following syntax:

ASF

```
                   ┌─ REQ=DISP ─┐
►►── ASF ──────────┴────────────┴──────────┬─ ID=resource ─────────────►◄
                      └─ FROM=resource ─┬──────────────────┘
                                        └─ TO=resource ─┘
```

To reset occurrences of threshold errors use the following syntax:

```
►►── ASF ──── REQ=REPL ──── ID=resource ──── ERRORDT=" ──── THRSHLD=" ──►◄
```

Parameters

REQ
The type of request for automation status file information that the ASF command performs. This value may be:

> **DISP**
> Displays information in the automation status file. This value is the default if the REQ parameter is not coded.
>
> **REPL**
> Resets a record in the automation status file.

ID
The resource ID that is the key to the automation status file record. This ID is the application name for application records. This value can be from 1 through 64 characters long.

FROM
The resource ID that is the starting key when displaying multiple automation status file records. This resource is the application name for application records. This value can be from 1 through 64 characters long.

TO
The resource ID that is the ending key when displaying multiple automation status file records. If not specified, the value defaults to the FROM parameter value. This resource is the application name for application records. This value can be from 1 through 64 characters long.

If a resource ID is specified, the records that are to be displayed are resolved alphabetically.

ERRORDT
Specify ERRORDT='' THRSHLD='' with REQ=REPL to reset occurrences of threshold errors for a resource.

THRSHLD
Specify ERRORDT='' THRSHLD='' with REQ=REPL to reset occurrences of threshold errors for a resource.

Usage

To modify automation status file fields that are reserved for your data, use the ASFUSER command. See "ASFUSER" on page 33 for details.

Error conditions

To display status information about subsystem JES2, enter:

```
ASF REQ=DISP ID=JES2
```

To reset the occurrences of threshold errors for the application APPC, enter:

```
ASF ID=APPC REQ=REPL ERRORDT='' THRSHLD=''
```

ASFUSER

Purpose
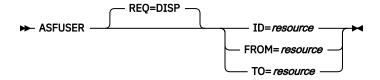
The ASFUSER command is a file manager command that updates the 40 user fields in the automation status file. The ASFUSER command has different formats depending on whether it is used to:

- Display multiple records
- Display, delete, or replace (update) a single record

The ASFUSER command is pipeable.

Syntax

To display single or multiple records use the following syntax:

```
              REQ=DISP
►►─ ASFUSER ─┬─────────┬─┬─ ID=resource ───┬─►◄
                         ├─ FROM=resource ──┤
                         └─ TO=resource ────┘
```

To delete a single record use the following syntax:

```
►►─ ASFUSER ── REQ=DEL ── ID=resource ─►◄
```

To replace (update) a record use the following syntax:

```
►►─ ASFUSER ── REQ=REPL ── ID=resource ─┬───────────────┬─►◄
                                        └─ USER n=data ¹─┘
```

Notes:

[1] n can be a number from 1 through 40

Parameters

REQ
The type of request for automation status file record information the ASFUSER command performs. This value may be one of the following:

Value
Description

DISP
Displays a record in the automation status file. This value is the default if the REQ parameter is not coded.

DEL
Deletes a record in the automation status file.

REPL
Replaces or adds a record in the automation status file.

If this parameter is specified, other parameters that describe the data to be displayed, deleted, or updated must be specified.

FROM
The resource ID that is the starting key when displaying multiple automation status file records. This value can be from 1 through 64 characters long.

TO
> The resource ID that is the ending key when displaying multiple records. If not specified, the value defaults to the same key as the FROM parameter. This value can be from 1 through 64 characters long.

ID
> The resource ID that is the key to the automation status file record. This ID is the application name for application records. This ID can be from 1 through 64 characters long.

USER1=*data*–USER40=*data*
> These parameters specify data that is stored in each of the 40 fields in the automation status file that are reserved for your information. All these parameters are optional. The specified data can be 1 through 20 characters long. These parameters are only used with ASFUSER replace requests (REQ=REPL). The data must be enclosed in parenthesis or quotes if it contains blanks or a comma.

Restrictions and Limitations

None.

Usage

If your automation procedure performs a replace or update function, only those fields that need replacing must be specified. No change occurs to other automation status file fields.

Example 1

This example shows a command to create an automation status file record for a resource with a resource ID of DASD.

The ASFUSER command to create the record is:

```
ASFUSER REQ=REPL ID=DASD USER1=3390 USER2=SITE1
```

The response to the ASFUSER command is:

```
AOF001I REQUEST "REPLACE" WAS SUCCESSFUL FOR "DASD"
```

Example 2

This example shows a command to display an automation status file record for DASD.

The ASFUSER command to display the record is:

```
ASFUSER ID=DASD
```

The response to the ASFUSER command is:

```
AOF150I STATISTICS DISPLAY REQUESTED FOR DASD THRU DASD
AOF151I ID=DASD , TYPE= N/A , STATUS= N/A
AOF152I LAST UPDATED BY OPERATOR OPER1
AOF158I USER1 = 3390
AOF158I USER2 = SITE1
AOF002I END OF MULTILINE MESSAGE GROUP
```

Example 3

This example shows a command to update the DASD automation status file record to add a new DASD device type.

The ASFUSER command to add a new field to the existing record is:

```
ASFUSER REQ=REPL,id=DASD,USER3=3990
```

The response to the ASFUSER command is:

```
AOF001I REQUEST "REPLACE" WAS SUCCESSFUL FOR "DASD"
```
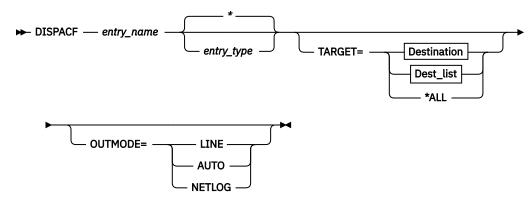
Note: Other values in record DASD remain as they were before the ASFUSER command was issued.

DISPACF
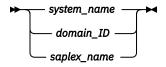
Purpose

The DISPACF command displays resource information and automation policy settings for a specific entry or entry-type pair in the automation control file.

Syntax

Destination
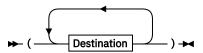
Dest_list

Parameters

entry_name
Specifies the name of the entry in the automation control file.

If you specify *, all entry names are displayed.

entry_type
Specifies the type within the entry in the automation control file. If you specify a particular type-name, only that type-name (and its data fields) for the entry-name is displayed.

If you specify *, all of the type-names and their data fields for the entry-name are displayed. This is the default. Wildcard is supported.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPACF command can only be used when SA z/OS is initialized.

Examples

If you enter `dispacf subsystem`, you will see a fullscreen display similar to .

```
AOFK3D0X                   SA z/OS  - Command Response     Line  1    of 893
Domain ID   = IPSNO     ---------- DISPACF  ----------     Date = 07/19/00
Operator ID = NETOP1                                       Time = 18:38:13

Command = ACF ENTRY=SUBSYSTEM,TYPE=*,REQ=DISP
SYSTEM = KEY3      AUTOMATION CONFIGURATION DISPLAY - ENTRY= SUBSYSTEM
--------------------------------------------------------------------------------
AUTOMATION CONFIGURATION DISPLAY - ENTRY= SUBSYSTEM
 TYPE IS ALLOCAS
 JOBTYPE          = MVS
 RESTARTOPT       = ALWAYS
 SHUTDLY          = 00:01:00
 STRTDLY          = 00:02:00
 TERMDLY          = 00:00:12
 EXTSTART         = ALWAYS
 EXTSTOP          = ALWAYS
 JOB              = ALLOCAS
 SCHEDSUB         = MSTR
 SDESC            = 'MVS ADDRESS SPACE'
 TYPE IS AMCP
 IPLOPTIONS       = NOSTART
 PARMS            = ',RUN=3'
 PROCNAME         = AAAZTSEM
 JOB              = AMCP
 JOBTYPE          = TRANSIENT
 OBJECTCLASS      = JES2_TRANS
 PARENT           = (JES2)
 SDESC            = 'SIMULATED SUBSYSTEM'
 TRANRERUN        = NO
 TYPE IS ANTMAIN
 JOBTYPE          = MVS
 RESTARTOPT       = ALWAYS
 SHUTDLY          = 00:01:00
 STRTDLY          = 00:02:00
 TERMDLY          = 00:00:12
 EXTSTART         = ALWAYS
 EXTSTOP          = ALWAYS
 JOB              = ANTMAIN
 SCHEDSUB         = MSTR

 Command ===>
    PF1=Help      PF2=End       PF3=Return                 PF6=Roll
                  PF8=Forward   PF9=Refresh                PF12=Retrieve
```

Figure 7. Display of Automation Control File Settings for Subsystem (DISPACF SUBSYSTEM)

This command displays information for all types of the SUBSYSTEM entry, because you accepted the default TYPE=*.
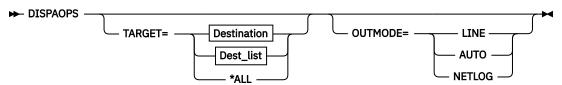
If you type `dispacf subsystem jes2`, you see only information about the JES2 type.

DISPAOPS
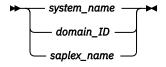
Purpose

The DISPAOPS command displays a list of automation operators that are currently active.

Syntax

Destination

Dest_list

Parameters

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPAOPS command can only be used when SA z/OS is initialized.

Examples

Type `dispaops` on any command line and press the Enter key. You will see a panel similar to Figure 8 on page 38.

```
   AOFK2SO                    SA z/OS  - Command Dialogs      Line  1    of 20
   Domain ID   = IPUF9      ---------- DISPAOPS ----------    Date = 12/17/97
   Operator ID = NETOP1                                       Time = 15:19:59

               Automated
    System     Function        Primary     Status      Secondary   Status
    --------   ----------      -------     ------      ---------   ------
    AOC9       GATOPER         GATIPUF9    ACTIV
    AOC9       AOFWRK01        AUTWRK01    ACTIV
    AOC9       AOFWRK02        AUTWRK02    ACTIV
    AOC9       AOFWRK03        AUTWRK03    ACTIV
    AOC9       AOFWRK04        AUTWRK04    ACTIV
    AOC9       AOFWRK05        AUTWRK05    ACTIV
    AOC9       BASEOPER        AUTBASE     ACTIV
    AOC9       SHUTOPER        AUTSHUT     ACTIV
    AOC9       MONOPER         AUTMON      ACTIV
    AOC9       GSSOPER         AUTGSS      ACTIV
    AOC9       MVSCONS         AUTCON      ACTIV
    AOC9       MSGOPER         AUTMSG      ACTIV
    AOC9       NETOPER         AUTNET1     ACTIV       AUTNET2     ACTIV
    AOC9       JESOPER         AUTJES      ACTIV
    AOC9       SYSOPER         AUTSYS      ACTIV
    AOC9       RECOPER         AUTREC      ACTIV
    AOC9       LOGOPER         AUTLOG      ACTIV
    AOC9       PPIOPER         AOFARCAT
ACTIV
    AOC9       RPCOPER         AUTRPC      ACTIV


  Command ===>
     PF1=Help     PF2=End        PF3=Return               PF6=Roll
                                 PF9=Refresh              PF12=Retrieve
```

Figure 8. Automation Operators Panel

- The **System** field shows the name of the system where the automated function is defined
- The **Automated Function** field shows the name of the automated function that is used in SA z/OS automation procedures
- The **Primary** field shows the NetView automation operator ID assigned to this automated function
- The **Status** field shows the current status of the primary automation operator
- The **Secondary** field shows the Backup NetView automation operator ID assigned to this automated function
- The **Status** field shows the current status of the backup automation operator

The primary and backup NetView automation operator IDs are assigned to the automated function in the command dialogs.
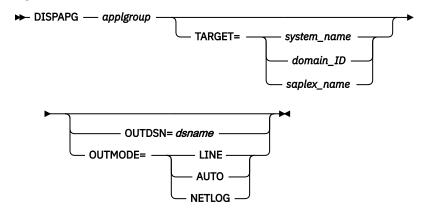
DISPAPG

Purpose

The DISPAPG command displays detailed information about a specified application group that is of interest from the automation agent point of view, such as:

- Automation agent-related information
- Automation manager-related information
- The message history for captured messages that are associated with the group

Syntax

```
▶▶─ DISPAPG ── applgroup ──────────────────────────────────────────▶
                          └─ TARGET= ──┬── system_name ──┐
                                       ├── domain_ID ─────┤
                                       └── saplex_name ───┘

▶──┬──────────────────────────────────┬──◀▶
   ├─ OUTDSN= dsname ──────────────────┤
   └─ OUTMODE= ──┬── LINE ───┐
                 ├── AUTO ───┤
                 └── NETLOG ─┘
```

Parameters

applgroup
> The name of the application group you want information about. If you do not specify an application group, a menu is displayed where you can specify the application group name.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
> For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPAPG command can only be used when SA z/OS is initialized.

Examples

If you enter dispapg followed by the name of an application group at a command line you will see a panel similar to .

```
AOFKADAG                 SA z/OS  - Command Dialogs       Line  1    of 11
Domain ID   = IPSFP      -------- DISPAPG  ----------      Date = 09/05/07
Operator ID = NETOP1          System  = KEY1              Time = 09:10:01

 Resource   ==>  MOVSYSTM/APG/KEY1                format: name/type/system
 Target     ==>  _____      System name, domain ID or sysplex name

 Resource          : MOVSYSTM/APG/KEY1
 Description        : System move pref 700/500/300 MOVSYS1/2/3

 Nature            :
MOVE

 Behaviour          : ACTIVE
 Desired Available  : ALWAYS
 Monitor for IPL complete : YES

 Prepare Move       : YES
 Move mode          : PARALLEL
 Status determination   : CSONLY

 Inform list       : SDF

 Availability target : 1
 Satisfactory target : 1



Command ===>
 PF1=Help    PF2=End      PF3=Return     PF4=INGINFO              PF6=Roll
                          PF9=Refresh                          PF12=Retrieve
```

Figure 9. DISPAPG Panel

You can use the **Resource** and **Target** fields to specify the name of a different application group or you can press PF9 to refresh the information about the current application group.
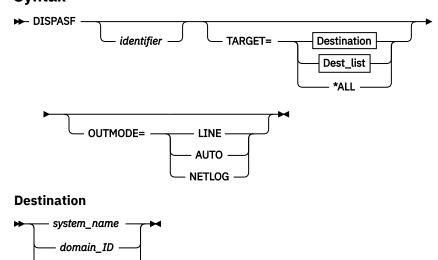
You can use the PF4 key to invoke the INGINFO command to get details about the application group from the automation manager point of view.

DISPASF

Purpose

DISPASF displays the information contained in the automation status file. This file holds information that is to be retained across SA z/OS automation agent sessions.

Syntax

Destination

Dest_list

Parameters

identifier
> Specifies the name of an object in the status file. Such an object can be, for example, a subsystem. If you do not specify an identifier, a panel is displayed where you can specify an object.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPASF command can only be used when SA z/OS is initialized.

Examples

If you enter `dispasf tso`, you see a panel similar to Figure 10 on page 41.

```
AOFK3D0X                SA z/OS  - Command Response      Line  1    of 19
Domain ID   = IPUF9     ---------- DISPASF  ----------     Date = 01/09/09
Operator ID = NETOP1                                       Time = 18:59:11

Command = ASF ID=TSO,REQ=DISP
SYSTEM = KEY1      STATISTICS DISPLAY REQUESTED FOR TSO THRU TSO
--------------------------------------------------------------------------------
STATISTICS DISPLAY REQUESTED FOR TSO THRU TSO
ID= TSOYYYY , TYPE= SUBSYSTEM , STATUS= UP
 LAST UPDATED BY OPERATOR AUTWRK15
 LAST STOP  EVENT: TS= 01/07/2009 18:01:32 , TYPE= NORM
 LAST DOWN  EVENT: TS= 01/07/2009 18:01:36 , TYPE= NORM
 LAST THRESHOLD EXCEEDED -
 OPERATOR NOTIFIED: N
 LAST STATUS CHANGE DATE= 01/09/2009 , TIME= 11:42:05 , OPID= AUTWRK15
    ERROR COUNT      DATE         TIME
            09    05/30/2008   06:48:00
            08    05/08/2008   17:35:00
            07    04/24/2008   06:14:00
            06    04/18/2008   07:16:00

Command ===>
    PF1=Help     PF2=End      PF3=Return                  PF6=Roll
                 PF8=Forward  PF9=Refresh                 PF12=Retrieve
```
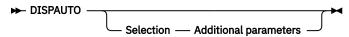
Figure 10. Display of Automation Status File Information for TSO (DISPASF TSO)

DISPAUTO

Purpose

DISPAUTO provides a menu where you can initiate command dialogs that display information about your automation.

Syntax

Parameters

Selection
    This is one of the commands that is listed for the DISPAUTO command.

Additional parameters
    This indicates additional parameters that can be specified with the selected command.

Note: All keywords can be abbreviated to the minimum unique abbreviation. Additional parameters are passed 'as is' to the appropriate command routine.

Restrictions and Limitations

The DISPAUTO command can only be used when SA z/OS is initialized.

Examples

If you enter `dispauto` on an operator station task (OST) the panel in is displayed.

```
AOFKAADA                SA z/OS  - Command Dialogs      Line  1  of 33
Domain ID   = IPUFA     ---------- DISPAUTO ----------   Date = 09/01/06
Operator ID = NETOP1                                     Time = 12:46:21

     1    FLAGS        Display current automation flag settings
     2    SCHEDULE     Display all scheduled NOAUTO periods
     3    NOTIFY       Display status of all notify operators
     4    THRESHOLDS   Display all current threshold settings
     5    ERRORS       Display all resources with errors
     6    STATUS       Display the current status of all subsystems
     7    REQUESTS     Display all requests
     8    SUBSYSTEMS   Display information about subsystem
     9    MESSAGES     Display current message assignments
    10    AUTOOPS      Display SA for z/OS controlled autotasks
    11    GATEWAYS     Display gateway status and statistics
    12    SYSTEM       Display system parameters and status
    13    CF           Display coupling facility statuses
    14    CDS          Display couple data set statuses
    15    TRIGGERS     Display list of defined triggers
    16    SERVICE      Display list of defined schedules


Command ===>
   PF1=Help     PF2=End       PF3=Return                    PF6=Roll
                PF8=Forward                                 PF12=Retrieve
```

Figure 11. DISPAUTO Command Dialog Panel
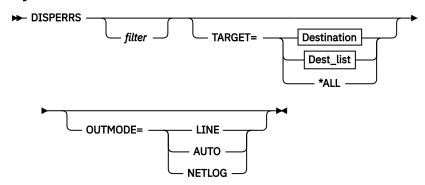
After the command selection number, you can specify appropriate parameters for the selected commands, for example, 10 TARGET=*xxx*, where *xxx* is the domain ID, or the system name of a system in the sysplex.

DISPERRS
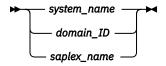
Purpose

The DISPERRS command displays information about resources that errors have been recorded for in the status file.

Syntax

```
►►─ DISPERRS ──┬──────────┬──┬─ TARGET= ─┬─ Destination ─┬──────────►
               └─ filter ─┘              ├─ Dest_list ───┤
                                         └─ *ALL ────────┘

►──┬────────────────────────────────────┬──►◄
   └─ OUTMODE= ──┬─ LINE ───┬────────────┘
                 ├─ AUTO ───┤
                 └─ NETLOG ─┘
```

Destination

```
►►─┬─ system_name ─┬──►◄
   ├─ domain_ID ───┤
   └─ saplex_name ─┘
```

Dest_list

```
►►─ ( ──┬─◄─ Destination ─◄─┬── ) ──►◄
        └───────────────────┘
```

Parameters

filter

This is the filter to be applied for the output. Only resource names that match the filter criteria are displayed.

The filter consists of one or more qualifiers separated by a period. A wildcard, *, is supported at the beginning or the end of each qualifier.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPERRS command can only be used when SA z/OS is initialized.

Examples

If you enter `disperrs` you see a panel similar to Figure 12 on page 44.

```
AOFKAAD5                 SA z/OS  - Command Dialogs      Line  1    of 21
Domain ID   = IPUFA      ---------- DISPERRS ----------  Date = 09/16/08
Operator ID = NETOP1                                     Time = 15:08:12

System   Resource                     Type      Thrs No Date       Time
-------- --------------------------- ---------- ---- -- ---------- --------
AOCA     AM                          SUBSYSTEM  INFR  9 09/16/2008 09:11:34
                                                      8 09/03/2008 07:55:34
                                                      7 09/02/2008 09:18:48
                                                      6 09/02/2008 09:14:29
                                                      5 08/04/2008 13:10:55
                                                      4 07/31/2008 12:47:00
                                                      3 07/08/2008 14:24:00
                                                      2 07/03/2008 08:49:00
                                                      1 06/25/2008 12:45:00
AOCA     AM2                         SUBSYSTEM  INFR  2 09/08/2008 09:38:14
                                                      1 09/03/2008 07:55:32
AOCA     MQLOCAL                     SUBSYSTEM  CRIT  2 06/19/2008 17:04:00
                                                      1 06/19/2008 17:04:00
AOCA     AOFIPLDT                    CONTROL          8 08/27/2008 19:32:00

Command ===>
   PF1=Help     PF2=End      PF3=Return                  PF6=Roll
                PF8=Forward  PF9=Refresh                 PF12=Retrieve
```

Figure 12. DISPERRS Command Dialog Panel
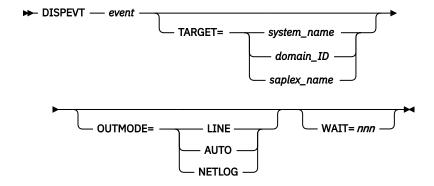
- The **System** field shows the name of the system where the resource is defined.
- The **Resource** field shows the name of the resource.
- The **Type** field shows the type of resource.
- The **Thrs** field shows the type of threshold, if any, that was exceeded when the last error was recorded. This is either CRIT (critical), FREQ (frequent), or INFR (infrequent).
- The **No** field shows the sequence number assigned to the error.
- The **Date** and **Time** fields show the date and time that the error occurred.

DISPEVT

Purpose

The DISPEVT command displays relationships between an event and the related resources. DISPEVT shows all the resources that use the event.

Syntax

Parameters

event
    Specifies the name of the event.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14. Note that if you specify a sysplex name as a target, this is translated to the next system that is available in the sysplex and the DISPEVT command is processed there.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

Restrictions and Limitations

The DISPEVT command can only be used when SA z/OS is initialized.

Usage

The DISPEVT command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

If you specify OUTMODE=LINE, specifying *event* becomes mandatory.

Examples

If you enter `dispevt b000s100`, Figure 13 on page 45 is displayed.

```
AOFLE000                   SA z/OS  - Command Dialogs      Line  1    of 4
Domain ID   = IPUF9      ---------- DISPEVT  ----------     Date = 11/26/99
Operator ID = NATOP1           Sysplex = KEY1PLEX          Time = 15:29:27

 Event          ==> B000S100
 Target         ==> KEY3        System name, domain id or sysplex name
 Description  . . : Start cond 1 Trigger6 batch job end
 Unset condition. : UP

 Resource       Type  System    Trigger    Status
 -----------    ----  --------  --------   ------
 TRGG006AA10    APL   KEY1      TRIGGER6   SET
 TRGG006AA10    APL   KEY2      TRIGGER6   UNSET
 TRGG006AA10    APL   KEY3      TRIGGER6
 TRGG006AA10    APL   KEY4      TRIGGER6   SET




 Command ===>
   PF1=Help     PF2=End         PF3=Return                  PF6=Roll
                                PF9=Refresh                 PF12=Retrieve
```

Figure 13. DISPEVT Command Dialog Panel

- The **Event** field shows the name of the event. You can overwrite the event to initiate a new display.
- The **Target** field shows the name of the system where the command is executed. You can overwrite the system name to initiate a new display.
- The **Description** field shows the description of the event.
- The **Unset** condition field shows the status that an application must have to reset an event.
- The **Resource** field shows the name of the resource where the event is defined.
- The **Type** field shows the type of the resource.
- The **System** field shows the name of the system where the resource is defined.

- The **Trigger** field shows the trigger that the resource is linked to.
- The **Status** field shows the status of the event for that particular resource. It can contain the following values:

  SET
  > The event is set. It is shown in white.

  UNSET
  > The event is unset. It is shown in red.
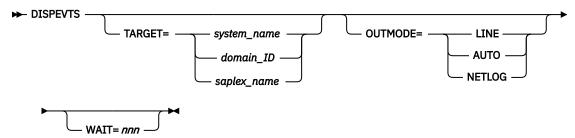
  > If the status of the event is neither SET nor UNSET, the event is in an unknown state. This is treated as UNSET.

DISPEVTS

Purpose

DISPEVTS displays all events defined in a sysplex. From the fullscreen panel you can set or reset an event or display the related resources of an event.

Syntax

Parameters

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14. Note that if you specify a sysplex name as a target, this is translated to the next system that is available in the sysplex and the DISPEVTS command is processed there.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

> Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

> If omitted, the time interval is 30 seconds.

Restrictions and Limitations

The DISPEVTS command can only be used when SA z/OS is initialized.

Examples

If you enter `dispevts`, a panel that shows all events defined in the sysplex is displayed, as shown in Figure 14 on page 47.

```
AOFLE100                SA z/OS  - Command Dialogs      Line  1    of 38
Domain ID   = IPUF9      ---------- DISPEVTS ----------  Date = 11/26/99
Operator ID = NETOP1          System  = AOC9             Time = 15:00:20

Cmd:  D show related resources     S set/reset event

Cmd Event     Unset  Description
--- -------- -----  ----------------------------------------
 _  BATCHSTP  NONE   Batch jobs B000P100,P200,P300
 _  BATCHSTR  NONE   Batch jobs B000S100,S200,S300
 _  B000P100  DOWN   Stop cond 1 Trigger6 (batch job end)
 _  B000P200  DOWN   = P1
 _  B000P300  DOWN   Stop cond 2 Trigger6 (batch job 1 min)
 _  B000S100  UP     Start cond 1 Trigger6 batch job end
 _  B000S200  UP     = P1
 _  B000S300  UP     Start cond 2 Trigger 6 batch end (1 min)
 _  DRWEVT1   UP     unset UP
 _  DRWEVT13  NONE   unset none
 _  DRWEVT14  NONE   unset none
 _  DRWEVT15  NONE   unset none


Command ===>
   PF1=Help      PF2=End       PF3=Return                   PF6=Roll
                 PF8=Forward   PF9=Refresh                  PF12=Retrieve
```

Figure 14. DISPEVTS Command Dialog Panel

- The **Cmd** field lets you specify the command codes shown on the panel. Type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  D
  Shows the related resources.

  S
  Sets or resets the event.

- The **Event** field shows the name of the event.

- The **Unset** field shows the status that an application must have to reset an event. The following values can occur:

  START
  Unsets the event when the resource is being started.

  UP
  Unsets the event when the resource becomes available.

  DOWN
  Unsets the event when the resource becomes unavailable.

  If you do not specify anything the event will not be unset.

- The **Description** field shows the description of the event.

Type S next to an event and press Enter. The panel shown in is displayed.

```
AOFLE110                 SA z/OS  - Command Dialogs
Domain ID   = IPSNO         -------- INGEVENT ---------      Date = 03/02/00
Operator ID = NETOP1          Sysplex = KEY1PLEX             Time = 12:35:26

Event . . . . . . . : EVTSTOP
Description . . . . : Shutdown event
Unset condition . . : DOWN

Specify/revise the following parameters and then press enter:

  Function   =>  _____         SET or UNSET
  Resource   =>  _____       Resource name


  Target     =>  _____        System name, domain ID or sysplex name




Command ===>
F1=Help      F2=End        F3=Return                         F6=Roll
                                                             F12=Retrieve
```

Figure 15. DISPEVTS Command Dialog Panel: Setting an Event
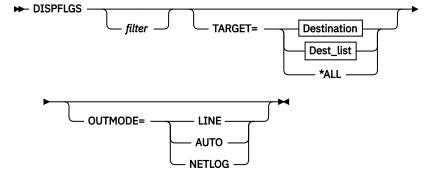
- The **Event** field shows the name of the event.
- The **Description** field shows the description of the event.
- The **Unset condition** field shows the status that an application must have to reset an event.
- The **Function** field shows the action to be performed. It can be overwritten.
- The **Resource** field shows the name of the application that is the only affected application when the command is executed. It can be overwritten.
- The **Target** field shows the name of the target system where the processing takes place. It can be overwritten. You only need to specify the name of the target system if you want to address a remote sysplex.

DISPFLGS
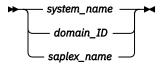
Purpose

The DISPFLGS command shows all resources that have explicit agent automation flags defined for them, what those flags are, and what the effective automation flags resulting from them are.

Syntax

Destination

```
  ──── system_name ────
        domain_ID
        saplex_name
```

Dest_list

```
►►─ ( ──── Destination ──── ) ─►◄
```

Parameters

filter
Is the filter to be applied for the output. Only resource names that match the filter criteria are displayed. Wildcard is supported. The filter consists of the major name and, optionally, of a minor name separated by a dot, for example, `CICS*.TRANS*`, or `*.*CEMT`. Specify `*` to view major resources. To view minor resources, specify `xyz.*`.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPFLGS command can be used only when SA z/OS is initialized.

Usage

Subsystems that are not shown have no explicit automation flags set and have effective flags defined in the SUBSYSTEM entry.

Examples

If you enter `dispflgs` within SA z/OS, you see a panel similar to Figure 16 on page 49.

```
 AOFKAAAU                    SA z/OS  - Command Dialogs      Line  1    of 17
 Domain ID   = IPSFM       ---------- DISPFLGS ----------    Date = 07/28/06
 Operator ID = NETOP1                                        Time = 11:48:14

 Cmd:  A Add flags     C Change flags     R Reset flags     S Scheduled Overrides
                                          Actual         Effective
 Cmd  System     Resource                A I S R T RS   A I S R T RS
 ---  --------   --------------------    - - - - - -    - - - - - -
  _   KEY1       ASSISTD                 Y - - - - -    Y Y Y Y Y Y
  _   KEY1       DEFAULTS                - - - - - -    Y Y Y Y Y Y
  _   KEY1       MINORRES                - - - - E -    Y Y Y Y E Y
  _   KEY1       AAA011I                 S - - - - -    S S S S S S
  _   KEY1       AAA011I                 - - - - E -    Y Y Y Y E Y
  _   KEY1       MVSESA                  Y - - Y - -    Y Y Y Y Y Y
  _   KEY1       CS                      - - - Y - -    Y Y Y Y Y Y
  _   KEY1       CF                      - - - Y - -    Y Y Y Y Y Y
  _   KEY1       ENQ                     - - - N - -    Y Y Y N Y Y
  _   KEY1       HUNGCMD                 - - - N - -    Y Y Y N Y Y
  _   KEY1       LONGENQ                 - - - N - -    Y Y Y N Y Y
  _   KEY1       SYSIEFSD                - - - N - -    Y Y Y N Y Y
  _   KEY1       HEALTHCHK               - - - Y - -    Y Y Y Y Y Y

 Command ===>
    PF1=Help      PF2=End      PF3=Return                   PF6=Roll
                  PF8=Forward  PF9=Refresh                  PF12=Retrieve
```

Figure 16. DISPFLGS Command Dialog Panel

The following command codes are available:

A

Defines automation flags for a resource by using the same flag settings as the selected resource. On the next panel that is displayed, you can specify the resource name and optionally overtype the flag settings.

C

Modifies the automation flags of the selected resource. The next panel shows the current flag settings. You can overtype the flag values.

R

Resets the automation flags to the values specified in the automation control file (ACF).

S

Shows the scheduled override settings of the automation flags for the selected resource.

- The **Resource** field shows the name of the resource. Names shown indented one character to the right represent minor resources, for example, MVSESA.DUMP as shown below. If the minor resources MVSESA.DUMP.ONE, MVSESA.DUMP.TWO, and MVSESA.DUMP.TWO.THREE existed, the Resource column would look like the following example:

```
MVSESA
  DUMP
    ONE
    TWO
      THREE
```

Major resources correspond to subsystems and minor resources correspond to specific situations or resources within a major resource. By default, automation flags for minor resources are derived from their major resources.

The entries are sorted alphabetically.

- The **Actual** flag settings are the flags that have been set for the resource.
- The **Effective** flag settings are the flags that are in effect for the resource.

The columns are headed with an abbreviation of the name of the automation flag.

A

Automation flag - overrides the others

I

Initstart flag - controls initial startup.

S

Start flag - controls commands that are issued during startup.

R

Recovery flag - controls recovery while UP.

T

Terminate flag - controls shutdown and shutdown commands.

RS

Restart flag - controls restart.

The value of each flag is:

-

There is no explicit setting.

N

The flag is turned off.

E

A user exit is invoked whenever SA z/OS checks the flag.

Y

The flag is turned on.

L

The resulting commands or replies of an automated action are written to the netlog only but not issued when the event occurs.

S

The resource is suspended by the INGSUSPD command. No further action on any of the automation flags is allowed. Use the INGSUSPD command to reset the global automation flag to its original value.

?

There is an error.
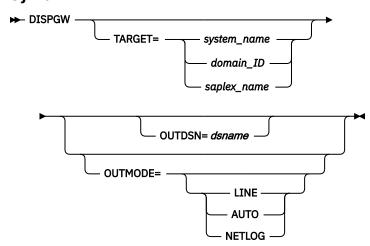
For more information about automation flags and minor resources, see *IBM System Automation for z/OS Customizing and Programming*.

DISPGW

Purpose

DISPGW displays gateway definitions, statuses, and connectivity information.

Syntax

```
>>─ DISPGW ──┬─────────────────────────────────┬──>
             └─ TARGET= ──┬─ system_name ─┬─────┘
                          ├─ domain_ID ───┤
                          └─ saplex_name ─┘

    >──┬─────────────────────────┬──><
       ├─ OUTDSN= dsname ─────────┤
       └─ OUTMODE= ──┬──────────┬─┘
                     ├─ LINE ───┤
                     ├─ AUTO ───┤
                     └─ NETLOG ─┘
```

Parameters

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

Restrictions and Limitations

The DISPGW command can only be used when SA z/OS is initialized.

Usage

There are related panels that display gateway information. Use PF11 and PF10 to scroll through them.

Examples

If you enter `dispgw` you see a panel similar to .

```
AOFK2GL                  SA z/OS - Command Dialogs        Line 1     of 32
Domain Id . : IPZFL   ------------ DISPGW  ------------   Date . . : 04/17/14
Operator Id : NETOP1        System = TSA1                 Time . . : 14:51:49
                       Focal Point = IPZFL


Domain   SDF Root Status       Comm  Release level In Status   Out Status
-------- -------- ----------- ----- ------------- ----------- -----------
IPSFL    KEY6     ACTIVE       *IP * SA z/OS 3.5   ACTIVE      ACTIVE
IPSFM             INACTIVE                         INACTIVE    SESSFAIL
IPSFN    KEY2     INACTIVE           SA z/OS 3.4   INACTIVE    SESSFAIL
IPSF7    KEY7     ACTIVE       *IP * SA z/OS 3.4   ACTIVE      ACTIVE
IPUFA             INACTIVE                         INACTIVE    SESSFAIL
IPZFL    TSA1     ACTIVE       *XCF* SA z/OS 3.5   ACTIVE      ACTIVE
IPZFM    TSA2     ACTIVE       *XCF* SA z/OS 3.5   ACTIVE      ACTIVE
IPZFN    TSA3     ACTIVE       *XCF* SA z/OS 3.5   ACTIVE      ACTIVE

Command ===>
F1=Help     F2=End      F3=Return                            F6=Roll
```

Figure 17. DISPGW Command Dialog Panel 1

The amount of data depends on the screen size. Press PF10/11 to scroll horizontally.

- The **Domain** field shows the domain ID of the system that a gateway has been defined to, known as the *gateway domain*.
- The **SDF Root** field shows the system name of the gateway domain.
- The **Status** field shows the current status of the gateway.

    The following are statuses that may occur for gateways:

    ACTIVE
    The connection was established.

    BAD DOMAIN
    The specified domain is unknown. Message: DSI031I.

    INACTIVE
    The connection cannot be established. One of the following messages was issued: DSI008I, DSI015A, DSI027I.

    INV OPID
    The specified operator ID is invalid. Messages: DSI021A, DSI077A, DSI400A.

    NOT STARTD
    The domain has not been started by gateway initialization.

    SESSFAIL
    The attempt to start a session with the domain ended with a VTAM® request failure. See DSI046I in the netlog for details.

- The **Comm** field shows the communication method that is used for the outbound connection with the gateway domain:

    XCF
    XCF is used as the transport mechanism. This is the case when the gateway domain resides in the same logical sysplex.

    *IP *
    The transport mechanism is via RMTCMD using IP.

    SNA
    The transport mechanism is via RMTCMD using SNA.

    RPC
    The *remote procedure call* technique is used as the transport mechanism.

Note: The RMTCMD method is derived from the RMTSYN entries found in CNMSTYLE. If you use RMTALIAS to describe more than one transport method, then you can influence which is selected as the RMTSYN entries are sorted in ascending order.

- The **Release level** field shows the SA z/OS release level of the gateway domain.
- The **In/Outbound Status** field shows the status of the inbound and outbound NetView sessions from this domain to the gateway domain. If this domain communicates with the gateway through another domain, the status is NO DIRECT.
- The **Last out/in** field shows the first 8 bytes of the last gateway request from the gateway domain to this domain, and the last gateway request from this domain to the gateway domain. It can be any of the following: CHECK, CONNECT, DISCONN, or FPRESET.
- The **System** field shows the name of the system.
- The **SMF ID** field shows the SMF ID assigned to the system.
- The **SA Plexname** field shows the SA z/OS SYSPLEX name. In most cases the name is identical to the physical SYSPLEX name
- The **XCF Group** field shows XCF group name the system belongs to.
- The **Net Id** field shows the Networking ID.
- The **SYSPLEX** field shows the physical sysplex name.
- The **PrimaryFP** field shows the name of the primary focal point defined for the domain.
- The **BackupFP** field shows the name of the backup focal point defined for the domain.
- The **Description** field shows a description of the gateway domain, obtained from the automation control file.
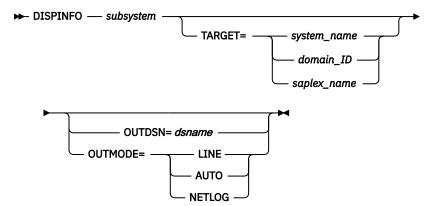
DISPINFO

Purpose

DISPINFO displays detailed information about a specified subsystem.

If the subsystem is a CICS® or IMS subsystem that is being controlled by CICS Automation or IMS Automation, a PF10 option is available to give access to CICS or IMS related information. This PF key is not available if the subsystem is down. See for more details.

Syntax

```
>>-- DISPINFO --- subsystem ----------------------------------->
                              └─ TARGET= ─┬─ system_name ─┬─┘
                                          ├─ domain_ID ───┤
                                          └─ saplex_name ─┘

>─┬──────────────────────────────────┬─><
  ├─ OUTDSN= dsname ─────────────────┤
  └─ OUTMODE= ─┬─ LINE ───┬──────────┘
               ├─ AUTO ───┤
               └─ NETLOG ─┘
```

Parameters

subsystem
The name of the subsystem you want information about. If you do not specify a subsystem, a menu is displayed where you can specify the subsystem.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPINFO command can only be used when SA z/OS is initialized.

Examples

```
AOFKINFO                SA z/OS  - Command Dialogs       Line  1    of 194
Domain ID   = IPXFI    -------- DISPINFO ----------     Date = 11/07/13
Operator ID = SAOPER                                    Time = 15:12:04

 Subsystem ==>  IMS1CTL      System ==>  KEYA      System name, domain ID
                                                   or sysplex name
 Subsystem   : IMS1CTL      on System : KEYA

 Description : IMS1 Control Region

 Inform list : SDF EIF IOM

 Class chain : C_IMS_DCCTL   Class for IMS DCCTL regions
               C_IMSCTL      Class for IMS Control regions

 Job Name    : IMSCA1CR

 Job Type    : MVS

 Category    : IMS

 Subcategory : CTL


 Current status     : DOWN

   Last Monitored   : 14:50:58 on 11/07/13
   Last Changed     : 09:46:38 on 11/07/13
   Last Message

          AOF571I 09:46:38 : IMS1CTL SUBSYSTEM STATUS FOR JOB IMSCA1CR
          IS DOWN - AT IPL

 Monitor            : INGPJMON
   Monitor Status   : INACTIVE
   Monitor Interval : None specified

 Last start         : 09:45:52 on 11/01/13   Type  : NORM
 Last termination   : 09:48:38 on 11/07/13

 ARM Element Name   : None

 WLM Resource Name  : None

 Command Prefix     : None

 Subsystem ID       : MCA1
 IMSPlex name       :
MC0A

 Command ===>
  PF1=Help    PF2=End     PF3=Return    PF4=INGINFO             PF6=Roll
              PF8=Forward  PF9=Refresh                         PF12=Retrieve
```

Figure 18. DISPINFO Command Dialog Panel

For the subsystem and the system fields, you can override the values and refresh the display. You can also scroll forward and backward.

For further details about the fields on the panel, see the customization dialogs and *IBM System Automation for z/OS Defining Automation Policy*.

When obtaining automation flag settings, no user exits are invoked.

To display the default settings use the subsystem name DEFAULTS or SUBSYSTEM.

PF4 lets you toggle to the automation manager command INGINFO.
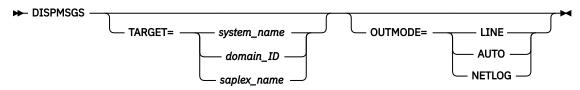
If PF10 is shown the DISPINFO command invokes the INGCICS or INGIMS commands. For more information see "INGCICS" on page 108 or "INGIMS" on page 137.

DISPMSGS

Purpose

The DISPMSGS command displays a list of automation operators that receive automated messages.

Syntax

```
►►─ DISPMSGS ─┬──────────────────────────────┬─┬──────────────────────────┬─►◄
              │                              │ │                          │
              └─ TARGET= ─┬─ system_name ─┐ │ └─ OUTMODE= ─┬─ LINE ───┐ │
                          ├─ domain_ID ───┤                ├─ AUTO ───┤
                          └─ saplex_name ─┘                └─ NETLOG ─┘
```

Parameters

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPMSGS command can only be used when SA z/OS is initialized.

Examples

Enter `dispmsgs` on a command line to display the Authorized Message Receivers panel, as shown in Figure 19 on page 56.

```
 AOFK2SM                   SA z/OS  - Command Dialogs     Line  1    of 17
 Domain ID   = IPSNO       ---------- DISPMSGS ----------  Date = 06/27/00
 Operator ID = NETOP1            System = KEY3             Time = 15:05:53

  Message     Primary Receivers                    Secondary Receivers
  -------     -----------------                    -------------------
  '*AOF01'    AUTWRK01 AUTGSS   AUTSYS
              AUTBASE
  '*AOF02'    AUTWRK02 AUTGSS   AUTSYS
              AUTBASE
  '*AOF03'    AUTWRK03 AUTGSS   AUTSYS
              AUTBASE
  '*AOF04'    AUTWRK04 AUTGSS   AUTSYS
              AUTBASE
  '*AOF05'    AUTWRK05 AUTGSS   AUTSYS
              AUTBASE
  'AOF*'      AUTMSG    AUTSYS   AUTBASE
  'IEA*'      AUTREC    AUTSYS   AUTBASE
  'IEE600I    AUTSYS
  'IEE889I    AUTSYS    AUTBASE
  'IEE*'      AUTREC    AUTSYS   AUTBASE
  'IOS*'      AUTREC    AUTSYS   AUTBASE
  '*'         AUTLOG    AUTSYS   AUTBASE




 Command ===>
    PF1=Help     PF2=End        PF3=Return              PF6=Roll
                                PF9=Refresh             PF12=Retrieve
```

Figure 19. Authorized Message Receivers (DISPMSGS) Panel

The information contained on the panel is:
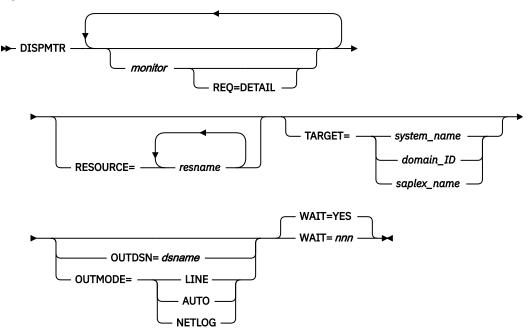
- The **Message** field shows the message or message prefix.
- The **Primary Receivers** field shows the automation operators, identified by their NetView IDs. The Primary Receivers column lists automation operators that can receive the messages listed beside their names. These messages go to the first automation operator listed in the Primary Receivers column that is active.
- The **Secondary Receivers** field shows the Alternate automation operators, identified by their NetView IDs. Secondary Receivers receive copies of the messages listed beside their names.

DISPMTR

Purpose

The DISPMTR command displays and allows you to manage monitors that you have defined using the customization dialogs for your system.

Syntax

Parameters

monitor
The name of the monitor resource. More than one name can be specified. Wildcard is supported, for example, SAP*.

resource
The resource name that the associated monitor, or monitors, should be displayed for. If more than one name is specified, they must be enclosed in parentheses. Wildcard is supported.

REQ=DETAIL
Displays detailed information for the specified monitor.

Note: Specification of the full monitor resource name is necessary if it is a remote monitor. Also, when using this option only one monitor can be specified.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT
Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

Restrictions and Limitations

The DISPMTR command can only be used when SA z/OS is initialized.

Examples

If you enter `dispmtr` a panel similar to that shown in Figure 20 on page 58 is displayed.

DISPMTR

```
INGKYMN0                  SA z/OS  - Command Dialogs      Line  1    of 2
Domain ID   = IPUN8      ---------- DISPMTR  ----------     Date = 01/02/03
Operator ID = NETOP1          System = AOC8                Time = 13:15:00

Cmd:  A  Reset   B Start   C Stop   D Details   E INGVOTE   F INGINFO   I INGSCHED

CMD Monitor       System   Status        Health       Last monitored
--- ------------  -------- ------------  ------------ --------------------
 _   JES2MON      AOCA     ACTIVE        UNKNOWN      2009-12-01 17:28:16
 _   PMTRA        AOCA     ACTIVE        NORMAL       2009-12-02 15:03:39
 _   PMTRB1       AOCA     ACTIVE        NORMAL       2009-12-02 15:03:40
 _   PMTRB2       AOCA     ACTIVE        NORMAL       2009-12-01 17:28:17
 _   PMTRB3       AOCA     ACTIVE        NORMAL       2009-12-01 17:28:16




Command ===>
 PF1=Help     PF2=End     PF3=Return                          PF6=Roll
              PF8=Forward PF9=Refresh            PF11=Next     PF12=Retrieve
```

Figure 20. DISPMTR Initial Command Dialog Panel

The amount of data depends on the screen size. Press PF10/11 to scroll horizontally.

- The **Cmd** field lets you specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  A
  > Resets the health status to NORMAL, if the monitor status is ACTIVE.
  >
  > Resets the health status to INACTIVE, if the monitor status is BROKEN.

  B
  > Starts the monitor resource (makes it available).

  C
  > Stops the monitor resource (makes it unavailable).

  D
  > Shows the monitor details and history data.

  E
  > Invokes INGVOTE for the monitor resource to show votes and requests against the monitor.

  F
  > Invokes INGINFO for the monitor resource to show details about the monitor.

  I
  > Invokes INGSCHED for the monitor resource to show details about the overrides that exist for the monitor.

- The **Monitor** column shows the name of the monitor.
- The **System** column shows the name of the system where the monitor runs.
- The **Status** column shows the status of the monitor. It can have one of the following values:

  STARTING
  > The monitor is about to become active. An activate command might be in progress.

  ACTIVE
  > The monitor is active.

  STOPPING
  > The monitor is about to become inactive. A deactivate command might be in progress.

  INACTIVE
  > The monitor is inactive.

FAILED
>The monitor failed. Recovery might be in progress. No acceptable health status is provided.

BROKEN
>The monitor and its recovery failed. This is a permanent condition. The monitor is no longer invoked. Use command code 'A' to reset the monitor to INACTIVE.

- The **Health** column shows the status of the monitor. This implies that the monitor is active. It can have one of the following values:

UNKNOWN
>The health status has not been determined yet.

NORMAL
>The health is OK.

WARNING
>The health is degraded.

MINOR
>Similar to WARNING but more severe.

CRITICAL
>Similar to MINOR but more severe.

FATAL
>Similar to CRITICAL but more severe.

- The **Last monitored** column shows when the resource was last monitored.
- The **Status message** column shows message that is associated with the status. If the message has been truncated it ends with `...`, use command code D to view full details about the message.
- The **Description** column shows descriptive information about the monitor resource.
- The **Monitored Object** column shows the name of the real object that is being monitored by this monitor.
- The **Jobname** column shows the name of the job this Monitor resource accepts events from.

The SORT, FIND, and RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

If you enter command code D for a resource, a panel similar to Figure 21 on page 59 is displayed.

```
 INGKYMO1                 SA z/OS  - Command Dialogs     Line  1     of 107
 Domain ID   = IPSFP      ---------- DISPMTR  ----------   Date = 11/23/09
 Operator ID = NETOP1           System = AOC8              Time = 13:15:15

 Monitor          : CICS1CON1/MTR/AOC8
 Target           : AOC8
 Description       : CICS Connection Monitor for CICS1TOR

 Monitored Object  : BICM.CICSAO84.CONNECT.AO83
 Inform List       : SDF SMF USR TTT EIF IOM

 Commands...
    Activate      :
    Deactivate    :
    Monitoring    :

 Interval         :

 Last termination : 17:50:26 on 11/22/09
 Last start       : 00:01:09 on 11/23/09


 Command ===>
  PF1=Help     PF2=End     PF3=Return                        PF6=Roll
            PF8=Forward  PF9=Refresh                       PF12=Retrieve
```
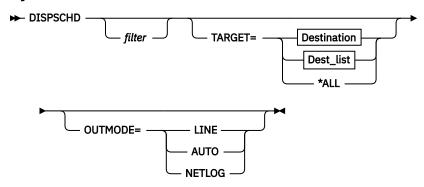
Figure 21. DISPMTR Command Dialog Panel Showing Details for a Monitor

DISPSCHD
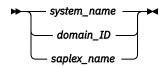
Purpose

DISPSCHD displays all resources that have scheduled override settings for the automation flags. Scheduled overrides are specified using the customization dialog. They are specific times when automation is turned off for a particular flag and resource.

Syntax

```
►►─ DISPSCHD ─┬─────────┬─┬─ TARGET= ─┬─ Destination ─┬──────────────►
              └─ filter ┘ │           ├─ Dest_list ───┤
                          │           └─ *ALL ─────────┘

   ┌─────────────────────────────────────►◄
   └─ OUTMODE= ─┬─ LINE ───┬──
                ├─ AUTO ───┤
                └─ NETLOG ─┘
```

Destination

```
►►─┬─ system_name ─┬─►◄
   ├─ domain_ID ───┤
   └─ saplex_name ─┘
```

Dest_list

```
        ┌─────────────◄──┐
►►─ ( ───┴─ Destination ─┴─ ) ─►◄
```

Parameters

filter
Is the filter to be applied for the output. Only resource names that match the filter criteria are displayed. Wildcard is supported. The filter consists of the major name and, optionally, of a minor name separated by a dot, for example, CICS*.TRANS* , or *.*CEMT. Specify * to view major resources. To view minor resources specify $xyz.*$.

TARGET
For information on the TARGET parameter, see "OUTMODE Parameter" on page 16.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPSCHD command can only be used when SA z/OS is initialized.

Examples

If you enter dispschd a panel similar to Figure 22 on page 61 is displayed.

```
AOFKAASC               SA z/OS  - Command Dialogs     Line  1    of 6
Domain ID   = IPUF9    ---------- DISPSCHD ----------   Date = 08/14/07
Operator ID = NETOP1                                   Time = 21:57:58

System   Resource                    Fl Day        Start - End
-------- --------------------------- -- --------- -------------
AOC9     CICST                       A  WEEKDAY   07:30 - 04:00
AOC9                                    THURSDAY  03:00 - 05:00
AOC9                                 I  *         12:00 - 13:00
AOC9                                 R  WEEKEND   18:00 - 19:00
AOC9                                 RS *         12:00 - 13:00
AOC9     MVSDUMP                     R  *         07:00 - 18:00




Command ===>
   PF1=Help       PF2=End         PF3=Return              PF6=Roll
                                  PF9=Refresh             PF12=Retrieve
```

Figure 22. DISPSCHD Command Dialog Panel

- The **System** column shows the name of the system where the resource is defined.
- The **Resource** column shows the name of resources that have NOAUTO specified in the automation control file. The resources are displayed in the order that they occur in the automation control file in.
- The **Fl (Flag)** column shows an abbreviation of the automation flag name.
- The **Day** column shows the day or days when automation is turned off. Valid values are:
  - Monday through Sunday
  - * (for every day)
  - Weekend
  - Weekday
- The **Start** column shows the start time (hh:mm) of the non-automation period.
- The **End** column shows the end time (hh:mm) that automation is disabled for.

Note: The display does not take into account any changes made with the INGAUTO command.
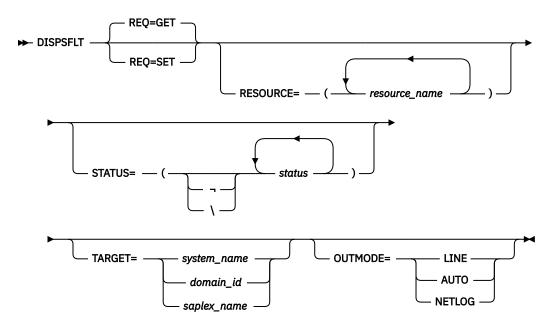
Entries for DEFAULTS or SUBSYSTEM will affect all subsystems that do not have their own automation flags coded.

DISPSFLT

Purpose

The DISPSFLT command lets you set up view filters for DISPSTAT.

Syntax

Parameters

REQ

Specifies the type of the request. It can be one of the following:

SET

Specifies setting new filter settings.

GET

Specifies returning the current filter settings. This is the default.

RESOURCE

Specifies the name of the resource, or resources, to be displayed. The format is *resource name*. It can be a list of names. Wildcards are supported. If you specify only one resource you need not put it in parentheses.

STATUS

Specifies the resource statuses that you want to display. If you specify a list of statuses, separate them with a comma and enclose them in brackets (brackets are not needed for a single status). If '¬', or '\' is used, all statuses except the ones that you specify are displayed.

The following are predefined lists:

STATUS=*

Lists all resource statuses.

STATUS=1

Lists all resources that are currently UP or ENDED.

STATUS=2

Lists all resources that are in a 'normal' status (DOWN, STARTED, UP, AUTOTERM, AUTODOWN, ACTIVE, ENDED, ENDING, RESTART, EXTSTART, RUNNING).

STATUS=3

Lists all resources that are in a 'down' status (DOWN, INACTIVE, RESTART, AUTODOWN, CTLDOWN, STOPPED, BROKEN, MOVED, FALLBACK).

STATUS=4

Lists all resources that are in a start transition status (RESTART, STARTED, STARTED2, ACTIVE, RUNNING, EXTSTART).

STATUS=5
Lists all resources that are in a stop transition status (AUTOTERM, ENDING, STOPPING, ABENDING, BREAKING)

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

If no parameters are specified, the filter settings are used.

If a subsystem name is specified, but no other parameters, for example, TARGET=, are specified, all subsystems of this name found on any system will be displayed.

Usage

The DISPSFLT command can also be used when SA z/OS is **not** initialized.

The DISPSFLT command lets you set filter options at operator logon from within the operator's initial REXX script.

Examples

If the operator is responsible for all resources starting with *xyz*, DISPSFLT will be called with the parameter RESOURCE=*xyz*. If you enter `dispsflt` a panel similar to Figure 23 on page 63 is displayed.

```
AOFKSTA3                  SA z/OS  - Command Dialogs
Domain ID   = IPSNO    -------- DISPSFLT ----------    Date = 06/27/00
Operator ID = NETOP1                                   Time = 15:08:40

  Resources      ( *, *esour*, resource or jobname )
     *_____

  Statuses       ( *, status or choice, leading ¬ or \ negates)
     RESTART STARTED STARTED2 ACTIVE RUNNING EXTSTART_____
     _____

   Precoded:  1 All resources that are currently UP or ENDED
              2 All resources that are in a normal status
              3 All resources that are in a down status
              4 All resources that are in a start transition state
              5 All resources that are in a stop transition state

  Targets  ( system name , domain ID , sysplex name or * )
     KEY3_____
     _____


Command ===>
 PF1=Help     PF2=End     PF3=Return     PF4=Clear    PF5=Reset     PF6=Roll
                                         PF9=Save                   PF12=Retrieve
```

Figure 23. DISPSFLT Command Dialog Panel

Filters are used to tailor the DISPSTAT display. To be displayed, a subsystem must pass all the filter criteria. If a filter is not explicitly set, it defaults to '*', which means that all subsystems pass it. Some filters allow you to specify a wildcard character, in the form of a trailing '*'.

- The **Resources** field contains the name of the resources or their jobs.
- The **Statuses** field shows the subsystem's current status. If '¬', or '\' is specified, all statuses not specified are used.
- The **Targets** field shows the name of the target system.
- If you press PF4 the filter settings are cleared.

Subsystems are evaluated to see if they meet the current filter criteria when:

- DISPSTAT is invoked with filter parameters.
- The filters are changed through the DISPSTAT Filters panel.

- The Refresh key (PF9) is selected from the DISPSTAT panel.
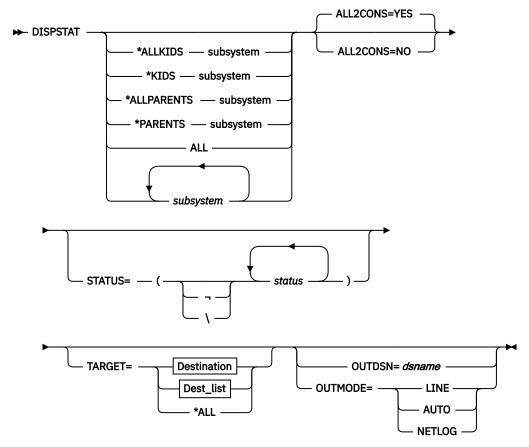
Note: If you make changes on this panel, and then decide that you do not want these changes to take effect, you can select the Reset key (PF5), which reinstates the field values that were present when you entered the panel. If you press PF9 the filter settings are saved until the session is terminated.

DISPSTAT
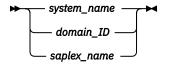
Purpose

DISPSTAT displays current information about one or more subsystems.

Syntax

Destination

Dest_list

Parameters

subsystem
Specifies the particular subsystem whose status or automation flags you want to check. You can specify any automated subsystem. Wildcards are supported. An asterisk (*) matches a string of arbitrary length and a percentage (%) matches a single character.

*ALLKIDS
Lists all children and children of children of the selected subsystem. Wildcards are not available for the subsystem here.

*KIDS
Lists the direct children of the selected subsystem. Wildcards are not available for the subsystem here.

*ALLPARENTS
Lists all parents and parents of parents of the subsystem. Wildcards are not available for the subsystem here.

*PARENTS
Lists the direct parents of the selected subsystem. Wildcards are not available for the subsystem here.

ALL
Displays the current information for all automated subsystems.

STATUS
Specifies the resource statuses that you want to display. If you specify a list of statuses, separate them with a comma and enclose them in brackets (brackets are not needed for a single status). If '¬', or '\' is used, all statuses except the ones that you specify are displayed.

The following are predefined lists:

STATUS=*
Lists all resource statuses.

STATUS=1
Lists all resources that are currently UP or ENDED.

STATUS=2
Lists all resources that are in a 'normal' status (DOWN, STARTED, UP, AUTOTERM, AUTODOWN, ACTIVE, ENDED, ENDING, RESTART, EXTSTART, RUNNING).

STATUS=3
Lists all resources that are in a 'down' status (DOWN, INACTIVE, RESTART, AUTODOWN, CTLDOWN, STOPPED, BROKEN, MOVED, FALLBACK).

STATUS=4
Lists all resources that are in a start transition status (RESTART, STARTED, STARTED2, ACTIVE, RUNNING, EXTSTART).

STATUS=5
Lists all resources that are in a stop transition status (AUTOTERM, ENDING, STOPPING, ABENDING, BREAKING)

ALL2CONS
Specifies whether or not a complete list of columns is displayed. The parameter only applies to line mode. The following are valid values:

YES
Displays the complete list of columns. This is the default.

NO
Displays only 60 characters of display data for each resource. This command is beneficial when DISPSTAT is entered on the system console.

For example, you can specify:

```
DISPSTAT cics* OUTMODE=LINE ALL2CONS=NO
```

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17. Note, however, that for the DISPSTAT command the minimum record length of the output data set is 256 bytes.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

If no parameters are specified, the filter settings will be used, or, if not set, DISPSTAT will show all resources from the local system.

If a subsystem name is specified, but no other parameters, for example, TARGET=, are specified, all subsystems of this name found on any system will be displayed.

Restrictions and Limitations

The DISPSTAT command can only be used when SA z/OS is initialized.

Examples

If you enter `dispstat`, you see information about all automated resources, as shown in Figure 24 on page 66.

```
INGKYDS0                    SA z/OS  - Command Dialogs     Line  1     of 68
Domain ID   = IPUFJ      -------- DISPSTAT  ---------     Date = 12/13/11
Operator ID = OPER1           System  = AOC4              Time = 12:17:16
 A dispflgs  B setstate  C ingreq-stop  D thresholds  E explain  F info G tree
 H trigger   I service  J all children  K children  L all parents  M parents
CMD Resource     Status   System   Jobname  A I S R T RS Type     Activity
--- -----------  -------- -------- -------- - - - - - -- -------- ---------
    AM           UP       AOC4     AMA4     - - - - - -  MVS      --none--
    AM2          UP       AOC4     AMS4     - - - - - -  MVS      --none--
    APPC         UP       AOC4     APPC     - - - - - -  MVS      --none--
    ASCH         UP       AOC4     ASCH     - - - - - -  MVS      --none--
    BLSJPRMI     ENDED    AOC4     BLSJPRMI - - - - - -  TRANS    --none--
    DLF          UP       AOC4     DLF      - - - - - -  MVS      --none--
    FFST         UP       AOC4     FFST     - - - - - -  MVS      --none--
    IRRDPTAB     ENDED    AOC4     IRRDPTAB - - - - - -  TRANS    --none--
    JES2         UP       AOC4     JES2     - - - - - -  MVS      --none--
    LLA          UP       AOC4     LLA      - - - - - -  MVS      --none--
    PAPLMTRA     UP       AOC4     PAPLMTRA - - - - - -  MVS      --none--
    PAPLMTRB     UP       AOC4     PAPLMTRB - - - - - -  MVS      --none--
    PBSYSPL1     UP       AOC4     PBSYSPL1 - - - - - -  MVS      --none--


Command ===>
 PF1=Help     PF2=End      PF3=Return     PF4=INGLIST   PF5=Filters  PF6=Roll
              PF8=Forward  PF9=Refresh  PF10=Previous PF11=Next     PF12=Retrieve
```

Figure 24. Display of Status of All Automated Resources (DISPSTAT)

The amount of data displayed depends on the screen size used. Press PF10 and PF11 to scroll horizontally.

PF4 lets you toggle to the INGLIST command dialog showing the same resources from the automation manager view.

- The **CMD** field allows you to invoke other SA z/OS command dialogs, or control the amount of information displayed. To use one of the command dialogs, type the appropriate letter next to the resource name, and press Enter. When you return to this panel the data within the command scope is refreshed. The current filters are not reapplied until you select Refresh (PF9).

  For example, to invoke the INGTHRES dialog in order to change thresholds for JES2, move the cursor in front of JES2 and type d.

  You can specify X to exclude subsystems.

  Note: The U command code is supported if the AOFEXC04 exit is installed.

- The **Resource** field shows the name of the resource in its corresponding status color, for example, green when the system is UP.
- The **Status** field shows the current status of the resource as supplied by the automation agent.
- The **System** is the name of the system that this instance of the resource is from.
- The **Jobname** is the job name of the resource.
- The automation flags are as follows:

    A

    If this flag is set to N (No), no automation is on, regardless of how the other flags are set. If this is set to Y (Yes), SA z/OS checks each of the other flags to see if they are set to Y or N.

    I

    If this is on, automation issues the correct MVS start command for each subsystem when SA z/OS is initialized and assures that subsystems are started in the order specified in the automation control file.

    S

    If this is on, automation manages and completes the startup process of subsystems.

    R

    If this is on, automation takes the specified action for any MVS message that is not associated with the initialization, startup, shutdown, or restart of a subsystem. For example, if this flag is on, automation takes actions to restart the subsystem in case of an abend.

    T

    If this is on, automation manages the shutdown process for subsystems by issuing shutdown commands and responding to prompts for additional information.

    RS

    If this is on, automation monitors subsystems to ensure that they are running and, if one fails, attempts to restart it according to the policy in the automation control file.

    Each flag has a value of:

    N

    Off

    E

    User exit

    Y

    On

    L

    Log

    ?

    Error

    Note: DISPSTAT shows settings that have been set by the INGAUTO command. It does *not* show the effective setting for the specific flag. Use the DISPFLGS command to view the effective settings for the flags.

- The **Type** field shows the type of job, either MVS, NONMVS, TRANS(ient), or ONE-SHOT.
- The **Activity** field shows whether the resource is in a starting or stopping process.

- The **Last Changed** field shows the date and time that the status of the subsystem last changed.
- The **Last Monitored** field shows the time that the system was last monitored. If monitoring has been disabled this field is set to dashes.
- The **Description** field shows a description of the subsystem, from the automation control file.

Press PF5 to display the DISPSFLT panel. For a description of the DISPSFLT command see .

DISPSYS
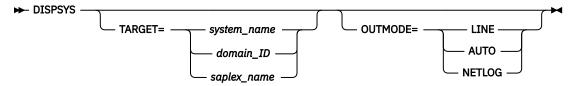
Purpose

The DISPSYS command displays information about the NetView automation agent setup and the environment that it runs on.

Note that if no data is defined or it is not relevant (for example, the sysplex group name for a system that is not in a sysplex) the word 'none' is displayed in the appropriate field.

Syntax

Parameters

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPSYS command can only be used when SA z/OS is initialized.

Usage

DISPSYS is used when you want to see the system parameters and SA z/OS status information for the Sysplex Timer.

Examples

If you enter `dispsys`, you will see a panel similar to .

```
AOFKADAE                  SA z/OS  - Command Dialogs      Line  1    of 98
Domain ID   = IPSFO       ---------- DISPSYS  ----------  Date = 11/28/11
Operator ID = NETOP1          System  = SYS3              Time = 12:17:12

 System          : KEYC          in Sysplex  : KEYAPLEX
 Domain          : IPXFI
 Sysplex Group   : KEY1PLEX
 XCF Group  name : INGXSGUG
 XCF PlexID      : INGPX$BD

 Software
    Operating System  : z/OS 01.11.00
    NetView           : Tivoli NetView for z/OS V6R2
       Tower(s)       : SA
    System Automation : V4R1M0
       Tower(s)       : SYSOPS PROCOPS

 Configuration
    Data set     : KEYAPLEX.V350.ACF(ACFZ992)
    Built by     : NETOP1 04/24/14 13:24:42
    Activated    : 04/24/14 13:25:24
    CFG Token    : 20140424132434000C6F7A2084

 Runmode(s)
    Current : *ALL
    Defined
      WEEKEND           : WK1 WK2 WK3
      DISASTER_RECOVERY : RD1 RD2


Command ===>
 PF1=Help     PF2=End     PF3=Return                     PF6=Roll
             PF8=Forward  PF9=Refresh                    PF12=Retrieve
```

Figure 25. DISPSYS Command Dialog Panel
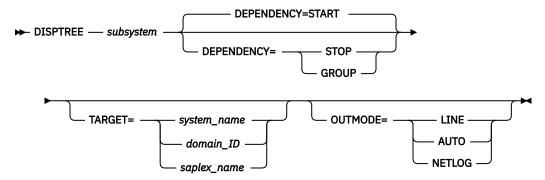
For further details about the fields on the panel, see the online help, the customization dialog and *IBM System Automation for z/OS Defining Automation Policy*.

DISPTREE

Purpose

The DISPTREE command displays the dependency graph for a particular resource.

Syntax

Parameters

subsystem
    The name of the subsystem the display is to be focused upon.

DEPENDENCY
    Specifies the type of dependency that should be used to draw the dependency graph. The following options are available:

DISPTREE

> **START**
>> The start relationship that is defined for the named subsystem will be used to draw the graph.
>
> **STOP**
>> The stop relationship that is defined for the named subsystem will be used to draw the graph.
>
> **GROUP**
>> The group relationship that is defined for the named subsystem will be used to draw the graph.
>
> **TARGET**
>> For information on the TARGET parameter, see "TARGET Parameter" on page 14.
>
> **OUTMODE**
>> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DISPTREE command can only be used when SA z/OS is initialized.

Examples

If you enter `disptree jes2`, a panel similar to Figure 26 on page 70 is displayed.

```
AOFKTREE                 SA z/OS  - Command Dialogs      Line  1    of 78
Domain ID   = IPSNO     -------- DISPTREE ----------     Date = 07/19/00
Operator ID = NETOP1                                     Time = 18:39:18

 Subsystem ==>  JES2        Target ==>  KEY3       Dependency ==>  START

  PCAUTH       --+
     AOCSSI       --+
         AOCAPPL     --+
             JES2
               +-- AMCP
               +-- ASTEX
               +-- DBUSS
               +-- IRRDPTAB
               +-- MIM
               |     +-- TMS
               |          +-- SLS
               |               +-- HSM
               +-- OMIIHIST
               |     +-- OMIIHDI
               |          +-- OMIIETE
               |               +-- OMIICOL
               |                    +-- OMIICCOL
               |                         +-- OMIICCUA
               +-- PIRLM
               |     +-- PIMS
               |          +-- OMIIPIMS
               |          +-- PIMSDBRC
               |          +-- PIMSDLI
               +-- PMO
               +-- QFETCHA
               +-- QFETCHB
               +-- QFETCHC
               +-- QFETCHD
               +-- RMF
               |     +-- RMFGAT
               +-- RODM
               |     +-- GMFHS
               |     +-- NETGMFLS

 Command ===>
  PF1=Help     PF2=End     PF3=Return     PF4=Focus    PF5=Info        PF6=Roll
            PF8=Forward PF9=Refresh                    PF11=Right  PF12=Retrieve
```

Figure 26. DISPTREE Command Dialog Panel

- The **Subsystem** field shows the name of the subsystem
- The **Target** field shows the name of the system where the subsystem resides
- The **Dependency** field shows the dependency type (START, STOP, or GROUP)
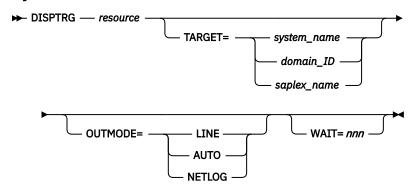
If you position the cursor next to a resource and press PF4 the tree structure of the resource is shown.

PF5 lets you toggle to the DISPINFO command dialog.

DISPTRG

Purpose

The DISPTRG command displays the trigger conditions of a subsystem.

Syntax

```
►►─ DISPTRG ── resource ─┬─────────────────────────────────┬─►
                         └─ TARGET= ─┬─ system_name ─┬──────┘
                                     ├─ domain_ID ───┤
                                     └─ saplex_name ─┘

►─┬──────────────────────────┬─┬───────────────┬─►◄
  └─ OUTMODE= ─┬─ LINE ───┬──┘ └─ WAIT= nnn ────┘
               ├─ AUTO ───┤
               └─ NETLOG ─┘
```

Parameters

resource
>   The name of the resource that the trigger condition is displayed for. The format is name/type[/system]. Wildcard is supported.

TARGET
>   For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
>   For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

>   Specifies the number of seconds to wait before reporting that a timeout has occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

>   If omitted, the time interval is 30 seconds.

Restrictions and Limitations

The DISPTRG command can only be used when SA z/OS is initialized.

Examples

If you type the name of a resource that a trigger has been defined for, a panel similar to is displayed.

```
AOFLT000                 SA z/OS  - Command Dialogs     Line  1    of 4
Domain ID   = IPSFO      ---------- DISPTRG  ----------   Date = 12/12/11
Operator ID = NETOP1            Target  = KEY3            Time = 13:26:58

 Resource    =>  TRGG006AA10/APL/KEY3_____
 Target      =>  KEY3_____       System name, domain id or sysplex name
 Trigger. . . :  TRIGGER6

 Cmd:  S show details
 Cmd Type      Events
 --- -------- -------- ------- -------- -------- -------- -------- ---------
     STARTUP   B000S100 B000S200
     STARTUP   B000S300
     SHUTDOWN  B000P100 B000P200
     SHUTDOWN  B000P300




 Command ===>
    PF1=Help     PF2=End      PF3=Return                 PF6=Roll
                              PF9=Refresh                PF12=Retrieve
```

Figure 27. DISPTRG Command Dialog Panel

- The **Resource** field shows the name of the resource that uses the trigger.
- The **Target** field shows the name of the system where the subsystem is defined.
- The **Trigger** field shows the trigger that is defined for the subsystem.
- The **Cmd** field allows you to specify command codes. The following command code is available:

   S
   Shows details of the system defined.
- The **Type** field shows the type of the specified condition.
- The **Events** field shows the names of the specified events. Event that are satisfied are shown in white. Unset events are shown in red.
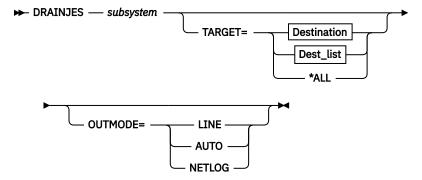
DRAINJES
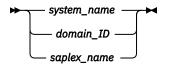
Purpose

DRAINJES drains (that is, halts) JES2 resources prior to JES2 shutdown. Specifically, DRAINJES issues commands to drain the initiators, syslog, offloader tasks, lines, printers, punches, and readers (depending on which resources are listed in the automation control file).

Syntax

Destination

```
►►──── system_name ────►◄
    ├──── domain_ID ─────┤
    └──── saplex_name ───┘
```

Dest_list

```
►►─ ( ─┬──◄───────────┬─ ) ─►◄
       └──[ Destination ]──┘
```

Parameters

subsystem
Specifies the name of the JES2 subsystem whose resources you want to drain. If you are in fullscreen mode and you do not specify a subsystem, a panel is displayed where you can specify the subsystem. If you are in line mode an error message is displayed.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The DRAINJES command can only be used when SA z/OS is initialized.

Usage

Normally, you do not need to issue this command because it is performed automatically as part of the SHUTDOWN processing. However, if SA z/OS is unable to shut down a particular JES2 subsystem, you can use DRAINJES.

Examples
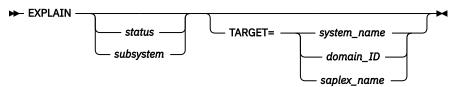
Assuming the JES2 subsystem name is JES2, type `drainjes jes2` to drain the JES2 resources.

EXPLAIN

Purpose

The EXPLAIN facility gives you a description of the automation statuses that can occur for SA z/OS subsystems. It explains what the status means, why the subsystem may have got into the status, and how another status can be achieved.

Syntax

```
►►─ EXPLAIN ─┬──────────────┬─┬─────────────────────────────────┬─►◄
             ├─── status ───┤ └─ TARGET= ─┬─── system_name ───┬─┘
             └─ subsystem ──┘             ├─── domain_ID ─────┤
                                          └─── saplex_name ───┘
```

Parameters

If you do not specify any parameters, a menu panel is displayed where you can specify either an automation manager status, automation agent status, or the name of a subsystem.

status
> The status you want to see explained.

subsystem
> The name of the subsystem you are investigating. Its status is queried and an explanation of the automation agent status is displayed.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

Restrictions and Limitations

The EXPLAIN command can only be used when SA z/OS is initialized.

Usage

Use EXPLAIN when you want information about an automation status.

Examples

If you enter EXPLAIN, a panel similar to is displayed.

```
AOFKEXPL                    SA z/OS  - Command Dialogs
Domain ID   = IPSFO     ---------- EXPLAIN  ----------    Date = 06/27/02
Operator ID = NETOP1                                      Time = 17:28:26

 Specify one of the following for a description of the corresponding status:

    1.  Agent status                 _____      (? for list)
    2.  Automation manager status    _____   (? for list)
    3.  Subsystem name               _____




 Command ===>
    PF1=Help     PF2=End      PF3=Return                    PF6=Roll
                                                            PF12=Retrieve
```

Figure 28. EXPLAIN Command Dialog Panel

INGAMS
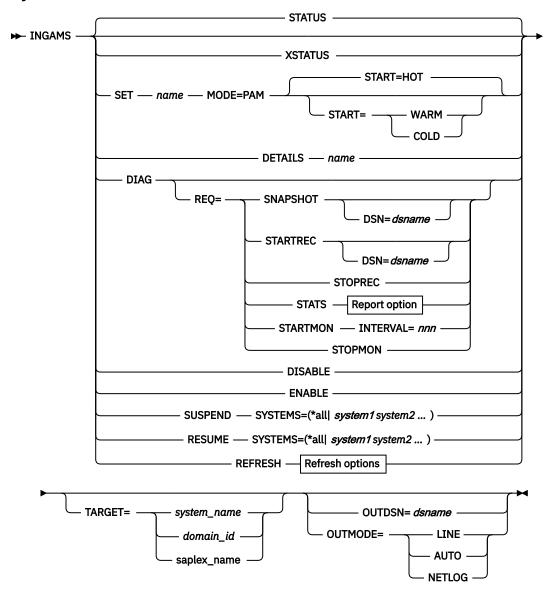
Purpose

The INGAMS command displays details about currently registered automation managers and automation agents, and lets you change the operation mode (PAM or SAM) of the automation managers. Note that it is only possible to make a secondary automation manager a primary one, not vice versa.
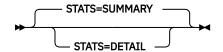
INGAMS lets you dynamically refresh the definition data for an automation manager and the corresponding ACFs with the contents of a specified configuration data set. The consistency of the configuration data as used by the automation agent and the associated ACFs is maintained. Data that would cause resources to contain conflicting definitions is rejected during configuration refresh with an appropriate message.

You can also use the INGAMS command to initiate and view diagnostic information for the primary automation manager.

Syntax

```
►►─ INGAMS ─┬──────────────────── STATUS ─────────────────────┬─►
            │                                                  │
            ├──────────────────── XSTATUS ────────────────────┤
            │                                                  │
            │                                 ┌─ START=HOT ─┐  │
            ├─ SET ── name ── MODE=PAM ───────┤             ├──┤
            │                           └─ START= ─┬─ WARM ─┤  │
            │                                      └─ COLD ─┘  │
            │                                                  │
            ├──────────── DETAILS ── name ────────────────────┤
            │                                                  │
            ├─ DIAG ─┬──────────────────────────────────────┬─┤
            │        │         ┌─ SNAPSHOT ─┬─────────────┐  │ │
            │        └─ REQ= ──┤            └─ DSN=dsname ─┤  │ │
            │                  ├─ STARTREC ─┬─────────────┤  │ │
            │                  │            └─ DSN=dsname ─┤  │ │
            │                  ├─ STOPREC ──────────────────┤  │
            │                  ├─ STATS ──┤ Report option ├─┤  │
            │                  ├─ STARTMON ── INTERVAL= nnn ─┤  │
            │                  └─ STOPMON ──────────────────┘  │
            │                                                  │
            ├──────────────────── DISABLE ────────────────────┤
            │                                                  │
            ├──────────────────── ENABLE ─────────────────────┤
            │                                                  │
            ├─ SUSPEND ── SYSTEMS=(*all| system1 system2 ... ) ─┤
            │                                                  │
            ├─ RESUME ── SYSTEMS=(*all| system1 system2 ... ) ──┤
            │                                                  │
            └─ REFRESH ──┤ Refresh options ├──────────────────┘

►─┬──────────────────────────────────┬─┬────────────────────────────┬─►◄
  │          ┌─ system_name ─┐        │ │  ┌─ OUTDSN= dsname ──────┐ │
  └─ TARGET= ─┼─ domain_id ───┤        │ └──┤                       ├─┘
             └─ saplex_name ─┘          └─ OUTMODE= ─┬─ LINE ───┬──┘
                                                     ├─ AUTO ───┤
                                                     └─ NETLOG ─┘
```

Report option

```
          ┌─ STATS=SUMMARY ─┐
►►─┬───────┴──────────────────┴──────┬─►◄
   └─────── STATS=DETAIL ────────────┘
```

Refresh options

```
►►─ CFG= ─┬─ dsname ─────────────┬─┬──────────────────────────────────┬─►◄
          ├─ dsname(generation) ─┤ └─ SUSPENDFILE= ─┬─ NOSUSPEND ───┬──┘
          ├─ * ──────────────────┤                  └─ FORCESUSPEND ─┘
          └─ *(generation) ──────┘
```

Parameters

STATUS

Displays a list of all automation manager and automation agents in the sysplex that are registered to the same XCF group.

XSTATUS
Displays a list of all automation manager and automation agents in the sysplex that are registered to the same XCF group denoted by the PLEXID specification for the local automation agent.

SET
Changes the operation mode of the specified automation manager.

name
The name of the automation manager.

MODE
Specifies the mode of operation, this can be:

PAM
Primary automation manager

START
Specifies how an automation manager switch should be carried out. Valid values are HOT, WARM, or COLD.

DETAILS
Displays detailed information about the specified automation manager.

DIAG
Displays the diagnostic panel where you can either request that a snapshot of the current state image queue be taken or that recording of the inbound work items be started or stopped. The output file must be a sequential data set.

REQ
Is the function to be performed. It can be one of the following:

SNAPSHOT
Write a snapshot of automation manager data.

STARTREC
Start recording.

STOPREC
Stop recording.

STATS
Display work item statistics.

STARTMON
Activate work item queue monitoring.

STOPMON
Stop work item queue monitoring.

INTERVAL
The time period in seconds between two monitoring cycles. The value can be in the range of 10–999.

STATS
Specify the type of work item statistics report to generate: A SUMMARY (the default) or a DETAIL report, which shows details about all tasks.

DISABLE
Causes the automation manager to stop writing to the takeover file. It also deallocates the takeover file from the automation manager. This is only necessary when performing repair operations on the takeover file.

ENABLE
Causes the automation manager to start updating the takeover file for each work item processed.

SUSPEND
Tells the automation manager to suspend sending orders to start or stop resources that are hosted by the systems that are specified with the SYSTEMS parameter.

RESUME
Tells the automation manager to resume sending orders to start or stop resources that are hosted by the suspended systems that are specified with the SYSTEMS parameter.

SYSTEMS

The parameter to define the systems that the sending of orders is suspended or resumed for. If you specify multiple systems, they must be enclosed in parentheses.

Alternatively, you can use *all to specify all the systems that are controlled by the automation manager.

REFRESH

Updates an automation manager with the definition data that is stored in the specified configuration file. This also reloads the appropriate ACFs on the active automation agents.

Notes:

1. INGAMS REFRESH does not delete global variables that are associated with ENTRY TYPEs that were deleted from the policy database before the last build if those ENTRY TYPEs are not associated with a subsystem. However, if a keyword/value is removed from the ENTRY TYPE, this is a change to the E-T. Therefore, INGAMS REFRESH rebuilds the E-T and the deleted keyword/value pair is removed from the global variables.

   All deleted entry types and their associated global variables are reset during the next SA z/OS COLD start or during ACF COLD processing.

2. The configuration refresh on the automation agent runs parallel to other activities. Thus any start/stop orders may be processed before the new data is loaded.

3. Issuing an INGAMS REFRESH command while an agent is SUSPENDED due to an Automation Manager takeover will interfere with the still ongoing load process and will result in a delay for the processing of the INGAMS REFRESH command. It is recommended that you wait until all agents are in the READY status before issuing the INGAMS REFRESH command.

CFG

This is the name of a partitioned data set that holds the configuration file member and the ACF fragments. The name can be a fully qualified data set name or generation data group (GDG) name. You can use an asterisk (*) to indicate a reload of the configuration file that was previously used or a different generation of the GDG that was previously used.

dsname

Specifies a data set name. If you specify a GDG base data set name, the latest generation (0) is used.

dsname (generation)

Specifies the name of a generation data group (GDG) and the generation number (zero or a negative signed integer) of a generation data set within the GDG, for example, *(-2).

SUSPENDFILE

Specifies how syntax errors in the suspend file are handled.

NOSUSPEND

Suspend file processing is entirely ignored.

FORCESUSPEND

Only the lines with syntax errors are ignored; all other lines are processed.

If FORCESUSPEND is specified, or neither FORCESUSPEND nor NOSUSPEND is specified, the **INGAMS REFRESH** command will process the suspend file only if the configuration file has been changed as well. For example, if you have added, deleted, or modified a resources.

DSN

Lets you specify the name of the data set that contains the snapshot or work item recording data. You can only use a sequential file.

The output data set must be pre-allocated with a RECFM FB and LREC 80. It must be allocated as a single volume data set, without candidate volumes for further expansion.

TARGET

For information on the TARGET parameter, see .

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

None.

Security Considerations

The INGAMS command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp*.RES._CONFIG	UPDATE	When function option is REFRESH
AGT.*sysplex.xcfgrp*.RES._MANAGER	UPDATE	When function option is SET
AGT.*sysplex.xcfgrp*.RES._MANAGER	CONTROL	When function option is DISABLE, ENABLE, SUSPEND or RESUME
AGT.*sysplex.xcfgrp*.RES._MANAGER.DIAG	UPDATE	When function option is DIAG for all function other than STATS (other than REQ=STATS)

Usage other than listed in the above tables does not cause a resource level security check. For further details, refer to *IBM System Automation for z/OS Planning and Installation*

Usage

The INGAMS command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

When using the DIAG parameter make sure that the data set for writing a snapshot or starting recording is online and free before issuing a command. The data set must be used exclusively by the automation manager (DISP=OLD) for making snapshots or recording.

Examples

If you enter `ingams` a panel similar to Figure 29 on page 79 is displayed.

```
INGKYAM0                SA z/OS  - Command Dialogs      Line  1    of 4
Domain ID   = IPUFJ     ---------- INGAMS    ----------    Date = 11/03/14
Operator ID = NETOP1          Sysplex = AOC4PLEX          Time = 16:33:35

Cmd:  A Manage      B Show Details  C Refresh Configuration  D Diagnostic

CMD System    Member    Role   Status     Sysplex  XCF Group Release Comm E2E
--- -------- --------- ----- ---------- -------- --------- ------- ---- ---
    AOC4     AOC4$$$$1 PAM    READY      AOC4PLEX INGXSGA4  V4R1M0  XCF
    AOC4     AOC4      AGENT  READY      AOC4PLEX INGXSGA4  V4R1M0  XCF
    AOC5     AOC5$$$$1 SAM    READY      AOC4PLEX INGXSGA4  V4R1M0  XCF
    AOC5     AOC5      AGENT  READY      AOC4PLEX INGXSGA4  V4R1M0  XCF




Command ===>
 PF1=Help    PF2=End    PF3=Return                           PF6=Roll
                        PF9=Refresh    PF10=Previous   PF11=Next   PF12=Retrieve
```

Figure 29. INGAMS Command Dialog Panel

- The **Cmd** field allows you to specify command codes to initiate various activities related to automation managers. To use one of the command codes shown, type the appropriate letter next to the resource name, and press Enter. The amount of data displayed depends on the screen size. Press PF10/PF11 for horizontal scrolling. The following command codes are available:

  A

  Displays the automation manager menu panel allowing you to:

  – Modify the automation manager operation mode. You can only change a secondary automation manager to a primary one.

  – Enable and disable takeover file processing

  – Suspend or resume the sending of orders from the automation manager to the automation agent on the system specified. This is useful if, for example, you have erroneously issued a command to shut down a system or sysplex. In such a situation, you now have the chance to rectify the error.

    You should also note that while the automation manager is suspended for a particular system, it continues to respond to queries (such as INGLIST or INGVOTE) and any automation action for other systems within its scope.

  See "Controlling the Secondary Automation Manager Functions" on page 81.

  B

  Displays additional information about the automation manager or automation agent. For an automation agent, the DISPSYS command is issued to show details about the agent and the environment the agent runs on. See "Showing Details about the Automation Manager" on page 82.

  C

  Displays the refresh configuration data panel where you enter the name of the data set that contains the automation manager configuration members. This is then used to update the definition data for the automation manager in real time and to reload the corresponding automation configuration files for the active automation agents. This command thus maintains the consistency of the configuration data that is used by the automation agent and its automation configuration files. See "Refreshing the Configuration Data Sysplexwide" on page 84.

  D

  Displays the utility panel where you can perform the following diagnostic functions:

  – Write snapshot.

  – Start or stop recording.

  – Display work item statistics
  – Start or stop monitoring of the work item queue.

  For further information, see "Diagnostic Functions" on page 85 and "How to Use the Diagnostic Option of INGAMS" in *IBM System Automation for z/OS User's Guide*.

- The **System** field shows the name of the system where an instance of the automation manager or automation agent runs.

- The **Member** field shows the name of the agent or manager. The name must be unique within the XCF group. The member name for an automation manager is automatically generated and consists of the z/OS system name plus a 1-character suffix running from 1 to 9. The z/OS system name is padded with '$' to create an 8-character system name before appending the suffix.

  Note: The member name of an automation agent is equal to the z/OS system name.

- The **Role** field shows the type of the system. It can be one of the following:

  AGENT
    An automation agent.

  PAM
    The primary automation manager.

  SAM
    The secondary automation manager. There can be more than one.

- The **Status** field shows the status of the member. It can be one of the following:

  COMM
    Is the type of communication being used between the automation manager and the automation agent.

  NOT READY
    The automation agent or manager is initializing.

  PENDING
    The automation manager is in the process of initializing as a primary automation manager (PAM).

  READY
    The member is completely initialized.

  REFRESH
    The automation manager is performing a configuration refresh.

  SELECTED
    The automation manager is selected to become the next primary automation manager (PAM).

  STOPPING
    The automation manager is terminating.

  SUSPENDED
    The automation agent has been placed in suspended mode.

- The **Sysplex** field shows the name of the sysplex.

- The **XCF-Group** field shows the name of the associated XCF-Group.

- The **Release** field shows the SA z/OS Version and Release of the automation manager or automation agent.

- The **Comm** field shows the type of communication in use between the automation manager and the automation agent.

- The **E2E** field shows that the E2E adapter is running on this system, if the system is an AGENT and this field contains YES. If the system is a PAM and this field contains YES, it shows that the PAM is also the end-to-end manager.

- The **Runmode** field shows the Runmode assigned to this system (agents only).

- The **Pref** field shows the preference value assigned to various automation instances.

- The **SMF ID** field shows the SMF ID assigned to the system.

- The **Primary FP** field shows the name of the primary focal point defined to the system.
- The **Backup FP** field shows the name of the backup focal point defined to the system.

Values for the columns **SMF ID**, **Primary FP** and **Backup FP** are only available if the agent is a member of the extended XCF communication group.

The FIND/RFIND/SORT commands are supported. See "Varying the Format of the Command Output" on page 17 for information.

Controlling the Secondary Automation Manager Functions

If you enter command code A for a *secondary* automation manager, a panel is displayed where you can specify the new mode of operation, as shown in Figure 30 on page 81. Switching into primary mode is considered a directed takeover.

```
INGKYAM1                   SA z/OS  - Command Dialogs
Domain ID   = IPSFO      ---------- INGAMS   ----------    Date = 16/12/11
Operator ID = NETOP1          Sysplex = KEY1PLEX          Time = 13:41:27

Specify or revise the following data:

   Action   =>  __      1.   Make primary Automation manager - Start  =>  ____
                         2.   Enable  Takeover File
                         3.   Disable Takeover File
                         4.   Suspend System    _____
                         5.   Resume System     _____


 Automation manager  =>  KEY3$$$$2
 Target              =>  _____     System name, domain id or sysplex name




 Command ===>
   PF1=Help     PF2=End     PF3=Return                      PF6=Roll
                                                            PF12=Retrieve
```

Figure 30. INGAMS Command Dialog Panel to Control Secondary Automation Manager Functions

Use this panel to initiate the following functions:

Make primary Automation manager
This allows you to change the operation mode of a secondary automation manager to become primary (PAM). This is considered a directed takeover. Optionally, you can specify the start mode for the new PAM. Valid start modes are HOT, WARM or COLD. The default is HOT.

Note: A primary automation manager cannot be changed to a SAM.

Enable Takeover file
This causes the automation manager to start updating the Takeover file for each work item that is processed. This is necessary after the Takeover file has been enlarged or another error condition resolved.

Disable Takeover file
This causes the automation manager to stop writing to the Takeover file. The Takeover file is freed from the automation manager.

Suspend System
This causes the automation manager to stop sending orders to the agent running on the system specified left of the action. You can specify more than one system name separated by a blank character. Specify *all to suspend all systems that are controlled by the automation manager.

Resume System
> This causes the automation manager to resume sending orders to the agent running on the system specified left of the action. You can specify more than one system name separated by a blank character. Specify *all to resume all systems that are controlled by the automation manager.

Fill in the following fields:

Automation manager
> Specify the name of the automation manager.

Target
> The name of the system where the automation manager resides. This is only necessary when the automation manager is not within the local sysplex. You can specify either the system name, the domain ID or the sysplex name.

Showing Details about the Automation Manager

If you enter command code B for an automation manager, a panel similar to is displayed.

```
INGKYAM3                SA z/OS  - Command Dialogs      Line  1    of 47
Domain ID   = IPUFJ     ---------- INGAMS   ----------   Date = 08/03/11
Operator ID = NETOP1         Sysplex = AOC4PLEX           Time = 16:56:47

 Automation Manager : AOC4$$$$1       running on system : AOC4
 Operation mode     : PAM             Job name          : YAMBUMU
 Status             : READY           Start type        : HOT
 XCF-Groupname      : INGXSGA4
 Start time         : 02 AUG 2011 08:46:51
 PAM selected time  : 02 AUG 2011 09:39:45

 Takeover file      : AOC.AM.A4.HSATKOVR
 Status             : ENABLED
 IO Interval (secs) : 05

 Service level ...      HSACMAIN            Framework
   Compile date     : 25 JUL 2011 12:54    18 APR 2011 14:03
   Size             : 00B41A60             00050F50
   Signature        : SA34DR09             SA34DR0134


 PARMLIB settings
   BLOCKOMVS        : YES
   PREF             : 10

 Workitem Statistics
   External         : 207
   Internal         : 407

 CPU time  (secs)   : 20.486

 Logic Deck ...
   Release          : V3R4M0
   Date built       : 13 Jul 2011
   Time built       : 06:00:21
   Last APAR        : NONE


 Diagnostic Info
   Snapshot size          : 2712008
   Number of resources    : 329
   Number of requests     : 49
   Number group requests  : 48
   History records        : 102943
   Max History records    : 262144

 Config dataset name : BUMU.INGRCLUP.V340.ACF
 Config member       : HSAZ99P
                            Z99PCRES  STRUCTURE   20110801150652
                            Z999CLGC  STRUCTURE   20110801150652
                            Z99PCSCH  SCHEDULE    20110801150652
 Config token        : 20110801150652FF066AAD2094
 Config version      : 01

Command ===>
   PF1=Help      PF2=End        PF3=Return                     PF6=Roll
   PF7=Back                     PF9=Refresh                    PF12=Retrieve
```

Figure 31. INGAMS Command Dialog Panel to Show Details

The **Takeover file** section shows the data set name of the takeover file, its status, and the I/O interval
time.

The status may be ENABLED, ENABLED - IO SUPPRESSED (meaning the takeover file is still allocated but
the PAM has stopped writing to it because of an earlier I/O error), or DISABLED (meaning the takeover file
has been deallocated and the manager has stopped writing to it as a result of the operator selecting to
DISABLE the takeover file).

SA z/OS delays I/O to the takeover file for the number of seconds specified by the I/O interval. The
in-storage pages are only marked to be written. This reduces the amount of I/O to the takeover file
significantly, giving an update work item the same performance characteristics as a query work item.

The **Service level** section shows the current APAR level including the compilation date of the HSACMAIN
module and the automation manager framework. This is used primarily for debugging purposes.

The **PARMLIB settings** section shows the BLOCKOMVS and Preference Settings.

The **Workitem Statistics** section shows the number of work items received from the various automation agents (that is, external work items) and the internally generated work items.

The **CPU Time** shows the processor time (in seconds) used by the automation manager.

The **Suspended Systems** section shows those systems that the sending of orders by the automation manager has been suspended for.

The **Logic Deck** section shows the date and time when the logic deck was built and the last APAR number of the logic deck.

The **Diagnostic Info** section shows details about the size of the state image and other useful information. This can be used when allocating the data set that will hold the snapshot data.

The **Configuration** section displays the data set name that the configuration is loaded from, the main configuration member name, and the include members with their timestamps.

Note that the last two sections (Configuration, and Diagnostic Info) are only present for the primary automation manager.

Refreshing the Configuration Data Sysplexwide

If you enter command code C for an automation manager, a panel similar to is displayed.

```
INGKYAM2                    SA z/OS  - Command Dialogs
Domain ID   = IPSFO      ---------- INGAMS   ----------      Date = 07/07/17
Operator ID = NETOP1           Sysplex = KEY1PLEX            Time = 17:48:42

 Specify or revise the following data:

  Configuration data set name  (* for current data
set)
                    => *(-1)_____

  Suspend file option =>  _____(NOSUSPEND, FORCESUSPEND)

  Target              =>  _____      System name, domain id or sysplex name




 Command ===>
    PF1=Help     PF2=End      PF3=Return                      PF6=Roll
                                                             PF12=Retrieve
```

Figure 32. INGAMS Command Dialog Panel to Refresh the Configuration

- In the **Configuration data set name** field, specify the name of the data set containing the automation manager configuration members. The name can be a fully qualified data set name or a generation data group name. You can use * to indicate a reload of the configuration from the data set that was used previously, or a different generation of the previously used GDG.

- In the **Suspend file option** field, specify how syntax errors in the suspend file are handled. NOSUSPEND entirely ignores the processing of the suspend file. FORCESUSPEND ignores only the lines with syntax errors; all other lines are processed.

- In the **Target** field, specify the name of the system where the automation manager resides. Specifying this is only necessary if the automation manager is not within the local sysplex. You can specify either the system name, the domain, or the sysplex name.

Diagnostic Functions

If you enter command code D for a primary automation manager, a panel similar to is displayed.

```
INGKYAM4                   SA z/OS  - Command Dialogs
Domain ID   = IPSFO    ---------- INGAMS   ----------   Date = 11/23/09
Operator ID = NETOP1         Sysplex = KEY1PLEX         Time = 17:30:10

 Specify or revise the following data:

   Action   =>  __     1.  Write Snapshot
                       2.  Start recording
                       3.  Stop recording
                       4.  Work item Statistics
                       5.  Start queue monitoring  - Interval  =>  ___
                       6.  Stop queue monitoring

    Data set name  =>  _____

    Target         =>  _____       System name, domain id or sysplex name




Command ===>
   PF1=Help      PF2=End      PF3=Return                    PF6=Roll
                                                   PF12=Retrieve
```

Figure 33. INGAMS Command Dialog Panel to Manage Diagnostic Functions

Initiating Diagnostic Functions

For options 1–3, fill in the following fields:

Data set name
Specify the name of the data set that will hold the snapshot data. The data set can be a sequential file or a member of a partitioned data set. However the recording data set can only be a sequential file.

   Notes:

   1. A data set name is required when writing a snapshot or when starting recording.
   2. Make sure that the automation manager has the appropriate authority to write to the data set.

Target
Specify the name of the system where the automation manager resides. It is only required when the automation manager is not in the local sysplex. You can specify either the system name, the domain ID or the sysplex name.

Use options 5 and 6 to start and stop work item queue monitoring. The monitor examines the work item input queue for expired work items and issues message INGX1011I when more work items arrive than can be processed by the automation manager within the monitoring interval.

When you start monitoring, fill in the following field:

Interval
Specify monitoring interval in seconds. The valid range is 10–999.

Work item Statistics

To display work item statistics, you enter 4 in the **Action** field without specifying a data set name or system. This displays a panel similar to .

```
INGKYAM5                 SA z/OS  - Command Dialogs      Line  1    of 11
Domain ID   = IPUFJ      ---------- INGAMS   ----------     Date = 12/16/11
Operator ID = NETOP1           Sysplex = AOC4PLEX           Time = 17:02:39

Snapshot: 2011-12-16 17:02:37   Queue: 0          CPU time: 11.617

Cmd:  S Details
                          Since
Cmd Task       Status    (secs)  17:02  -1  -2  -3  -4  -5  -6  -7  -8  -9 -10
--- ---------- -------- --------  -----  --- --- --- --- --- --- --- --- --- ---
    ADMIN      IDLE
    QUERY1     IDLE                          4   1           1
    QUERY2     IDLE
    QUERY3     UNKNOWN
    SCHED      IDLE                 1                        1                 1
    UPDATER1   IDLE                 2                        2                 2
    UPDATER2   IDLE
    UPDATER3   IDLE
    UPDATER4   IDLE
    ------------------------------------------------------------------------
    Totals                         3   4   1           1   3                 3

Command ===>
   PF1=Help    PF2=End      PF3=Return                    PF6=Roll
   PF7=Back                 PF9=Refresh                   PF12=Retrieve
```

Figure 34. INGAMS Work Item Statistics Display

This panel shows history information about the work items processed by the automation manager. The automation manager keeps track of the last 500 work items processed by each of the tasks that build the automation manager kernel.

The following data is shown:

Snapshot
> The snapshot timestamp shows the time of the query.

Task
> The name of the task.

Queue
> The number of elements in the workitem input queue.

CPU Time
> The processor time (in seconds) used by the automation manager.

Status
> The status of the task. It is one of the following:

> **BUSY**
>> The task is processing a work item.

> **IDLE**
>> The task is waiting for work.

> **NOTIDLE**
>> The task has completed work but is not waiting for work.

> **UNKNOWN**
>> History records have not yet been defined for this task.

Since
> This is the number of seconds that the task has been processing the work item (elapsed time). If this number is unexpectedly high, it is an indication that something is wrong. The following coloring is used depending on how long the work item has been active for:

Color	Active longer than
Red	60 seconds
Yellow	30 seconds

Color	Active longer than
Blue	15 seconds

The columns to the right of the **Since** column show the number of work items that have been processed in one minute, starting from the time the statistics query was made or refreshed (with INGAMS DIAG REQ=STATS).

You can use the S command code to display details of the work item history for the selected task, such as the starting time and total processing time of the work item, as shown in Figure 35 on page 87.

```
INGKYAM6                SA z/OS  - Command Dialogs      Line  1    of 300
Domain ID   = IPZFA      ---------- INGAMS    ----------    Date = 09/28/07
Operator ID = NETOP1         Sysplex = SATPLEX           Time = 13:51:52

                                               Snapshot: 2007-09-15 13:29:55

             Starting Elapsed
  Task        Day   Time   in secs Busy Work item
  ---------- --- -------- ------- ---- ---------------------------------------
  QUERY1          11:53:36  0.043      GET_RESOURCE_DATA
  QUERY1          11:54:11  0.096      GET_RAW_RESOURCE_DATA
  QUERY1          11:54:11  0.067      GET_RAW_RESOURCE_DATA
  QUERY1          11:54:11  0.069      GET_RAW_RESOURCE_DATA
  QUERY1          11:54:12  0.067      GET_RAW_RESOURCE_DATA
  QUERY1          11:54:12  0.067      GET_RAW_RESOURCE_DATA
  QUERY1          11:54:13  0.067      GET_RESOURCE_DATA
  QUERY1          11:54:14  0.066      GET_RESOURCE_DATA
  QUERY1          11:54:15  0.067      GET_RESOURCE_DATA
  QUERY1          11:54:16  0.066      GET_RESOURCE_DATA
  QUERY1          11:54:17  0.067      GET_RESOURCE_DATA
  QUERY1          11:59:11  0.091      GET_RAW_RESOURCE_DATA

Command ===>
   PF1=Help     PF2=End       PF3=Return                   PF6=Roll
                PF8=Forward   PF9=Refresh                   PF12=Retrieve
```

Figure 35. INGAMS Work Item History Display
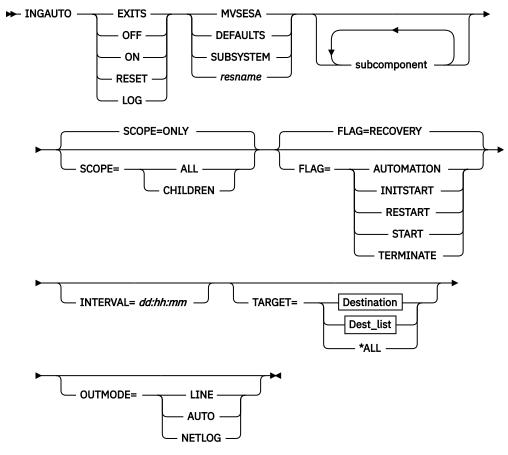
INGAUTO

Purpose
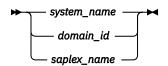
The INGAUTO command lets you change the settings of the automation flags for the specific subsystem, for the MVSESA, SUBSYSTEM or DEFAULTS resources or for a minor resource under one of those major resources. You can change the setting to ON, OFF, EXITS or LOG. If an INTERVAL is specified the changes are effective for the specified time period.

Any changes are only effective until a NetView recycle or the ACF COLD command being issued. You can also ask for a flag to be set back to the value specified in the current configuration file.

Syntax

Destination

Dest_list

Parameters

If you do not specify a resource (MVSESA, SUBSYSTEM, DEFAULTS, resname or subcomponent) and are running in full screen mode, a menu appears prompting you for a resource name. If you are in line mode, a resource is a required parameter.

EXITS
Enables user exits for the flag that you specify.

OFF
Sets the automation flag that you specify to off.

ON
Sets the automation flag that you specify to on.

RESET
Resets the automation flag to the values that you specified in your policy database.

LOG
Writes the commands and replies to the netlog if an event occurs that triggers the automated action.

DEFAULTS
Specifies the value DEFAULTS. This sets automation flags for all resources that do not have their own flags defined.

SUBSYSTEM
Sets defaults for all subsystems.

MVSESA
Sets defaults for all MVS subcomponents.

resname
Specifies the name of a particular resource, for example, a subsystem name like JES2 or a resource under MVSESA such as WTOBUF. You can specify any resource known to the Automation Agent.

Wildcards are supported, for example, IMS* or *PRD.

subcomponents
Specifies the subcomponents of the resource. Enter a period (.) between each subcomponent name. When specifying a subcomponent without specifying a major resource, MVSESA is used as a major resource. The period (.) in front of the subcomponent must then be omitted.

SCOPE
Specifies whether to change automation for this resource and its dependent resources, dependent resources only, or this resource alone. Valid options are the following:

ONLY
Specifies this resource alone. This is the default.

ALL
Specifies this resource and its dependent resources.

CHILDREN
Specifies dependent resources only.

FLAG
Specifies the automation flags to set on, off, reset, or enable a user exit for, (depending on whether you specified INGAUTO ON, OFF, RESET or EXITS). See *IBM System Automation for z/OS Customizing and Programming* for further information on automation flags. Valid options are the following:

AUTOMATION
This sets the Automation flag, which is the controlling flag. If you set the Automation flag to OFF, SA z/OS turns all automation off. If the Automation flag is ON, SA z/OS checks the other flags.

INITSTART
Sets the Initstart flag. This is checked after SA z/OS initialization for the first start of an application. If this flag is on, SA z/OS will start the resource, provided its goal is to be available and all other conditions for its startup have been met.

RECOVERY
Sets the Recovery flag. If this is set to on, SA z/OS will perform recovery actions other than restarting a resource.

RESTART
Sets the Restart flag. If this is set to on, SA z/OS will restart the resource if possible.

START
Sets the Start flag. If this is set to on, SA z/OS will manage and complete the startup of the resource.

TERMINATE
Sets the Terminate flag. If this is set to on, SA z/OS will process automated shutdown requests for the resource.

INTERVAL=*dd:hh:mm*
Specifies the period of time the flag will be changed for. At the end of the interval, the flag is reset to the state defined in the agent's configuration file.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

- The INGAUTO command can be used only when SA z/OS is initialized.

- A flag cannot be reset for an interval.

- If a resource has been suspended by the INGSUSPD command, you cannot use INGAUTO to manipulate the flags. Use INGSUSPD to reset the AUTOMATE flag to its original value.

Usage

If the Automation flag is currently set to off, and you have changed one of the other flags, your change will not be effective until the Automation flag is set to on. Occurrences will be detailed in the netlog.

If you have selected EXITS for an automation flag, and none have been specified in your automation control file, automation will be set to on. Occurrences will be detailed in the netlog.

SCOPE=ONLY is the only valid scope for DEFAULTS, a resource type, and subcomponents. ALL and CHILDREN are not valid.

Make sure you specify the correct subcomponent name. Even if you specify a subcomponent that does not exist, the message FUNCTION SUCCESSFULLY COMPLETED will appear.

Examples

To turn all automation on in SA z/OS for TSO and for 2 hours only, enter the following:

```
ingauto on,tso,flag=automation,interval=00:02:00
```

To turn all automation on for the WTOR buffer shortage recovery, enter the following:

```
ingauto on,mvsesa.wto
```

```
AOFKAASF                   SA z/OS  - Command Dialogs
Domain ID   = IPUN8     ---------- INGAUTO  ----------     Date = 09/02/03
Operator ID = NETOP1                                       Time = 17:23:40

 Resource name  =>    MVSESA         Specific or group resource or DEFAULTS
 Sub-components =>    WTO                            Resource sub-components
                     Note : Be sure to specify the correct sub-component name
 Target         =>    AOC8           System name, domain ID, sysplex name, *ALL
 Scope          =>    ONLY           Change automation for:
                                       ONLY     - only this resource
                                       CHILDREN - dependants
                                       ALL      - resource and dependants
 Automation     =>    _              Specify new settings for automation flags
 Initstart      =>    _               Y - flag is always on
 Start          =>    _               N - flag is always off
 Recovery       =>    Y               E - exits called if specified
 Terminate      =>    _               L - resulting commands are logged only
 Restart        =>    _               R - return to automation control file
                                            settings
 Interval       =>    _____       Specify duration of change (dd:hh:mm)
                                     or leave blank for an indefinite change


 Command ===>
     PF1=Help    PF2=End    PF3=Return    PF6=Roll             PF12=Retrieve
```

Figure 36. INGAUTO Command Dialog Panel

INGCF

Purpose

The INGCF command supports all the functions of SA z/OS that deal with coupling facilities. It supports full mode and line mode; for line mode capability, see "INGCFL" on page 106. If you issue INGCF in line mode, only the display function is available.

The INGCF command supports the following parameters:

- DRAIN

  Removes all allocated structures from the coupling facility, to disconnect the coupling facility from the systems of the sysplex, and to inactivate the coupling facility.

- ENABLE

  Activates a coupling facility, to connect it with the systems of a sysplex and to populate it with structures.

- MAINT

  Puts the coupling facility into or takes it out of maintenance mode.

- PATH

  Displays and controls the sender paths of the target coupling facility. It sets the sender paths ONLINE and OFFLINE physically and logically.

- STRUCTURE

  Displays detail information and rebuilds or deletes a selected structure on the target coupling facility. It also lets you start and stop duplexing.

INGCF associates a status with every coupling facility, and a condition with every structure (instance) that is allocated on the target coupling facility. The structure condition is influenced by the release level of the system that allocated the structure. The INGCF functions use the coupling facility state and the structure conditions to determine which action can be performed in any given situation. Therefore, the DRAIN and ENABLE functions can enforce a correct sequence of actions for complex tasks such as draining or restoring a coupling facility.

If the selected action impacts the sysplex configuration it must be confirmed before execution.

Authorizations

The actions that you can initiate with INGCF depend on your authorizations. The panels show your authorization type. Note that the authorization types apply to the current function, and that your authorization type may vary for different functions.

The following authorization types exist:

DISPLAY
    You cannot initiate any action that affects the sysplex configuration.

ALL BUT (ACTIVATE|SHUTDOWN)
    This type only occurs in the DRAIN and ENABLE command dialogs. You can rebuild structures, force the deletion of structures and set the sender paths offline and online, but you cannot inactivate or activate the coupling facility.
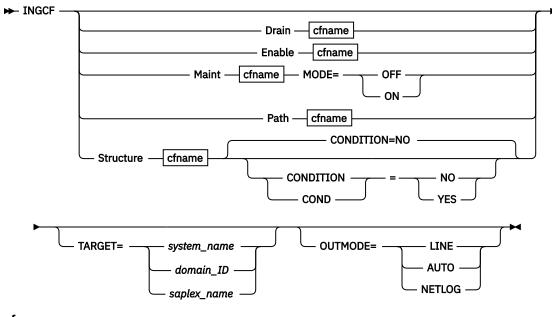
ALL
    You can initiate all actions from the corresponding panel.

Depending on your authorizations, it is possible that you have, for example, authorization type ALL for the STRUCTURE function, and authorization type DISPLAY for the DRAIN function.

Note: The actions that modify the sysplex configuration are marked by an asterisk ('*') in the following descriptions.

Syntax

cfname

Parameters

Drain
Prepares a coupling facility for removal from the sysplex.

Enable
Integrates or reintegrates a coupling facility into a sysplex.

Maint
Controls the maintenance mode of a coupling facility.

Path
Controls the sender paths of a coupling facility.

Structure
Offers manipulation of individual structures (detail information, rebuild, deletion).

CF_name
The name of the target coupling facility for the specified function. The default is a selection panel that shows all available coupling facilities of the sysplex.

CONDITION
Specify YES if you want to get the current condition for each structure. Selecting this option increases the response time required to build the display. The default is NO.

MODE
Specify ON if you want to put the coupling facility into maintenance mode, or OFF to take it out of maintenance mode.

TARGET
For information on the TARGET parameter, refer to "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, refer to "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The ENABLE and the PATH functions require that the active IODF is catalogued. Otherwise, sender path information cannot be retrieved in certain situations.

INGCF ENABLE assumes that the receiver paths from the coupling facility to the systems of the sysplex have been defined and activated. This requires a POR of the CPC that the coupling facility resides on.

Coupling Facility States

The status of a coupling facility can be as follows:

ACTIVATING
    The coupling facility is being activated and will then become DRAINED.

DEACTIVATING
    The coupling facility is being deactivated and will then become INACTIVE.

DRAINING
    The coupling facility is being disconnected from the connected systems.

DRAINED
    The coupling facility does not have a connection to any system and can be removed from the sysplex.

DRAINED NOHWACC
    The coupling facility does not have a connection to any system, but cannot be removed from the sysplex because the BCP (Basic Control Program) internal interface is not available.

    Note: This status is also displayed when the coupling facility has been deactivated from the HMC (Hardware Management Console) but the XCF display commands still return the name of the coupling facility.

ENABLING
    The coupling facility is being connected to the systems of the sysplex that use it.

FORCING
    Allocated structures are being deleted from the coupling facility. This only happens with structures that have no active connectors, and with these only when they cannot be rebuilt by system-managed rebuild.

INACTIVE
    The coupling facility is not active.

INACTIVE NOHWACC
    The coupling facility is not active and cannot be activated because the BCP Internal Interface does not have access to the appropriate Support Element.

MAINTMODE
    The coupling facility is in maintenance mode and has not allocated any structures. It can now be removed from the configuration or deactivated without touching the sender paths. If you want to move structures back to the coupling facility you need to take it out of maintenance mode before populating it.

MAINTMODE OFFLINE
    The coupling facility is in maintenance mode and may have allocated structures. At least one system has set all its sender paths to the coupling facility to OFFLINE. XCF will reject any rebuild command to the coupling facility.

MAINTMODE NOHWACC
    The coupling facility is in maintenance mode and has not allocated any structures. It can now be removed from the configuration without touching the sender paths. However, this must be done manually because automation does not have access to the appropriate Support Element. If you want to move structures back to the coupling facility you need to take it out of maintenance mode before populating it.

NORMAL
    The coupling facility may have allocated structures and is connected to all systems.

NORMAL MAINTMODE
The coupling facility is in maintenance mode but has allocated one or more structures. The coupling facility is no longer eligible for structure allocations.

NORMAL OFFLINE
The coupling facility may have allocated structures. At least one system has set all its sender paths to this coupling facility to OFFLINE. XES will reject any rebuild request for this coupling facility.

NOTINPOLICY
The coupling facility is active but not defined in the active CFRM policy.

POPULATING
The coupling facility is being populated with all those structures that have it on the first place in their preference list.

REBUILDING
Either all allocated structures that can be rebuilt are being removed from the coupling facility by the XES rebuild process (initiated by DRAIN), or one particular such structure is being removed (initiated by the STRUCTURE).

Structure Conditions

The condition of an allocated structure can be:

Rebuild is not supported.
The structure can neither be rebuilt, nor can its deletion be forced.

The structure has at least one active connector that does not support user-managed rebuild, and at least one active connector that does not support system-managed rebuild.

System-managed processes not supported.
The structure cannot be rebuilt, nor can its deletion be forced.

System-managed rebuild, which is a system-managed process, is not possible for one of the following reasons:

- The structure was allocated from a system with OS/390 V2.7 or earlier.
- The CFRM couple data sets have not been formatted to support system-managed processes (ITEM NAME(SMREBLD) NUMBER(1) was not specified).

Note: In certain rare cases system-managed processes are not supported although the condition that is displayed on the DRAIN panel seems to indicate the contrary. Then, the rebuild will be initiated, but will fail with message IXC367I indicating that system-managed processes are not supported for the structure.

No alternate coupling facility defined or available.
The structure can neither be rebuilt, nor can its deletion be forced.

The structure has an active connector and supports rebuild but does not have an alternate coupling facility defined in its preference list, or the alternate coupling facilities that are defined in the preference list are currently unavailable.

Insufficient space detected for rebuild.
The structure cannot or could not be rebuilt. Its deletion cannot be forced.

No alternate coupling facility has enough space to rebuild the structure.

Preference list is empty.
The structure cannot be rebuilt because its preference list is currently empty. A possible reason for this is a pending policy change, see P column.

Structure is pending deallocation.
XES accepted a forced deletion of the structure but does the real deallocation later.

Note: This status can only occur when MVS APAR OW39404 has not been installed.

Structure is being rebuilt.
The structure is being rebuilt to another coupling facility.

Duplex rebuild is being stopped.
Two instances of the structure were maintained on different coupling facilities. The application is being disconnected from that instance that is allocated on the target coupling facility. After disconnecting, the instance is deleted.

No connection exists.
The structure cannot be rebuilt, but you can force its deletion.

The structure does not have any connections and cannot be rebuilt with system-managed rebuild.

No alternate coupling facility for structure with no connections.
The structure cannot be rebuilt, but you can force its deletion.

The structure does not have any connections. It could be rebuilt with system-managed rebuild, but no alternate coupling facility is defined in its preference list or available.

No alternate coupling facility for structure with no active connections.
The structure cannot be rebuilt, but you can force its deletion.

The structure has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections. It could be rebuilt with system-managed rebuild, but no alternate coupling facility is defined in its preference list or available.

The structure's initial size is less than its actual size.
The SIZE value is greater by twice the INITSIZE value. The structure can be rebuilt, but a SIZE value that is greater than twice the INITSIZE might cause the following:

- It might be impossible to allocate a structure at a size of INITSIZE, because the amount of control storage that is required to support the SIZE value might actually be larger than INITSIZE.
- If the allocation succeeds, it might result in a structure with a proportionally large amount of its storage allotted to structure controls, leaving too few structure objects to be exploited usefully by the associated application.

For example, if you have requested a maximum size that is very much larger than the initial size, the system will attempt to use a proportionally large amount of the allocated storage for its controls. The result could be that the allocated storage contains control structures for the future maximum size of the structure and insufficient storage might remain for the application's initial use.

No active connection exists.
The structure cannot be rebuilt, but you can force its deletion.

The structure has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections and cannot be rebuilt with system-managed rebuild.

Note: INGCF DRAIN deallocates structures with this condition as part of the REBUILD action (see REBUILD(10) in "INGCF DRAIN" on page 96). INGCF STRUCTURE accepts a rebuild request for structures with this condition, but deallocates them (see Rebuild (R)).

No connections. System-managed rebuild supported.
The structure can be rebuilt.

The structure does not have any connections, but can be rebuilt with system-managed rebuild.

No active connections. System-managed rebuild supported.
The structure can be rebuilt with system-managed rebuild.

User-managed rebuild is not possible for the structure because it has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections.

System-managed rebuild is supported
The structure can be rebuilt.

The structure has active connectors. At least one active connector does not support user-managed rebuild, but all active connectors support system-managed rebuild.

Duplex rebuild is active.
 The application is connected to two instances of the same structure on different coupling facilities.

[No condition]
 When no condition is displayed, the structure can be rebuilt.

 The structure has at least one active connection, and all its active connectors support user-managed rebuild.

Structure is awaiting rebuild.
 The structure has been selected for rebuild but has not been processed yet.

Structure is currently allocated on *cf_name*.
 The structure can be rebuilt on the target coupling facility with the POPULATE action of the ENABLE function. It is currently allocated on the *cf_name* coupling facility, but the target coupling facility precedes *cf_name* in the structure's preference list. This condition is displayed only in the ENABLE command dialog.

Structure allocated in *cf_name* cannot be rebuilt to this CF.
 The structure can probably not be rebuilt on the target coupling facility with the POPULATE action of the ENABLE function. It is currently allocated in the *cf_name* coupling facility, but the target coupling facility precedes *cf_name* in the structure's preference list. And, the actual size of the structure is greater than the free space of the target coupling facility. This condition is displayed only in the ENABLE command dialog.

Example

If you issue INGCF without any parameters, a panel with all coupling facilities of the sysplex is displayed, as shown in .

```
INGLX900                    SA z/OS  - Command Dialogs      Line   1   of 2
Domain Id   = IPSFO         ---------- INGCF ----------          Date = 02/23/03
Operator Id = NETOP1                                             Time = 13:42:35

Sysplex . . . . . . : KEY1PLEX          SM process level  . : 12
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D drain CF / E enable CF / M start or stop maintenance mode
      P display sender paths / S display structures

  CF Name  Total Space Free Space Free% V Lvl LP Node Descriptor
  -------- ----------- ---------- ----- - --- -- -------------------------------
_ CF01         507392 K   446976 K 88.09 Y  11  D 009672.RX6.IBM.51.000000064516
_ CF02         245248 K   210944 K 86.01 Y  11  E 009672.RX6.IBM.51.000000064516




Command ===>
F1=Help      F2=End       F3=Return                        F6=Roll
                          F9=Refresh                       F12=Retrieve
```

Figure 37. INGCF Selection Panel

Specify a function for a selected coupling facility and press Enter.

INGCF DRAIN

Purpose

The DRAIN function of INGCF facilitates the removal of a coupling facility from the sysplex, for example, for maintenance purposes. With this option, you can perform the following sequence of tasks:

1. Display information for all allocated structures of the coupling facility.

2. Put the coupling facility into maintenance mode if the MAINT function is available.

3. Rebuild all rebuildable structures on *another* coupling facility, and delete instances of structures on the target coupling facility that are being duplexed on another coupling facility.

   Notes:

   a. The scope of the structures that can be rebuilt depends on the release level of the sysplex members.

   b. INGCF DRAIN rebuilds structures one at a time (SETXCF START,REBUILD,STRNAME=), not globally (SETXCF START,REBUILD,CFNAME=), and always on a coupling facility that is different from the target coupling facility (LOCATION=OTHER).

   c. Generally, you should be aware that it is XES that performs the actual rebuild. Not all of the factors that XES takes into account when allocating a structure are accessible to SA z/OS. Therefore, a rebuild request for a structure that should be rebuildable according to its condition can fail in certain rare cases.

4. Force the deletion of structures that have no active connectors and cannot be rebuilt.

   Note: There are structures that you can neither rebuild nor delete with the force action. Included are the structures that have at least one active connector and do not support rebuild. To remove such structures, first disconnect all active connectors, and then delete the structure manually if it is persistent or has persistent connections.

5. When the coupling facility is not in maintenance mode, disconnect the coupling facility from the systems that it is connected to.

6. Inactivate the target coupling facility.

INGCF DRAIN ensures that these actions are performed in the correct order, as specified above.

Actions

The following F-keys are supported:

*REBUILD (F10)

Starts the rebuild of structures that can be rebuilt on *another* coupling facility. Thus, a rebuild is only initiated for structures whose preference list contains more than one coupling facility.

There are two methods for rebuild, user-managed and system-managed rebuild. User-managed rebuild is supported for all release levels. System-managed rebuild is only available with systems that have been enabled by formatting the CFRM couple data sets with the specification:

```
ITEM NAME(SMREBLD) NUMBER(1)
```

System-managed rebuild is only performed when the requirements for user-managed rebuild are not met. This applies, for example, to structures without active connectors.

The REBUILD action also deletes all structure instances on the target coupling facility that are being duplexed on another coupling facility.

Note: The REBUILD action *deallocates* structures with the condition No active connection exists.. See .

*FORCE (F5)

Forces the deallocation of structures with one of the following conditions:

- No connection exists.
- No alternate coupling facility for structure with no active connections.
- No alternate coupling facility for structure with no connections.

This action is only made available after all structures that can be rebuilt have been rebuilt.

*MAINTON (F5)

Puts the coupling facility into maintenance mode.

Note that this function is only available before you start the rebuild process. Once you have started the rebuild process and you want to put the coupling facility into maintenance mode you need to issue the command INGCF MAINT *cf_name* MODE=ON.

*DRAIN (F4)

Disconnects the coupling facility from its connected systems by setting the sender paths OFFLINE.

This action is only enabled after all structures of the target coupling facility have been removed to another coupling facility or deallocated. Note that structures that have active connectors but do not support rebuild cannot be removed with F10 or F5. They must be deallocated manually before executing this step is enabled.

*SHUTDOWN (F11)

This action inactivates the coupling facility. It is only made available when all connections between the coupling facility and the systems of the sysplex have been disconnected.

Note: This function key is unavailable when running on a z/OS image that runs under z/VM®.

Note that these actions can only be performed if INGCF DRAIN is issued in full mode. In line mode, only the display function is available.

To avoid performance degradation due to multiple rebuild processes, or unpredictable results due to multiple executions of an action, all actions are locked. Therefore, an action is rejected if any lock exists even if the action does not affect the action currently being performed. Because the action can take a long time it is also executed asynchronously on a dedicated autotask, preventing the operator from being blocked. To check progress, use the refresh function (F9).

Example not Using MAINTMODE

In the following example, a coupling facility is drained:

1. All of its structures that can be rebuilt are rebuilt on another coupling facility, and duplexing is stopped.
2. For all structures that have no active connector and cannot be rebuilt deletion is forced.
3. All systems that are connected with the coupling facility are disconnected.
4. The coupling facility is inactivated.

When you issue INGCF with the DRAIN option, you can specify the coupling facility to be drained, for example by entering INGCF DRAIN CF01. If you do not specify a coupling facility name, INGCF displays a selection panel with all coupling facilities that are defined in the sysplex.

The status of the coupling facility (NORMAL) and the authorization type of the operator (ALL) are displayed on the right side of the panel header. The main part of the panel consists of a list containing the structures allocated in CF01 and their conditions. The conditions are classified by color and an asterisk. The asterisk signifies that a structure cannot be rebuilt.

Depending on the availability of the MAINT function, either the two actions, MAINTON with F5 and REBUILD with F10, are enabled, or only REBUILD with F10, is enabled. Pressing F10 calls the confirmation panel of the rebuild process.

After F10 has been pressed on the confirmation panel and the rebuild is complete the command dialog can be refreshed with F9.

One structure could not be rebuilt because no alternate coupling facility is specified in its preference list. The REBUILD action is no longer available. Instead, the FORCE action (F5) is available because the structure that could not be rebuilt has a condition that allows forcing the deallocation of the structure. Pressing F5 calls a confirmation panel similar to that for REBUILD. Pressing F10 on the confirmation panel and refreshing the command dialog after the action has been completed results in an empty panel.

No more structures are allocated in the coupling facility and the coupling facility is not in maintenance mode, so that the coupling facility can be released from the connections with the systems of the sysplex. Consequently, INGCF DRAIN enables the DRAIN action (F4). After completion of that action, the status of the coupling facility changes to DRAINED.

Because the coupling facility is no longer connected to any system, it can be inactivated. After pressing F11 and confirming the action the status of the coupling facility changes to INACTIVE.

Example Using MAINTMODE

In the following example, a coupling facility is drained:

1. The coupling facility is put into maintenance mode.
2. All of its structures that can be rebuilt are rebuilt on another coupling facility, and duplexing is stopped.
3. Deletion is forced for all structures that have no active connector and cannot be rebuilt.
4. The coupling facility is made inactivate.

> **Note:** It is no longer necessary to turn the sender paths offline when the coupling facility is in maintenance mode, regardless of whether or not all systems in the sysplex run z/OS 1.9 or later.

When you issue INGCF with the DRAIN option, you can specify the coupling facility to be drained, for example, by entering INGCF DRAIN CF02. If you do not specify a coupling facility name, INGCF displays a selection panel with all coupling facilities that are defined in the sysplex.

The status of the coupling facility (NORMAL) and the authorization type of the operator (ALL) are displayed on the right side of the panel header. The main part of the panel consists of a list containing the structures allocated in CF02 and their conditions. The conditions are classified by color and an asterisk. The asterisk signifies that a structure cannot be rebuilt.

Two actions are enabled, MAINTON with F5 and REBUILD with F10. Pressing F5 calls the confirmation panel for starting the maintenance mode.

After pressing F10 on the confirmation panel, the main panel shows the new status (NORMAL MAINTMODE) and leaves only F10 for the rebuild process. Pressing F10 calls the confirmation panel for the rebuild process.

After pressing F10 on the confirmation panel and the rebuild is complete, you can refresh the command dialog with F9.

One structure could not be rebuilt because no alternate coupling facility is specified in its preference list. The REBUILD action is no longer available. Instead, the FORCE action (F5) is available because the structure that could not be rebuilt has a condition that allows forcing the deallocation of the structure.

Pressing F5 calls a confirmation panel similar to that for REBUILD. Pressing F10 on the confirmation panel and refreshing the command dialog after the action has been completed results in an empty panel and the status of the coupling facility has changed to MAINTMODE.

Because no more structures are allocated in the coupling facility, it can be inactivated. After pressing F11 the status of the coupling facility changes to INACTIVE.

INGCF ENABLE

Purpose

The ENABLE function of the INGCF command is intended to support the integration AND re-integration of a coupling facility into a sysplex. With this option, you can:

1. Activate the target coupling facility.
2. Connect the systems of the sysplex with the coupling facility.
3. Take the coupling facility out of maintenance mode when it is in this mode and the MAINT function is supported.
4. Switch to another CFRM policy if the target coupling facility is not defined in the active policy and a suitable policy is available.

   A suitable CFRM policy must contain:

- A definition of the target coupling facility
- Appropriate definitions for every active coupling facility and every allocated structure

5. Rebuild all structures on the target coupling facility whose preference list starts with this coupling facility, unless this is excluded by other requirements.

INGCF ENABLE ensures that these actions are performed in the correct order, as specified above.

Actions

The possible actions and the associated F-keys are:

*ACTIVATE (F11)
This action activates the CFCC (Coupling Facility Control Code) through the BCP Internal Interface by an ACTIVATE command.

Note: This function key is unavailable when running on a z/OS image that runs under z/VM.

*ENABLE (F4)
Sets the sender paths of all systems of the sysplex to ONLINE. This action is enabled when the coupling facility is active.

*MAINTOFF (F5)
Takes the coupling facility out of maintenance mode.

*SWITCH (F5)
Switches to another CFRM policy when the target coupling facility is not defined in the active CFRM policy and a suitable policy is available. When there is more than one suitable policy you can choose one of these from a selection panel.

A CFRM policy is suitable when it contains:

- A definition of the target coupling facility
- Definitions for every active coupling facility and every allocated structure

This action is only made available when the target coupling facility is active, but not defined in the current CFRM policy.

*POPULATE (F10)
Starts a rebuild process by which all structures that have the target coupling facility at the beginning of their preference list but are currently allocated on another coupling facility are allocated on the target coupling facility.

This action requires that the coupling facility be enabled, connected to all members of the sysplex, and defined in the current CFRM policy. The action is offered whenever INGCF ENABLE detects that a structure is not allocated on the target coupling facility although it is the preferred coupling facility of that structure.

Note: When you have drained a coupling facility with INGCF DRAIN and then reintegrate it with INGCF ENABLE, be aware that the set of structures that are allocated on the target coupling facility after population can be different from the original set before the draining. Typically, this happens when the original set does not contain exactly those structures that have the target coupling facility at the first position in their preference list.

Note that these actions can only be performed when INGCF ENABLE is called in full mode. In line mode, only the display function is available.

Example with CF not in MAINTMODE

In the following example, a coupling facility that has already been activated is reintegrated into the sysplex in two steps:

1. The coupling facility is connected to all systems of the sysplex.
2. All structures that have the target coupling facility as the first coupling facility in their preference list are allocated on the target coupling facility.

If you issue INGCF with the ENABLE option, you can specify the coupling facility to be reintegrated, for example by entering INGCF ENABLE CF02. If you do not specify a coupling facility name, INGCF shows a selection panel with all coupling facilities that are defined in the sysplex.

The selected coupling facility has already been activated manually, therefore its status, as shown on the right of the panel header, is DRAINED. The authorization type of the operator (ALL) is also displayed on the right side of the panel header. The main part of the panel is empty because no structures are allocated in CF02. The only action that is activated is ENABLE with F4. If you press F4 a confirmation panel is displayed.

After pressing F10 on the confirmation panel, the command dialog shows that structures are currently allocated in CF01.

The status has changed to NORMAL, and F10 is enabled for populating the coupling facility. This implies that the target coupling facility is defined in the active CFRM policy.

The structure list contains 10 entries with the condition `Structure is currently allocated in CF01.`. These are the structures that are currently allocated in CF01, but have CF02 in the first position in their preference list.

Pressing F10 and confirming the action populates the coupling facility.

```
INGLX901                    SA z/OS  - Command Dialogs     Line  1  of 10
Domain Id   = IPSFP      ------ INGCF ENABLE -------          Date = 09/29/08
Operator Id = USER1                                           Time = 13:52:50

Coupling Facility ==> CF02           Status . . . . . . : NORMAL
Sysplex . . . . . ==> KEY1PLEX       Permission . . . . : ALL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Structure         Condition
----------------  -------------------------------------------------------------
DBNA_GBP2         No active connection. System-managed rebuild supported.
DBNA_LOCK1        No active connection. System-managed rebuild supported.
HSA_LOG           System-managed rebuild is supported.
IXCPLEX_PATH3
IXCPLEX_PATH4
JES2CKPT1         System-managed rebuild is supported.
LOGGER_STR2       The structure's initial size < its actual size.
SYSZWLM_9F092064  System-managed rebuild is supported.
S941EMHQ          No connections. System-managed rebuild supported.
S941MSGQ          No connections. System-managed rebuild supported.


Command ===>
F1=Help      F2=End      F3=Return                         F6=Roll
                         F9=Refresh                        F12=Retrieve
```

Figure 38. ENABLE Command Dialog Panel: After Populating

Example with CF in MAINTMODE

In the following example, a coupling facility that has already been activated is reintegrated into the sysplex in two steps:

1. The coupling facility is taken out of maintenance mode.

   Note: It is no longer necessary to turn the sender paths offline when the coupling facility is in maintenance mode, regardless of whether or not all systems in the sysplex run z/OS 1.9 or later.

2. All structures that have the target coupling facility as the first coupling facility in their preference list are allocated on the target coupling facility.

If you issue INGCF with the ENABLE option, you can specify the coupling facility to be reintegrated, for example, by entering INGCF ENABLE CF02. If you do not specify a coupling facility name, INGCF shows a selection panel with all coupling facilities that are defined in the sysplex.

The selected coupling facility has already been activated manually, therefore its status, as shown on the right of the panel header in , is MAINTMODE. The authorization type of the operator (ALL) is also displayed on the right of the panel header. The structure list contains 10 entries

with the condition `Structure is currently allocated in CF01`. These are the structures that are currently allocated in CF01, but have CF02 in the first position in their preference list. The only action that is activated is MAINTOFF with F5.

```
INGLX901                  SA z/OS  - Command Dialogs     Line   1   of 10
Domain Id   = IPSFP       ------ INGCF ENABLE -------          Date = 09/29/08
Operator Id = USER1                                            Time = 13:55:52

Coupling Facility ==> CF02            Status . . . . . . : MAINTMODE
Sysplex . . . . . ==> KEY1PLEX        Permission . . . . : ALL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Structure          Condition
----------------   ----------------------------------------------------------
DBNA_GBP2          Structure is currently allocated in CF01.
DBNA_LOCK1         Structure is currently allocated in CF01.
HSA_LOG            Structure is currently allocated in CF01.
IXCPLEX_PATH3      Structure is currently allocated in CF01.
IXCPLEX_PATH4      Structure is currently allocated in CF01.
JES2CKPT1          Structure is currently allocated in CF01.
LOGGER_STR2        Structure is currently allocated in CF01.
SYSZWLM_9F092064   Structure is currently allocated in CF01.
S941EMHQ           Structure is currently allocated in CF01.
S941MSGQ           Structure is currently allocated in CF01.


Command ===>
F1=Help      F2=End       F3=Return                 F5=MaintOFF  F6=Roll
                          F9=Refresh                             F12=Retrieve
```

Figure 39. ENABLE Command Dialog Panel: After Issuing Command "INGCF E cf_name"

If you press F5 a confirmation panel is displayed.

After pressing F10 on the confirmation panel, the command dialog shows the new status and a new function key.

The status has changed to NORMAL, and F10 is enabled for populating the coupling facility. This implies that the target coupling facility is defined in the active CFRM policy.

Pressing F10 and confirming the action populates the coupling facility.

INGCF MAINT

Purpose

The MAINT function of the INGCF command is intended to put a coupling facility into or take it out of maintenance mode.

After the corresponding XCF command has been processed the command issues the INGCF command without any positional parameters.

Restrictions

The function requires:

- At least one system in the SA z/OS sysplex must run z/OS 1.9, or later.
- The MAINT function must be supported by all SA z/OS applications that are involved in command processing.

Example

In the following example, a coupling facility is put into maintenance mode using the command INGCF M *cf_name* MODE=ON OUTMODE=LINE:

```
Sysplex . . . . . . : KEY1PLEX
SM process level  . : 16
MAINTMODE supported : Y

CF Name M Total KB  Free KB Free% V Lvl LP Node Descriptor
------- - -------- ------- ------ - --- -- ------------------------------
CF01    N   457472  165376  36.15 Y  13  1 002064.116.IBM.02.000000099F09
CF02    Y   457472  456960  99.89 Y  13  F 002064.116.IBM.02.000000099F09
*** End of Display ***
```

Figure 40. MAINT Command Output

INGCF PATH

Purpose

The INGCF PATH function displays the sender paths, that is, the paths from the connected systems to the specified coupling facility.

Restrictions

The last sender path of each system can only be set to OFFLINE when no more structures are allocated.

Example

```
INGLX903                SA z/OS  - Command Dialogs    Line  1    of 14
Domain Id   = IPSFN       ------- INGCF PATH --------          Date = 06/20/01
Operator Id = USER1                                            Time = 10:28:49

Coupling Facility ==> CF01____              Allocated Structures: 37
Sysplex . . . . . ==> KEY1PLEX              Permission  . . . . : ALL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: F set OFFLINE / N set ONLINE

  System    CHPID  Physical            Logical   Type
  --------  -----  ------------------  -------   ----
_ KEY1      A5     ONLINE              ONLINE    CFS
_           A9     ONLINE              ONLINE    CFS
_ KEY2      A5     ONLINE              ONLINE    CFS
_           A9     ONLINE              ONLINE    CFS
_ KEY3      A5     ONLINE              ONLINE    CFS
_           A9     ONLINE              ONLINE    CFS
_ KEY4      05     ONLINE              ONLINE    CFS
_ KEY6      A5     ONLINE              ONLINE    CFS
_           A9     ONLINE              ONLINE    CFS


Command ===>
F1=Help     F2=End      F3=Return                         F6=Roll
            F8=Forward  F9=Refresh                         F12=Retrieve
```

Figure 41. PATH Command Dialog Panel

The following command codes are available:

F

Sets the sender path OFFLINE.

N

Sets the sender path ONLINE.

The fields on the command dialog panel display the following information:

• If you have issued INGCF with the PATH parameter, the **Coupling Facility** field is an input field. To display the path list of another coupling facility specify the name of the coupling facility in this field and press Enter.

• The **Allocated Structures** field shows the number of allocated structures.

• The **Permission** field shows your authorization level.

- The **System** field contains the names of the systems that are connected to the target coupling facility.
- The **CHPID** field shows the IDs of the sender channel paths.
- The **Physical** field shows the status of the sender channel paths.
- The **Logical** field shows the logical status of the paths to that coupling facility.
- The **Type** field shows the type of the sender channel paths.

INGCF STRUCTURE

Purpose

The STRUCTURE function of the INGCF displays the allocated structures of a coupling facility. You can initiate a rebuild or deallocation of a selected structure if the conditions for these actions are satisfied.

Example

```
INGLX904                 SA z/OS  - Command Dialogs      Line  1    of 15
Domain ID   = IPSFM       ----- INGCF STRUCTURE -----          Date = 02/22/02
Operator ID = NETOP1                                           Time = 16:09:04

Coupling Facility ==> CF01____
Sysplex . . . . . ==> KEY1PLEX         Permission . . . . : ALL
Include condition ==> YES (Yes/No - Condition retrieval takes longer)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D display details / F force / P stop duplex / R rebuild / S start duplex

  Structure        P D  Condition
  --------------- - -  -------------------------------------------------------
_ DSNA_GBP0          U  Duplex rebuild is active.
_ DSNA_GBP32K      P U
_ DSNA_LOCK1         S  Duplex rebuild is active.
_ DSNA_SCA           S  System-managed rebuild is supported.
_ ISGLOCK
_ ISTGENERIC            System-managed rebuild is supported.
_ IXCGRS
_ IXCVLF
Command ===>
F1=Help      F2=End      F3=Return                        F6=Roll
                         F9=Refresh                       F12=Retrieve
```

Figure 42. STRUCTURE Command Dialog Panel

The following command codes are available:

D

Displays detail information about the structure.

*F

Forces the deallocation of the structure if it has one of the following conditions:

- No connection exists.
- No alternate CF for structure with no active connections.
- No alternate CF for structure with no connections.

When you try to force the deallocation of a structure that can be rebuilt, an error message is issued.

*P

Stops duplexing of the selected structure.

*R

Starts the rebuild of the selected structure. Depending on the PENDING status, the automation starts the rebuild with a different LOCATION parameter (PENDING uses the parameter LOCATION=NORMAL, otherwise LOCATION=OTHER). A rebuild with the parameter LOCATION=OTHER is only initiated for structures whose preference list contains more than one coupling facility.

There are two methods for rebuild, user-managed and system-managed rebuild. User-managed rebuild is supported for all release levels. System-managed rebuild is only available with systems that have been enabled by formatting the CFRM couple data sets with the specification:

```
ITEM NAME(SMREBLD) NUMBER(1)
```

System-managed rebuild is only performed when the requirements for user-managed rebuild are not met. This applies, for example, to structures without active connectors.

INGCF STRUCTURE accepts a rebuild request for structures with the condition 'No active connection exists.' but *deallocates* them. See No active connection exists.

*S

Starts duplexing of the selected structure.

There are two methods for duplexing, user-managed and system-managed duplexing. User-managed duplexing is supported for all release levels. System-managed duplexing is only available when it has been enabled by formatting the CFRM couple data sets with the specification

```
ITEM NAME(SMDUPLEX) NUMBER(1)
```

System-managed duplexing is only performed when the requirements for user-managed duplexing are not met. This applies, for example, to structures without active connectors.

Starting the duplex rebuild of a structure requires at least the policy entry allowing the duplex rebuild of the structure. If there is no entry the duplex rebuild is disabled. The other requirements depend on the type of the duplex rebuild. When all connectors to a structure allow user-managed duplex rebuild, this type takes precedence over system-managed duplex rebuild. However, user-managed rebuild also requires at least one active connector. Thus, when the operator starts the duplex rebuild for a structure allowing user-managed duplex rebuild as well as system-managed rebuild but without having active connectors, XCF tries to initiate a system-managed duplex rebuild. System-managed duplex rebuild has the following requirements:

- System-managed rebuild must be supported by all connectors.
- The structure must be allocated in a coupling facility supporting system-managed duplexing and another coupling facility supporting system-managed duplexing must be defined in its preference list.
- The CFRM couple data set must support system-managed duplex rebuild and the structure must not have a policy change pending.
- The structure must be defined in the active CFRM policy when any connection state is not active.

The fields on the command dialog panel display the following information:

- The **Coupling Facility** field is an input field, if you have specified INGCF with the STR parameter. To display the structure list of another coupling facility, specify the name of the coupling facility in this field and press Enter.
- The **Include Condition** field is an input field. By specifying Yes or No in this field you determine whether or not the conditions of the structures are displayed in the Structure column.
- The **Permission** field shows your authorization level. There are two possible values, ALL and DISPLAY. DISPLAY signifies that you can only use the display functions. ALL signifies that you can also rebuild and delete structures.
- You can specify an action code before every structure entry. The codes you can enter depend on your authorization level.
- The **Structure** column shows the names of the structures.
- If the **P** column contains the letter P, this indicates that policy changes are pending for the structure.

  A structure has policy changes pending if it was allocated at the time of a CFRM policy switch, but XES could not bring the switch into effect for that structure. One reason for a pending policy change is that the old and the new policy define the structure differently, for example, with different preference lists.

- The **D** column indicates the type of duplexing that is possible. The following values are possible:

  U

  > User-managed duplexing

  S

  > System-managed duplexing

  B

  > User-managed and system-managed duplexing

- The **Condition** column shows the status of the structures. You can switch the display of the conditions on and off with the **Include Condition** field.

INGCFG

Purpose

The INGCFG command may be used with the CLEAR_HISTORY parameter to clear the workitem history for the given resource(s).

Syntax

Parameters

resource
> Specifies the name of the resources to have workitems cleared. The format is *name[/type[/system]]*. It can be a list of names. The resource names must be separated by a blank. Asterisks (*) and a percentage sign (%) can be used as wildcard characters.

INGCFL
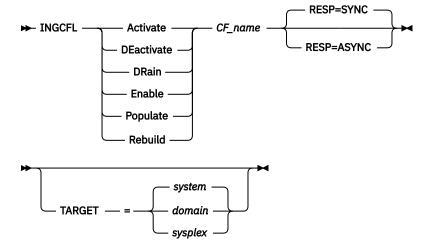
Purpose

The INGCFL routine supports line mode for INGCF other than display capability. For further information, see "INGCF" on page 91.

Support of the maintenance mode of a coupling facility depends on the function that is specified:

- ACTIVATE, ENABLE, and POPULATE automatically handle the maintenance mode of the coupling facility. However, each command will fail when the coupling facility is in maintenance mode but the mode is not supported by SA z/OS (see "Restrictions and Limitations" on page 108).
- DEACTIVATE and DRAIN put the coupling facility into maintenance mode when possible. Otherwise, both functions proceed with setting the sender paths offline after the rebuild has been performed.
- REBUILD does not make use of the maintenance mode capability.

Syntax

```
►►── INGCFL ──┬── Activate ──┬── CF_name ──┬── RESP=SYNC ──┬──►◄
              ├── DEactivate ─┤             └── RESP=ASYNC ─┘
              ├── DRain ──────┤
              ├── Enable ─────┤
              ├── Populate ───┤
              └── Rebuild ────┘

►►──┬──────────────────────────────────┬──►◄
    └── TARGET ── = ──┬── system ──┬────┘
                      ├── domain ──┤
                      └── sysplex ─┘
```

Parameters

Activate
Activates the coupling facility.

DEactivate
Deactivates the coupling facility after performing DRAIN.

DRain
Performs REBUILD, then puts the coupling facility into maintenance mode if possible. Otherwise, it sets the sender paths to OFFLINE.

Enable
Performs ACTIVATE, then takes the coupling facility out of maintenance mode if it is in this mode. Finally, it sets the sender paths to ONLINE.

Populate
Starts the populate process of the coupling facility after performing ENABLE.

Rebuild
Starts the rebuild process of the coupling facility.

CF_name
The name of the target coupling facility for the specified function.

RESP
Specifies whether the final result is returned synchronously as a return code or asynchronously as a message (default: synchronous response).

TARGET
Specifies the system where the command is executed (default: local system).

Note: The real activation and deactivation of a coupling facility are unavailable when running on a z/OS image that runs under z/VM.

Return Codes

0
The command completed normally.

1
An initialization error occurred. Check the netlog for explanatory messages.

3
The slave routine failed. Check the netlog for explanatory messages. If you are still unable to detect the reason for failure, attempt a rerun after turning on debugging for the INGRVX92 slave routine.

4

The lock is unavailable to update the coupling facilities.

5

The authorization check failed for function. Check the netlog for explanatory messages.

6

The status of the coupling facility is not as expected for the current request. Running with GDPS debugging should provide a listing of status changes that have taken place. This return code does not necessarily indicate that the request failed.

7

The permission check has failed for the POPULATE request.

Restrictions and Limitations

The real activation and deactivation of a coupling facility are unavailable when running on a z/OS image that runs under z/VM.
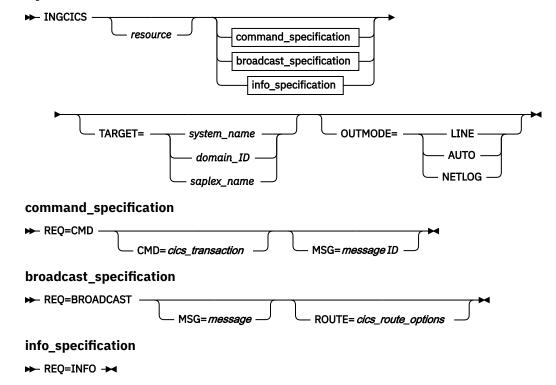
INGCICS

Purpose

The INGCICS command lets you:

- Issue any console-enabled CICS transaction.
- Broadcast messages to all or selected CICS users.
- Issue a list of defined transactions and view the output.
- Display the output of CICS transactions in fullscreen or pipeable line mode.

Syntax

▶▶─ INGCICS ──┬─────────────┬──┬─────────────────────────────┬──▶
              └─ *resource* ─┘ ├─ command_specification ─────┤
                               ├─ broadcast_specification ───┤
                               └─ info_specification ────────┘

▶──┬──────────────────────────────────┬──┬─────────────────────────┬──◀◀
   └─ TARGET= ─┬─ *system_name* ─┬─────┘ └─ OUTMODE= ─┬─ LINE ───┬──┘
              ├─ *domain_ID* ───┤   ├─ AUTO ───┤
              └─ *saplex_name* ─┘   └─ NETLOG ─┘

command_specification

▶▶─ REQ=CMD ──┬────────────────────────────┬──┬──────────────────────┬──◀◀
             └─ CMD= *cics_transaction* ───┘ └─ MSG= *message ID* ──┘

broadcast_specification

▶▶─ REQ=BROADCAST ──┬──────────────────────┬──┬────────────────────────────────┬──◀◀
                   └─ MSG= *message* ─────┘ └─ ROUTE= *cics_route_options* ──┘

info_specification

▶▶─ REQ=INFO ─◀◀

Parameters

resource
The resource specifies the name of the CICS subsystem that the command will be issued to. The format is subsystem[/APL[/system]], where the subsystem is the specific name of the desired CICS subsystem and system is the name of the system that the CICS is running on.

Note: You need not specify the fully qualified name of the resource. However, the command requires enough information to execute the request against a unique CICS subsystem. The command does not support issuing requests to multiple CICS subsystems at the same time.

REQ
Specifies the request to be issued to the CICS subsystem. It can be one of the following:

CMD
Issues a CICS transaction and displays the results.

BROADCAST
Issues a CICS broadcast to all or selected users.

INFO
Issues a set of predefined commands and displays the results. The list of commands is obtained from the CICSINFO user message policy of the subsystem specified by the resource name.

CMD
Specifies the CICS transaction and its parameters to be executed for a REQ=CMD type request. If the command and parameters contain spaces, enclose the command in quotation marks (single or double). For CEMT transactions INGCICS waits up to twice the period that is defined by the system wait time parameter for a result.

MSG
Specifies the message to be sent to all or selected CICS terminals or users for the REQ=BROADCAST request.

For REQ=CMD the MSG command can be used to contain a list of words that will be used to end processing if they are received anywhere in the output results. The words will normally be a required message ID and when entered INGCICS waits up to the period that is defined by the system wait time parameter for a result. If no words are entered, CMD is processed until any result is received.

ROUTE
Specifies the CICS routing information that is used to select the CICS terminals or users are to receive the message for a REQ=BROADCAST request. The contents of the ROUTE= parameter are the parameters to be supplied to the CMSG transaction to route messages to CICS terminals or users. See the CMSG transaction for the details of the parameters for that transaction.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

To use the INGCICS command system operations must be initialized. CICS subsystems must be enabled for system console commands using the MVS MODIFY command.

Usage

The INGCICS command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter INGCICS REQ=CMD a panel similar to Figure 43 on page 110 is displayed.

```
EVEKYCMD              SA z/OS  - Command Dialogs      Line 1     of 28
Domain ID   = IPSFM      ---------- INGCICS  ----------    Date = 03/05/02
Operator ID = SAUSER                                       Time = 08:23:31

Resource          => EYUMAS1A/APL/KEY1                Format: name/type/system
Target            => _____            System name, domain ID or sysplex name
Request           => CMD_____            CMD, BROADCAST or INFO
CICS Transaction  => CEMT I TA_____
CICS Route        => _____
CICS Message      => _____
                  => _____

Tas(0000024) Tra(CONL)          Sus Tas Pri( 255 )
Sta(U ) Use(STCUSER ) Uow(B747C4105BD4E305)
Tas(0000026) Tra(COI0)          Sus Tas Pri( 255 )
Sta(U ) Use(STCUSER ) Uow(B747C413B3F7A908)
Tas(0000027) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430B48804)
Tas(0000028) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430C33084)
Tas(0000029) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430CFD804)
Tas(0000030) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430DB0684)
Tas(0000031) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430E8D844)
Tas(0000032) Tra(CONM)          Sus Tas Pri( 240 )
Sta(U ) Use(STCUSER ) Uow(B747C41430F56504)

Command ===>
   PF1=Help      PF2=End      PF3=Return   PF4=DISPINFO       PF6=Roll
                 PF8=Forward  PF9=Refresh                     PF12=Retrieve
```

Figure 43. INGCICS REQ=CMD Command Dialog Panel

- The **Resource** field shows the name of the CICS subsystem to be used for issuing the requests. The format is name/type[/system]. Wildcards are supported.
- The **Target** field shows the name of the system (system name, domain ID, or sysplex name) that the command should be routed to. Specifying this is only necessary if the resources are not part of the local sysplex.
- The **Request** field shows the request to be carried out. It can be CMD, BROADCAST or INFO.
- The **CICS Transaction** field shows the CICS transaction to be executed on the CICS subsystem specified by the resource field.
- The **CICS Route** field shows the routing parameters for the CMSG transaction when the request is BROADCAST.
- The **CICS Message** field shows the message to be sent to users or terminals for the BROADCAST request.
- The output from the CICS transaction appears in the blank area after the **CICS Message** field.

If you specify INGCICS REQ=BROADCAST a panel similar to is displayed.

```
EVEKYCMD                  SA z/OS  - Command Dialogs      Line 1      of 28
Domain ID   = IPSFM       ---------- INGCICS  ----------  Date = 03/05/02
Operator ID = SAUSER                                      Time = 08:36:12

Resource          => EYUMAS1A/APL/KEY1              Format: name/type/system
Target            => _____            System name, domain ID or sysplex name
Request           => BROADCAST           CMD, BROADCAST or INFO
CICS Transaction  => CMSG R=&ROUTE,'&MESSAGE',S_____
CICS Route        => ALL_____
CICS Message      => test1_____
                  => _____




Command ===>
   PF1=Help       PF2=End       PF3=Return    PF4=DISPINFO       PF6=Roll
                                PF9=Refresh                      PF12=Retrieve
```

Figure 44. INGCICS REQ=BROADCAST Command Dialog Panel

The CICS command that is issued is displayed in the **CICS Transaction** field. The &ROUTE and &MESSAGE parameters are resolved to the corresponding panel fields. Do not overwrite the command that is displayed because changes are not honored.

If you specify INGCICS REQ=INFO a panel similar to is displayed.

```
EVEKYCMD                  SA z/OS  - Command Dialogs      Line 1      of 67
Domain ID   = IPSFM       ---------- INGCICS  ----------  Date = 03/05/02
Operator ID = SAUSER                                      Time = 08:40:30

Resource          => EYUMAS1A/APL/KEY1              Format: name/type/system
System            => _____            System name, domain ID or sysplex name
Request           => INFO_____           CMD, BROADCAST or INFO
CICS Transaction  => _____
CICS Route        => _____
CICS Message      => _____
                  => _____

SYSTEM INFORMATION

Aging( 00500 )
Akp( 04000 )
Cdsasize(00786432)
Cicstslevel(010200)
Cmdprotect(Cmdprot)
Db2conn(SG12)
Dfltuser(STCUSER)
Dsalimit( 05242880 )
Dtrprogram( DFHDYP   )
Dumping( Nosysdump )
Ecdsasize(0006291456)
Edsalimit( 0041943040 )
Erdsasize(0013631488)
Esdsasize(0000000000)

Command ===>
   PF1=Help       PF2=End       PF3=Return    PF4=DISPINFO       PF6=Roll
                  PF8=Forward   PF9=Refresh                      PF12=Retrieve
```

Figure 45. INGCICS REQ=INFO Command Dialog Panel
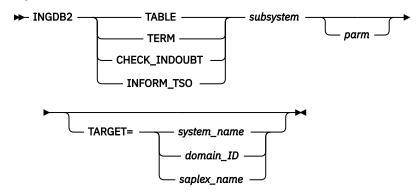
INGDB2

Purpose

The INGDB2 utility lets you:

- Start or stop a table space
- Terminate active threads
- Inform TSO users that their thread is about to be terminated
- Check for indoubt threads

Syntax

Parameters

TABLE
The TABLE parameter requests to start or stop a table space.

For DB2® table space stop, certain active threads that use the specified table space are terminated. These include REMOVE, DB2CALL, BATCH and TSO. TSO users are issued with a message informing them that their thread is about to be terminated before actual thread termination.

TERM
The TERM parameter requests the termination of all active threads for a DB2 subsystem. These include REMOTE, DB2CALL, BATCH, TSO and all remaining threads.

All threads are discovered using the DIS THD() command and canceled by token using CAN THD(tokenid). UTILITY threads are treated differently: after having been discovered using DIS UTIL() and checked not to be COPY, REORG, REPAIR or LOAD, they are terminated using the TERM UTIL() command. UTILITY threads are ignored during the cancel-threads-by-token process.

TSO users that are using threads that cannot be stopped are canceled.

CHECK_INDOUBT
This parameter requests a check for indoubt threads.

INFORM_TSO
With this parameter, TSO users with an active stoppable thread are informed that their thread is about to be terminated.

subsystem
Specifies the subsystem name of the DB2 subsystem.

parm
Specifies a positional parameter string.

When INGDB2 is called with TABLE as the first parameter, one or three values are expected at this position in the parameter sequence, as follows:

parm1
START or STOP to start or stop a table space.

parm2
A database name. This is not required if *parm1* is START.

parm3
A table space name. This is not required if *parm1* is START.

When all three parameters are passed to INGDB2, the START or STOP request applies to the specified table space.

If only START is passed to INGDB2, a start command is issued for all table spaces that are currently in the status LPL or GRECP. Table spaces of database DSNDB01 are started before those of database DSNDB06. After this, the table spaces of all other databases are started.

When requesting a STOP for a specified tablespace, the following processing cycles are done:

1. The command STO DB(*dbname*) SPACENAM(*tsname*) is issued.

   If the specified table space is then still used by any DDF threads or BATCH jobs, these processes are canceled.

   TSO users of threads still using the table space are notified that the table space is to be stopped and they are requested to stop using it.

2. If the table space is still used by TSO users, these users are canceled. After one minute, a message is send to the cancelled users to inform them at logon, that they were canceled due to the stop of a tablespace.

3. If the table space is still used by any processes, a message is issued listing the name and type of all these processes.

The delay time between the processing cycles is determined by the STOP Tablespace Delay option in the DB2 CONTROL policy item of the DB2 master. The default value is 2 minutes.

TARGET
For information on the target parameter, see "The TARGET Parameter" in *IBM System Automation for z/OS Operator's Commands*.

Version

When you specify INGDB2 TABLE,&SUBSAPPL,START [*dbname tsname*] as a command in the automation policy that is to be issued in response to a received message, code definitions for message ID DATABASE are used to decide whether any databases or table spaces are excluded from recovery.

To exclude databases or table spaces from recovery, specify a code definition as follows with IGNORE or EXCLUDE as the Value Returned.

Code1	Code2	Code3	Value Returned
database	*tablespace*		IGNORE|EXCLUDE

Restrictions and Limitations

The INGDB2 utility can only be used when:

- SA z/OS is initialized
- The DB2 subsystem is defined to SA z/OS as application of category DB2 and subcategory MSTR
- The status of the DB2 subsystem is UP, but for TERM and INFORM_TSO the status can be AUTOTERM to allow for SHUTNORM passes.

For non-utility threads, only those with a non-zero token can be canceled with INGDB2 TERM.

Security considerations

The INGDB2 utility internally uses DB2 commands. For information about the appropriate security setup, see the "Security considerations to control DB2 subsystems" topic in *IBM System Automation for z/OS Planning and Installation*.

Return Codes

0

Function completed successfully

1

Indoubt threads were found when being called with the CHECK_INDOUBT parameter

Note: When your INGDB2 CHECK_INDOUBT command is part of your DB2 shutdown commands in the policy and you have return code checking enabled (specified '*' in the **AutoFn** field), System Automation does not issue any other shutdown commands. The Automation Status of the DB2 is set to PROBLEM. Manual intervention is required.

4

Incorrect parameters were used in the call

5

Timeout or other error occurred (for example, the DB2 subsystem is not UP).

6

SA z/OS initialization incomplete, unable to process command request

Examples

To terminate threads for a DB2 subsystem called DB2P, enter the following command:

```
INGDB2 TERM DB2P
```

To start a table space where the DB2 subsystem is DB2P, the database name is DB2PDBN and the table space name is DB2PTSN, enter the following command:

```
INGDB2 TABLE DB2P START DB2PDBN DB2PTSN
```

INGDLA
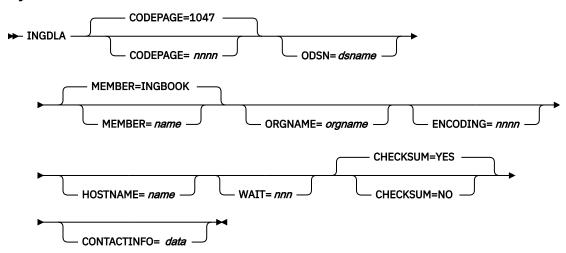
Purpose

The INGDLA command invokes the SA z/OS Discovery Library Adapter to discover SA z/OS configuration data, which is primarily the SA z/OS resources and their relationships. It then saves the data in an Identity Markup Language (IdML) book, which can be forwarded to a system that is hosting a Tivoli® Application Discovery Dependency Manager (TADDM).

The discovery scope of the INGDLA command is the entire sysplex, that is, all the systems that the SA z/OS automation manager controls.

You can use the INGDLA command, for example, after a major configuration change, or periodically driven by a NetView timer.

Syntax

Parameters

CODEPAGE
Specifies the encoding codepage — this is the one that NetView uses. The default is 1047, unless it is overwritten by the installation defaults (using the INGCNTL command, see *IBM System Automation for z/OS Programmer's Reference*).

You must specify this parameter if you are running with a different codepage. Failure to do so will result in the generation and downloading of a corrupt Identity Markup Language (IdML) book that Tivoli Application Discovery Dependency Manager (TADDM) cannot load.

ODSN
Specifies the name of the output data set. The data set must be a pre-allocated (catalogued) PDS with attribute VB=3000. The name must be fully qualified, with or without surrounding quotes. The user ID that NetView is running under must have UPDATE access to it. With the INGCNTL command, this parameter can be preset (see INGCNTL in *IBM System Automation for z/OS Programmer's Reference*).

MEMBER
Specifies the name of the member that will contain the IdML data. The default is INGBOOK unless it is overwritten with installation defaults (see INGCNTL in *IBM System Automation for z/OS Programmer's Reference*).

Reserved member name is @CHCKSUM.

ORGNAME
Specifies the name of the organization. The default is to take the default name from the IBM Tivoli Change and Configuration Management Database (CCMDB) unless it is overwritten by the installation defaults (see INGCNTL in *IBM System Automation for z/OS Programmer's Reference*).

Place quotes around the organization name in order to maintain mixed case names.

ENCODING
Specifies the encoding option. Valid values are EBCDIC, ASCII and UTF-8. The default is UTF-8 unless overwritten by the installation defaults (see INGCNTL in *IBM System Automation for z/OS Programmer's Reference*).

HOSTNAME
Specifies the name of the host of the management software system (that is, SA z/OS). It is used to address SA z/OS. If specified, it takes precedence over a discovered host name.

WAIT
Specifies the maximum number of seconds to wait for the automation manager query to respond. The maximum time interval is 999 seconds. The default is 30 seconds.

CHECKSUM

Specifies whether to skip generating the SA z/OS DLA book if the checksum matches:

YES

Skip generation if the checksum matches. This is the default.

NO

Ignore checksum results.

CONTACTINFO

Provides details of ports and security keys that are needed to establish a session with NetView over TCP/IP when used in conjunction with the host name.

Return Codes

0

Successful completion.

8

Error occurred, such as a bad return code received from the automation manager.

12

Bad input parameters or allocation failed.

16

Fatal error.

Usage

The INGDLA command can be invoked from the NetView command line on any system in the sysplex.

The INGDLA command operates sysplexwide. For an overview see <u>"Overview of Commands that Operate Sysplexwide" on page 13</u>.

Examples

If you enter `ingdla` at the command line, SA z/OS displays a report that informs you of the progress of the DLA.

```
ING502I SA z/OS Discovery Library Adapter started 14:18:05 29 NOV 2007
ING501I DRIVING SA Z/OS DISCOVERY
ING501I .QUERYING RESOURCES
ING501I .QUERYING RELATIONSHIP DATA
ING501I ..FOR RESOURCES */APL/SAT1
ING501I ..FOR RESOURCES */APL/SAT2
ING501I ..FOR RESOURCES */APL/SAT3
ING501I ..FOR RESOURCES */APL/SAT4
ING501I ..FOR RESOURCES */APG/SAT1
ING501I ..FOR RESOURCES */APG/SAT2
ING501I ..FOR RESOURCES */APG/SAT3
ING501I ..FOR RESOURCES */APG/SAT4
ING501I ..FOR RESOURCES */APG
ING501I ..FOR RESOURCES */MTR/*
ING501I .OBTAINING AGENT INFORMATION FOR SAT1
ING501I PROCESSING CHECKSUMS
ING501I COMPOSING SA Z/OS DISCOVERY BOOK
ING501I .WRITING BOOK: INGBOOK
ING501I ..COMPOSING RESOURCE DEFINITIONS
ING501I ..COMPOSING RESOURCE RELATIONSHIPS
ING501I ..COMPOSING DELAYED RELATIONSHIPS
ING501I .FINISHED WRITING BOOK: INGBOOK
ING501I UPDATING CHECKSUM DATA
ING504I Checksum data updated
ING503I SA z/OS Discovery Library Adapter completed 14:18:17 29 NOV 2007, RC=0
```
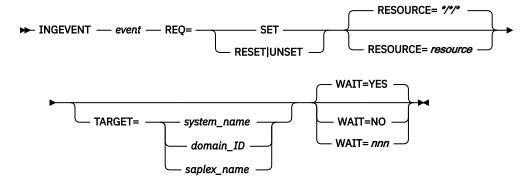
Figure 46. SA z/OS Discovery Library Adapter Report

INGEVENT

Purpose

The INGEVENT command sets or resets a particular event for all affected resources in a sysplex, or for specific resources.

Syntax

Parameters

event
Specifies the name of the event.

REQ
Specifies the request to be performed. It can have the following values:

SET
Sets the event for all resources having the event defined.

RESET|UNSET
Resets or unsets the event for all resources having the event defined.

Note that RESET and UNSET are synonyms.

RESOURCE
Specifies the name of the resource where INGEVENT should be effective. It can be abbreviated to RES. The format is *name/type[/system]*

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

WAIT
Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

Restrictions and Limitations

Wildcards are not supported.

Usage

The INGEVENT command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

To set an event for all resources that are linked to that event, type the following:

```
INGEVENT B000P100 REQ=SET
```

The command response is as follows:
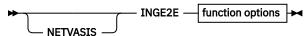
```
IPUFA    AOF442I SET EVENT B000P100 DONE FOR RESOURCE */*/* ON AOCPLEX. -
         FROM=AOCA
IPUFA    AOF099I FUNCTION COMPLETED
```

INGE2E
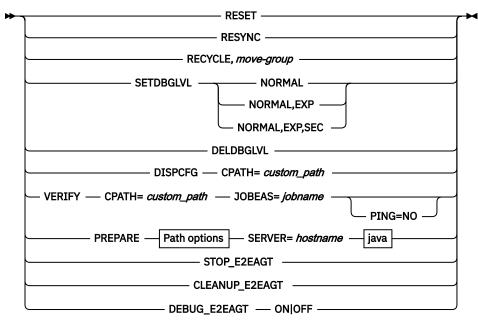
Purpose

The INGE2E command provides the operational API for the end-to-end automation adapter and the end-to-end agent.

Syntax

function options

Path options

java

Parameters

RESET

Specifies cleaning up end-to-end automation adapter-specific settings in the primary automation agent.

This command is used in SA automation policy in case of normal (IEF404I) or abnormal (IEF450I) termination of E2E automation adapter address space. It's normally not issued manually by operators.

RESYNC
Specifies resynchronizing event notification of the E2E agent or SMU server with the first-level automation. For this purpose, SA first notifies them that the automation domain is offline. Afterwards, an online notification is sent. This causes the E2E agent or SMU server to request initial status information for all resources known by it in that automation domain.

This command is used by SA, for example if PAM hot-start takes longer than the value specified in the AOF_E2E_TKOVR_TIMEOUT variable (default is 2 minutes). It's normally not issued manually by operators.

RECYCLE
Specifies recycling a MOVE group. The MOVE group is part of the end-to-end automation high availability policy as described in "High Availability of the End-to-End Automation Adapter" in *IBM System Automation for z/OS End-to-End Automation*. The MOVE group includes the end-to-end automation adapters on the different systems within a subplex. The INGE2E command is specified in REFRESHSTART of the entry type E2EADPT in the STARTUP policy. It recycles the MOVE group either by recycling the primary automation agent, or by a refresh or an ACF COLD of the configuration file.

move-group
The name of the MOVE group to be recycled.

Example to recycle the MOVE group E2EADPT_X/APG, specify:

```
INGE2E RECYCLE, E2EADPT_X/APG
```

SETDBGLVL
Use this function only if IBM Support asks you to do so. Set ON debug level for the End-to-End Adapter REXX backend.

NORMAL
The standard debug level.

EXP
Specifies to debug expiration checking.

SEC
Specifies to debug security user exit.

DELDBGLVL
Use this function only if IBM support asks you to do so. Deletes all debug levels for the End-to-End Adapter REXX backend.

VERIFY
Verifies the installation of the end-to-end adapter. Requires that you have copied and customized the end-to-end adapter configuration files.

Requires that the E/AS is already running.

Requires that the operator that calls function VERIFY has rights to access OMVS and to access files and subdirectories within CPATH.

JOBEAS
Specifies the jobname of the E/AS address space.

CPATH
Specifies the customization path of the end-to-end adapter. This is the directory that contains the /config subdirectory. For example, local/ing/adapter.

PING

Specifies whether a ping should be performed for the hostnames specified in the adapter configuration file.

Specify NO if you do not want to send a ping to the hostnames.

If you omit this parameter or you set it to anything else than the NO function, VERIFY checks if the ping to the hostnames works correctly.

This function verifies:

- GRPID in INGXINIT must match GRPID in USS file `ing.adapter.plugin.properties`.
- `ServerLocation` in E/AS message adapter configuration file must match `eif-recieve-from-hostname` in USS file `ing.adapter.properties`.
- `ServerPort` in E/AS configuration file must match `eif-receive-from-hostname` in USS file `ing.adapter.properties`.
- PPI parameter in E/AS start procedure must match INGEVE2E or Cglobal AOF_E2E_EAS_PPI.
- PPI=YES must be set in INGXINIT.
- E2E_CUSTOM_ROOT in USS file `ingadapter.properties` must match value of CPATH.
- E/AS is not running.
- Performs PING to `eif-send-to-hostname` in USS file `ing.adapter.properties`.
- Performs PING to `eif-send-to-agent-hostname` in USS file `ing.adapter.properties`.

If verification was not successful it writes information text to the console that describes the parameter mismatch in more detail.

Example:

```
NETVASIS INGE2E VERIFY JOBEAS=EVE2E CPATH=/local/ing/adapter
```

DISPCFG
Reads end-to-end adapter configuration files from the custom-root directory CPATH and displays them all one after another on the NetView WINDOW.

Example:

```
NETVASIS INGE2E DISPCFG CPATH=/local/ing/adapter
```

PREPARE
This function prepares the USS configuration files for the end-to-end adapter and completes the following:

1. creates necessary subdirectories within the custom-root directory,
2. copies all necessary configuration files from the install-root to the custom-root,
3. updates the configuration files with the input parameters.

Note: If the directory structure already exists then the command INGE2E PREPARE stops with an error message in order to prevent overwrite an existing configuration.

IPATH
Specifies the install path of the end-to-end adapter. The default install path is `/usr/lpp/ing/adapter`.

CPATH
Specifies the customization path of the end-to-end adapter. The function PREPARE or the end-to-end adapter writes into this directory.

All subdirectories are automatically created.

This is the subdirectory that for example contains the subdirectory /config or /data.

For example, /local/ing/adapter.

SERVER
Specify the end-to-end management server hostname.

JAVA
Optionally specify the 32-bit java home directory, for example, /local/java/a60/j6.0

You may omit this parameter if the default java runtime is already 32-bit java version 1.6.

Example:

```
NETVASIS INGE2E PREPARE IPATH=/user/lpp/ing/adapter
                CPATH=/local/ing/adapter
                SERVER=lnxe2e4x JAVA=/local/java/a60/J6.0
```

STOP_E2EAGT
Stops the E2E agent in a normal manner. This command is used in the SA automation policy. It's normally not issued manually by operators.

CLEANUP_E2EAGT
Cleans up the E2E agent when the E2E agent is not terminated normally, for example, after the E2E agent is canceled. It deregisters the E2E agent from the automation manager and cleans up internal data such as CGlobals. This command is used in the SA automation policy. It's normally not issued manually by operators.

DEBUG_E2EAGT
Specifies whether debugging the E2E agent is on or off.

> **ON**
> Switches on debugging the E2E agent for the REXX trace and for the Java logger.

> **OFF**
> Switches off debugging the E2E agent.

Example

To recycle the MOVE group E2EADPT_X/APG, specify:
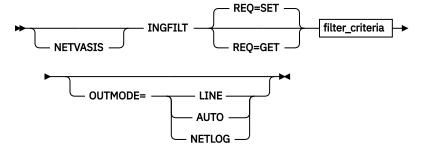
```
INGE2E RECYCLE,E2EADPT_X/APG
```

INGFILT
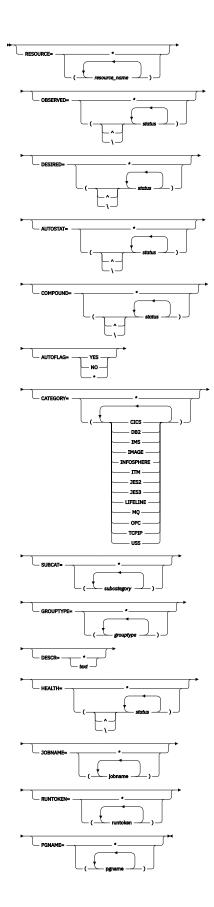
Purpose

The INGFILT command restricts the amount of information shown in the display. Use INGFILT to set a default filter for the operator's logon. If an asterisk (*) is specified, the filter is reset.

Syntax

filter_criteria

```
►►─┬─────────────────────────────────────────┬─►
   └─ RESOURCE= ─┬──────────── * ───────────┬─┘
                 │         ┌──────────────┐ │
                 └─ ( ─────┴─ resource_name ─┴─ ) ─┘

►►─┬──────────────────────────────────────┬─►
   └─ OBSERVED= ─┬──────── * ───────────┬─┘
                 │      ┌──────────┐     │
                 └─ ( ─┬┴─ status ─┴┬─ ) ─┘
                       └─ ^ ─┐
                             └─ ¬ ─┘

►►─┬─────────────────────────────────────┬─►
   └─ DESIRED= ─┬──────── * ───────────┬─┘
               │      ┌──────────┐     │
               └─ ( ─┬┴─ status ─┴┬─ ) ─┘
                     └─ ^ ─┐
                           └─ ¬ ─┘

►►─┬─────────────────────────────────────┬─►
   └─ AUTOSTAT= ─┬──────── * ──────────┬─┘
                 │     ┌──────────┐     │
                 └─ ( ─┬┴─ status ─┴┬─ ) ─┘
                       └─ ^ ─┐
                             └─ ¬ ─┘

►►─┬─────────────────────────────────────┬─►
   └─ COMPOUND= ─┬──────── * ──────────┬─┘
                 │     ┌──────────┐     │
                 └─ ( ─┬┴─ status ─┴┬─ ) ─┘
                       └─ ^ ─┐
                             └─ ¬ ─┘

►►─┬────────────────────────┬─►
   └─ AUTOFLAG= ─┬─ YES ─┬─┘
                 ├─ NO ──┤
                 └─ * ───┘

►►─┬─────────────────────────────────────┬─►
   └─ CATEGORY= ─┬──────── * ──────────┬─┘
                 │     ┌──────────────┐ │
                 └─ ( ─┴┬─ CICS ──────┬┴─ ) ─┘
                        ├─ DB2 ───────┤
                        ├─ IMS ───────┤
                        ├─ IMAGE ─────┤
                        ├─ INFOSPHERE ┤
                        ├─ ITM ───────┤
                        ├─ JES2 ──────┤
                        ├─ JES3 ──────┤
                        ├─ LIFELINE ──┤
                        ├─ MQ ────────┤
                        ├─ OPC ───────┤
                        ├─ TCPIP ─────┤
                        └─ USS ───────┘

►►─┬─────────────────────────────────────┬─►
   └─ SUBCAT= ─┬──────── * ────────────┬─┘
              │      ┌──────────────┐   │
              └─ ( ─┴─ subcategory ─┴─ ) ─┘

►►─┬─────────────────────────────────────┬─►
   └─ GROUPTYPE= ─┬──────── * ─────────┬─┘
                  │      ┌───────────┐  │
                  └─ ( ─┴─ grouptype ─┴─ ) ─┘

►►─┬───────────────────────┬─►
   └─ DESCR= ─┬─ * ──┬─┘
             └─ text ─┘

►►─┬─────────────────────────────────────┬─►
   └─ HEALTH= ─┬──────── * ────────────┬─┘
              │      ┌──────────┐       │
              └─ ( ─┬┴─ status ─┴┬─ ) ─┘
                    └─ ^ ─┐
                          └─ ¬ ─┘

►►─┬─────────────────────────────────────┬─►
   └─ JOBNAME= ─┬──────── * ───────────┬─┘
               │      ┌───────────┐     │
               └─ ( ─┴─ jobname ─┴─ ) ─┘

►►─┬─────────────────────────────────────┬─►
   └─ RUNTOKEN= ─┬──────── * ──────────┬─┘
                │      ┌───────────┐    │
                └─ ( ─┴─ runtoken ─┴─ ) ─┘

►►─┬─────────────────────────────────────┬─►◄
   └─ PGNAME= ─┬──────── * ────────────┬─┘
              │      ┌──────────┐       │
              └─ ( ─┴─ pgname ─┴─ ) ─┘
```

Parameters

NETVASIS
Prefix the INGFILT command with NETVASIS if you want to pass the description text in lower or mixed case.

REQ
Specifies the type of the request. The type can be:

SET
Sets new filter settings. This is the default. If no filter parameter is specified when the command is invoked, the appropriate value of the current filter settings is taken.

GET
Returns the current filter settings. Any filter parameter that is specified when the command is invoked will be added to the current filter settings.

filter_criteria
The filter criteria to be applied prior to displaying the data.

RESOURCE
Specifies the names of the resources to be displayed. The format is *name/type[/system]*. The resource names must be separated by a blank. Asterisks (*) can be used as wildcard characters.

OBSERVED
Specifies the observed statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to AV for available. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT OBSERVED=*.

If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Observed Status values and their shortest possible abbreviations: AVAILABLE (A), UNKNOWN (U), SYSGONE (SY), SOFTDOWN (SO), HARDDOWN (H), STARTING (STAR), DEGRADED (D), STOPPING (STO), PROBLEM (P), WASAVAILABLE (W), and STANDBY (STAN).

DESIRED
Specifies the desired statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to AV for available. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT DESIRED=*.

If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Desired Status values and their shortest possible abbreviations: AVAILABLE (A), UNAVAILABLE (U), and UNKNOWN (UNK).

AUTOSTAT
Specifies the automation status to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to ID for idle. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT AUTOSTAT=*.

If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Autostat Status values and their shortest possible abbreviations: UNKNOWN (U), IDLE (ID), ORDERED (O), BUSY (B), DENIED (D), PROBLEM (P), and INTERNAL (IN).

COMPOUND
Specifies the compound status. The statuses must be separated by a blank. It can be abbreviated, for example, to SA for satisfactory. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT COMPOUND=*.

If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Compound Status values and their shortest possible abbreviations: PROBLEM (P), DENIED (DEN), INHIBITED (INH), AWAITING (AW), INAUTO (INA), DEGRADED (DEG), and SATISFACTORY (S).

AUTOFLAG
Specifies the automation flag to be displayed. It can be either YES or NO, and can be abbreviated. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT AUTOFLAG=*.

CATEGORY

Specifies the IBM-defined or user-defined categories that the resource belongs to. More than one value can be specified. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

SUBCAT

Specifies the IBM-defined or user-defined subcategories of the resource. More than one value can be specified. The subcategory can contain wildcard characters. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). For compatibility reasons keyword SUBTYPE is still accepted.

GROUPTYPE

Specifies the type (nature) of the resource group. More than one value can be specified. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT GROUPTYPE=*.

DESCR

Specifies the text string as a filter. The text can contain wildcards. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character. You can also specify an asterisk (*) to reset the current filter setting. The DESCR parameter is case-sensitive. The text string must be enclosed in single or double quotation marks or parentheses() to maintain the case-sensitivity of the entry.

HEALTH

Specifies the desired health statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to NO for normal. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT HEALTH=*.

If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Health Status values and their shortest possible abbreviations: SYSGONE (S), UNKNOWN (U), NORMAL (N), WARNING (W), MINOR (M), CRITICAL (C), and FATAL (F).

JOBNAME

The jobname assigned to the resource. More than one jobname can be specified. Wildcards are supported. You can also specify an asterisk (*) to reset the current filter setting.

RUNTOKEN

The runtoken assigned to the resource. More than one runtoken can be specified. Wildcards are supported. You can also specify an asterisk (*) to reset the current filter setting.

PGNAME

The pacing gate assigned to the resource. More than one pacing gate can be specified. Wildcards are supported. You can also specify an asterisk (*) to reset the current filter setting.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

None.

Usage

The INGFILT command can also be used when SA z/OS is *not* initialized.

The INGFILT command lets you set filter options at operator logon from within the operator's initial REXX script.

Examples

If you enter `ingfilt` a panel similar to Figure 47 on page 125 is displayed.

```
INGKYFLT                SA z/OS  - Command Dialogs
Domain ID   = IPUFA     ---------- INGFILT  ----------     Date = 12/13/11
Operator ID = NETOP1                                       Time = 16:35:20

  Resources...            format:  name/type/system  or *am*/*/*
      *_____
      _____


  Observed status  ==>  *_____
  Desired  status  ==>  *_____
  Automation status ==> *_____
  Compound status  ==>  *_____
  Health status    ==>  *_____
  Automation flag  ==>  ____              Yes or No
  Category         ==>  *_____
  Subcategory      ==>  *_____
  Group type       ==>  *_____
  Job name(s)      ==>  *_____
  Description      ==>  *_____
  RunToken(s)      ==>  *_____
  Pacing gate(s)   ==>  *_____

Command ===>
 PF1=Help    PF2=End     PF3=Return     PF4=Clear     PF5=Reset      PF6=Roll
                                        PF9=Save                     PF12=Retrieve
```

Figure 47. INGFILT Command Dialog Panel

This panel shows the current INGLIST filters. The filter settings are kept in task globals, so when you next run INGLIST they will be used again. Press PF9 to save the currently displayed filters into these globals.

You can specify one or more of the following filters:

Resources
This is the list of resources in name/type/system format. You can also specify a wildcard.

Observed status
This is the list of observed statuses. You can abbreviate the status, for example, to AV for available. Any resources whose observed status is in the list is eligible for the display.

Desired status
This is the list of desired statuses. You can abbreviate the status. Any resources whose desired status is in the list is eligible for the display.

Automation status
This is the list of automation statuses. You can abbreviate the status. Any resource whose automation status is in the list is eligible for the display.

Compound status
This is the list of compound statuses. You can abbreviate the status. Any resources whose compound status is in the list is eligible for the display.

Health status
This is the list of health statuses. You can abbreviate the status. Any resource whose health status is in the list is eligible for the display.

Automation flag
This is the automation flag for the resource. Specify either YES or NO.

Category
This is the list of IBM-defined or user-defined categories that the resource belongs to. IBM defined-categories are for example CICS, IMS, DB2, OPC, USS, IMAGE, JES2, JES3, INFOSPHERE, LIFELINE, MQ or ITM.

Subcategory
This is the list of IBM-defined or user-defined subcategories that the resource belongs to.

For IBM-defined categories the following values might be used:

- CICS: AOR TOR FOR DOR QOR CMAS WUI
- DB2: MSTR SPAS IRLM DBM1 DIST WLMS ADMT

- IMS: CTL TP DBRC DLS FP BMP FDR
- ITM: TEMA, TEMS
- LIFELINE: ADVISOR AGENT
- OPC: CONTROLLER TRACKER SERVER DATASERVER

Group type
This is the type (nature) of the resource group. You can specify more than one group type.

Job Name
The job name assigned to the resource. You can specify more than one job name. Wildcards are supported.

Description
The description of the resource. Wildcards are supported.

Runtoken(s)
The runtoken assigned to the resource. You can specify more than one runtoken. Wildcards are supported.

Pacing gate(s)
The pacing gate assigned to the resource. You can specify more than one pacing gate. Wildcards are supported.

In order to be eligible for the display, a resource must match all filter criteria. An asterisk indicates that the filter has not been set.

Use the PF4 key to clear the currently established filter settings. The filter will contain an asterisk, meaning that the filter not set, or a blank.

Use the PF5 key to go back to the currently established filter settings.

Note: If INGFILT was called from INGLIST, the filters that are displayed take effect when you press Enter. If you press PF9 first, the filters will be saved.
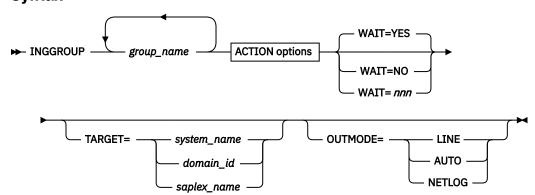
INGGROUP

Purpose
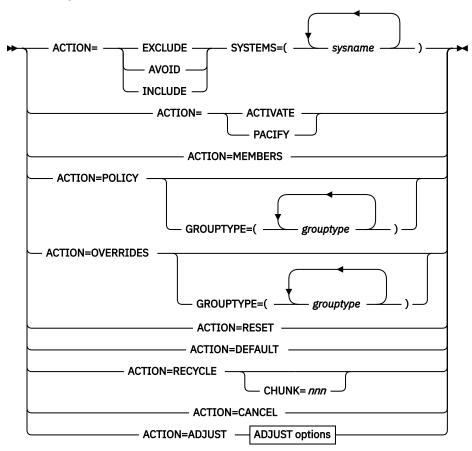
The INGGROUP command displays the members of a group and their settings. INGGROUP can also be used to:

- Move an application from one system to another by terminating the application and starting it on a system of your choice.
- Activate or deactivate a group.
- Adjust the availability or satisfactory target (server group only).
- Initiate or cancel the rolling recycle of a group.
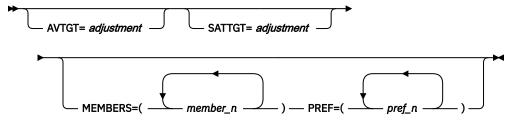
Syntax

ACTION options

ADJUST options

Parameters

group_name
This is a list of application groups, possibly including wildcards, that are to be the target of the command.

- For an ADJUST action, specify only a single application group.
- For an AVOID/INCLUDE/EXCLUDE action, you may specify several application groups.
- For an ACTIVATE/PACIFY action, you may specify several application groups.
- For a MEMBERS action, you may specify only a single application group.
- For the RECYCLE/CANCEL action, you may specify several application groups.

ACTION
Indicates that you want to remove movable members from a system (EXCLUDE), prohibit the manager from activating movable members on a system (AVOID) or that you want to undo either of the other two actions (INCLUDE).

EXCLUDE

Removes resources immediately from the excluded systems. This acts to disruptively force resources from a system.

AVOID

No new resources are moved to the system and those that are there are removed as scheduled service outages permit. This would be used to gradually (and non-disruptively) remove resources from a system in preparation for an Exclude at a later point in time (mainly to reduce the disruption caused by the Exclude). However, note that if there is no other way to maintain or restore application availability, groups choose to ignore avoidance policies.

For instance, when a group goes in recovery mode due to the failure of an active member, another member is started even when its system is in the avoided list. However, when all systems are avoided and a group is stopped and restarted, the group is put in the compound status of AWAITING and no member is started.

INCLUDE

The movement of resources to the system depends on the relative preferences of the resources on that system and on other systems. It is possible that the resources will not be moved to that system until the next scheduled service outage.

ACTIVATE

Changes the behavior of a group to active. If used on group that is already active, there is no effect. When a group becomes active, it will distribute votes to all of its non-passive members reflecting its nature and goals. Making a group active may cause some of its members to be stopped or started.

PACIFY

Changes the behavior of a group to passive. If used on group that is already passive, there is no effect. When a group becomes passive, it withdraws all votes that it has propagated to its members. Making a group passive may cause some of its members to either start or stop, depending upon the votes that it had propagated.

MEMBERS

Displays the group members and their settings.

POLICY

Displays the policies for the specified resource groups.

OVERRIDES

Displays the overrides for the specified resource groups that have been made with the INGGROUP command.

RESET

Sets the preference assigned to the members of the application group to its initial value. Applies only to MOVE and SERVER groups.

DEFAULT

Sets the following group policies to the values that are defined in the policy database:

- Availability and satisfactory target
- Preference value of group members
- Group passive attribute

RECYCLE

Causes a rolling recycle to be initiated for each selected server or move group.

Note: If you specify more than one group and any of them have common members, only one of the groups can be involved in a complete rolling recycle. The other groups are flagged as being involved in a partial recycle, that is, some of their members (possibly all of them) are being or have been recycled.

Specify CHUNK to indicate the number of server group members to recycle in parallel. Refer to CHUNK for further details.If the systems in a Server group all have the same preference value, the system that is active after a rolling recycle has completed may not be the same one as before the

rolling recycle. Thus, triggering a rolling recycle always results in a move occurring. If you set the preference of the original system more than 250 points higher than that of any other system, the rolling recycle is followed by a second move to return the application to that system. This leads to an increase in the application down time.

Note: Preference values do not influence the order in which resources are recycled. The resources of the group are recycled from last to first as they are displayed in the list of group members.

CANCEL
Causes any rolling recycles amongst the selected groups to be canceled.

ADJUST
Indicates that you want to temporarily adjust a group's policy.

SYSTEMS
Is the list of systems to be excluded or included. If no groups are specified, all application groups with resources in these systems are affected.

This parameter must be specified for INCLUDE, AVOID, and EXCLUDE actions.

GROUPTYPE
Specifies the type (nature) of the resource group. More than one value can be specified.

CHUNK
Indicates the number of SERVER group members to recycle in parallel.

Note: SA z/OS adjusts the chunk size to ensure that at least one group member is active at any time to avoid an application outage. This is the case when the chunk size is greater or equal to the number of active group members. However, the chunk size is only adjusted when it is possible in a meaningful way. For instance, when CHUNK=1 is specified and there is only one active SERVER group member, there is no possible adjustment and this last member will be recycled.

AVTGT
Specifies the availability target that is to be set for the group. The value, *n*, is a positive number. It specifies the number of group members that should be made available when the group has to be available.

You can also specify *, which resets the AVTGT parameter to the value that is specified in the policy database.

This parameter may only be specified for an ADJUST action.

For details of how the AVTGT changes apply, see SATTGT below.

SATTGT
Specifies the number of members in the group that must be active before the automation manager treats the group as being in a satisfactory state. The value must be a positive, decimal number. The parameter will be ignored for groups other than server groups.

You can also specify *, which resets the SATTGT parameter to the value specified in the policy database.

This parameter may only be specified for the ADJUST action.

Changes to target values, as set by the AVTGT and SATTGT parameters, apply in the following manner:

- The Availability and Satisfactory Target values in the automation policy are not affected.

- An adjustment value is calculated that, when applied to the corresponding target value in the automation policy, produces the "result" value. (See also the Application Group Resources Policy in *IBM System Automation for z/OS Defining Automation Policy*).

- The "result" target value is then used by the automation when a target value is required.

- The adjustment value, rather than the "result" value, is preserved when performing an automation manager HOT restart or an INGAMS REFRESH if the target is defined as *ALL in the automation policy. Alternatively, if the target value is explicitly defined to be numerically equal to the "Number

of selected Resources" in the automation policy, the "result" value is preserved rather than the adjustment.

MEMBERS

Specifies a list of group members that the preference value should be set for. Wildcards may not be used.

This parameter may only be specified on an ADJUST action.

PREF

Specifies a preference value that is to be used for each specified member. The number of values specified should be the same as the number of members specified. Each preference is an integer value that replaces the member's current preference value. You can also specify *, which resets the PREF parameter to the value that is specified in the policy database.

Preference values are used to determine which members in the group are selected to make the group active.

This parameter may only be specified on an ADJUST action when a list of members has been specified.

Changes to preference values, as set by the PREF parameter, apply in the following manner:

- The preference value in the automation policy is not affected.
- An adjustment value is calculated that, when applied to the preference value in the automation policy, produces the "result" value.
- The "result" preference value is then used by the automation when a preference value is required.
- The adjustment value, rather than the "result" value, is preserved when performing an automation manager HOT restart or an INGAMS REFRESH, but is lost during WARM and COLD restarts.

  If an adjustment was made via the INGGROUP or INGMOVE command and to the base preference via the customization dialogs, the current effective preference and the new base preference will be taken to calculate a new adjusted preference. As a result, the old effective preference will be preserved.

WAIT

Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

None.

Security Considerations

The INGGROUP command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	When action option is RECYCLE, CANCEL, RESET, DEFAULT, EXCLUDE, AVOID, or INCLUDE
	CONTROL	When action option is ACTIVATE, PACIFY, or ADJUST

Usage other than listed in the table does not cause a resource level security check. If multiple resources are affected, multiple resources are checked. The request is carried out or rejected as a whole.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

The INGGROUP command operates sysplexwide. For an overview, see "Overview of Commands that Operate Sysplexwide" on page 13.

Automation policy overrides that have been entered using the INGGROUP command are preserved when performing an automation manager HOT restart and an INGAMS REFRESH, but are lost during WARM and COLD restarts.

Examples

If you enter `inggroup` a panel similar to Figure 48 on page 131 is displayed.

```
INGKYGRA                 SA z/OS  - Command Dialogs
Domain ID   = IPUFA      ---------- INGGROUP ----------    Date = 09/17/08
Operator ID = NETOP1          Sysplex = AOCAPLEX           Time = 14:52:51


 Specify or revise the following data:

  Target     =>  _____   System name, domain id or sysplex name

  Action     =>  _____   EXCLUDE-AVOID-INCLUDE or ACTIVATE-PACIFY or
                            ADJUST or RESET DEFAULT or OVERRIDES, POLICY or
                            RECYCLE-CANCEL

  Opt.Parms =>  _____

  Group(s)  =>  _____
                _____
                _____
                _____
                _____

  System(s) =>  _____
                _____


Command ===>
 PF1=Help     PF2=End       PF3=Return   PF4=Members            PF6=Roll
                                         PF10=GO                PF12=Retrieve
```

Figure 48. INGGROUP Command Dialog Panel

This panel allows you to change the policy of application groups. You may specify:

- The target sysplex for the command with the **Target** field. If omitted, this defaults to the local system or sysplex. Specify the system name only when viewing or changing the policy of an application group that is not part of the local sysplex.
- The policy change that you want to make with the **Action** field. The policy options are explained below.
- Next, you must specify in the **Group(s)** field either the name of the target group or a set of templates that will match one or more groups. All policy items work with a list of group name templates, and apply to all Move and Server groups that match those names. Although applying a policy to a basic group is not an error, it will not achieve anything either.

  Note: A group name of $xxxx$ will be automatically expanded into $xxxx$/APG/*, except for ADJUST and MEMBERS actions.
- For the Exclude, Avoid, and Include policy items, you can specify a list names of systems that the policy is to be set for. Specify a question mark (?) to see the list of systems within the sysplex.

See the online help for details about the policy items that you can change.

After entering the appropriate information in the fields for the policy item that you want to change, press PF10 or Enter to make your changes active and proceed with the action.

You can press PF4 to display the members detail panel (Figure 50 on page 132), where you can fine-tune the group by changing the preferences of its individual members. If you do not specify a group on the main INGGROUP panel, a selection panel (Figure 49 on page 132) displays all the groups that are currently available, with the message `Multiple instances found for */APG`. Select one application group and press Enter.

```
AOFKSEL4                 SA z/OS  - Command Dialogs     Line   1   of 160
Domain ID   = IPUFA      ---------- INGGROUP ----------  Date = 10/27/09
Operator ID = NETOP1                                     Time = 15:54:24

Multiple instances found for */APG
Select one item to be processed, then press ENTER.

Sel  Name         Type System    Description
---  -----------  ---- --------  ----------------------------------------
 _   AMAPG        APG            APG for Automation Managers
 _   BASE_APPL    APG  AOCA      Base z/OS Applications
 _   BASE_APPL    APG  AOCB      Base z/OS Applications
 _   BASE_APPL    APG  AOCC      Base z/OS Applications
 _   BASE_APPL    APG  AOCD      Base z/OS Applications
 _   BASE_SUPP    APG  AOCA      Base z/OS Support Functions
 _   BASE_SUPP    APG  AOCB      Base z/OS Support Functions
 _   BASE_SUPP    APG  AOCC      Base z/OS Support Functions
 _   BASE_SUPP    APG  AOCD      Base z/OS Support Functions
 _   BASE_SYS     APG  AOCA      Base z/OS Components
 _   BASE_SYS     APG  AOCB      Base z/OS Components

Command ===>
     PF1=Help     PF2=End       PF3=Return
     PF6=Roll                   PF8=Forward                PF12=Retrieve
```

Figure 49. INGGROUP Command Dialog Selection Panel

The members detail panel, as shown in Figure 50 on page 132, allows you to change the preference policy values for the members of Move and Server groups.

```
INGKYGRB                 SA z/OS  - Command Dialogs     Line  1    of 3
Domain ID   = IPUFA      ---------- INGGROUP ----------  Date = 09/17/08
Operator ID = NETOP1                                     Time = 16:06:05

 Group: MOVPLEX1/APG                  Nature: Move          Passive: NO
 Description: Sysplex move group KEY1/SAT1/TSA1 pref.
 Excluded :
 Avoided  :
 Mode     : Normal    Availability Target: 1    Adjust: 0     Result=> 1___
 Move Mode: Parallel  Satisfactory Target=> 1___ Adjust: 0
 Rolling Recycle: COMPLETE

 Name         Type System    Pref   Adj    Result  Avl   Eff    Stat   Act
 -----------  ---- --------  ----  -----  ------  ----  ----   ----   ----
 MOVPLEX1     APL  SAT1       700      0    700   Yes   950    Sel    --
 MOVPLEX1     APL  SAT2       700      0    700   No    700    Uns    --
 MOVPLEX1     APL  SAT3       700      0    700   No    700    Uns    --



Command ===>
 PF1=Help    PF2=End       PF3=Return                        PF6=Roll
                           PF9=Refresh   PF10=GO    PF11=Reset  PF12=Retrieve
```

Figure 50. INGGROUP Command Dialog Panel Showing Members' Detail

On this panel you can change the values in the **Result** field to change the availability target for that server group. Also, in the **Result** column you can change the preference value for that member. The effective preference value is shown in the **Eff** column. (Preference value changes are also possible for Server groups).

Changes to preference values for members, as set with the **Result** field are implemented in the following manner:

1. The preference value in the automation policy is not affected.
2. An adjustment value is calculated, which produces the Result value, when it was applied to the preference value in the automation policy.
3. The Result preference value is used by the automation when a preference value is required.
4. The adjustment value, not the Result, is preserved across automation manager HOT restart and across INGAMS REFRESH, but is lost during WARM and COLD restarts.

To make your changes active, press PF10. To reset the initial settings, press PF11.

The action taken after PF10 is pressed may differ from the assumed or proposed action displayed in the action column of panel INGKYGRB. This is because the assumed or proposed action is calculated by processing the group's resources in alphanumeric sequence, while the actual action performed is calculated by the automation manager that processes the group's resources in a random sequence.

For further details about this panel and how to use it, and sample preference scenarios, see the online help.

Note: The avoid, exclude, and include parameters are only applied to the members of the group. They are not propagated further when the member is also a group.

To remove subsystems from the list of members that can be used, enter the following:
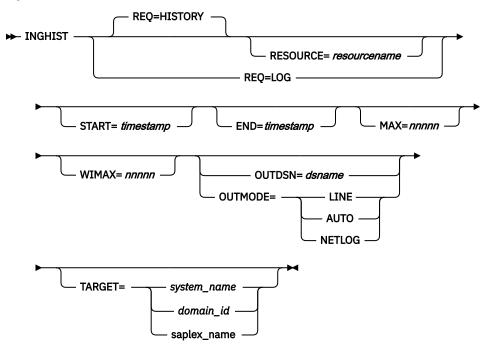
```
INGGROUP group1 TSO/APG ACTION=EXCLUDE
```

INGHIST

Purpose

The INGHIST command shows history information about the work item processed by the automation manager. It also lets you display messages that the manager issues to the system logger.

Syntax

Parameters

REQ

Specifies the request to be performed. It can have the following keywords:

HISTORY

Displays the work item history. This is the default.

LOG

Retrieves the messages written to the system logger by the automation manager.

RESOURCE

Specifies the name of the resource to be displayed. The format is *name/type[/system]*. The RESOURCE parameter can only be specified if REQ=HISTORY.

START

Is the start date and, optionally, time for the display of the history data. The format is yyyy-mm-dd [hh:mm:ss]. If omitted, the history data from the last hour will be displayed, unless another limiting parameter (resource name) is specified. If you specify more than one value, they must be enclosed with parentheses, or separated by a period (.), for example:

```
inghist resource=stdt000an1x start=(2000-03-10 08:00:00)
```

or

```
inghist resource=stdt000an1x start=2000-03-10.08:00:00
```

END

Is the end date and, optionally, time for the display of the history data. The format is yyyy-mm-dd [hh:mm:ss]. If you specify more than one value, they must be enclosed with parentheses, or separated by a period (.).

MAX

Specifies the maximum number of work items to be shown. Use this parameter to limit the output if many work items exist within the specified time period.

WIMAX

Specifies the maximum number of work item records to be shown after work item expansion. The value can be * to indicate unlimited or a value to limit expansion. The default is 10000. If the report becomes truncated then the message "***OUTPUT TRUNCATED***" will appear.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

To use INGHIST system operations does not have to be initialized.

Usage

The INGHIST command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Depending on the amount of history data, INGHIST can take up to minutes or hours to complete. In this case, you can filter the output by specifying the RESOURCE, START, END, MAX, or WIMAX parameters according to your needs.

Time-interval search criteria are entered in local time. However, because the history data is stored using GMT time stamps, it is necessary for INGHIST to convert the local-time search criteria to GMT before retrieving the data. This may make it necessary for the operator to make a manual adjustment to the

time-interval search criteria after a daylight-saving-time change has been set. The local-time-to-GMT conversion calculation will be one hour different after a daylight-saving-time change. Data written after a daylight-saving-time change will be retrieved as expected but data written before will be offset by one hour.

Examples

If you enter `inghist resource=stdt000an1x/apl/aoc7` a panel similar to is displayed.

```
 INGKYHI0                 SA z/OS  - Command Dialogs     Line  1    of 15
 Domain ID   = IPUFM      ---------- INGHIST  ----------    Date = 07/24/00
 Operator ID = AFRANCK        Sysplex = AOC7PLEX           Time = 14:20:46

  Start time ==>  _____     format: yyyy-mm-dd hh:mm:ss
  End time   ==>  _____     Resource ==>  STDT000AN1X/APL/AOC7

 Cmd:  + Expand workitem (e)    - Collapse workitem (c)
 Cmd Date       Time     Footprint
 --- ---------- -------- --------------------------------------------------------
  _  2000-07-24 14:18:32 Termination processing for STDT000AN1X/APL/AOC7
                         completed
  _  2000-07-24 14:18:30 Agent status for STDT000AN1X/APL/AOC7 = RESTART
  _  2000-07-24 14:18:29 No PRESTART commands to issue
  _  2000-07-24 14:18:29 Agent status for STDT000AN1X/APL/AOC7 = AUTODOWN
  _  2000-07-24 14:18:27 Shutdown in progress
  _  2000-07-24 14:18:25 Startup for STDT000AN1X/APL/AOC7 in progress
  _  2000-07-24 14:18:24 Agent status for STDT000AN1X/APL/AOC7 = AUTOTERM
  _  2000-07-24 14:18:23 Agent status for STDT000AN1X/APL/AOC7 = STARTED
  _  2000-07-24 14:18:20 No SHUTINIT commands to issue

 Command ===>
   PF1=Help     PF2=End        PF3=Return                  PF6=Roll
                               PF9=Refresh                 PF12=Retrieve
```

Figure 51. INGHIST Command Dialog Panel

The FIND/RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.
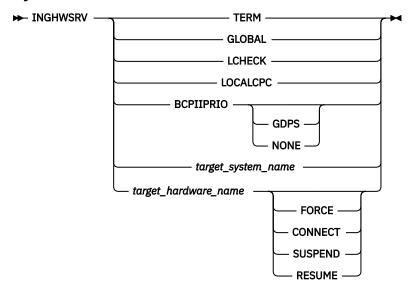
INGHWSRV

Purpose

This service and diagnostic command can help you to recover from SA-BCPii connection problems. It also can help to better handle planned Support Element re-boots, which normally would be disruptive to active SA-BCPii connections. The INGHWSRV command lets you:

- Terminate all BCP internal interface connections and disable the BCP internal interface for this SA agent instance
- Display Processor Operations and BCP internal interface NetView common global variables (CGLOBALs)
- Display specific target hardware or system NetView common global variables (CGLOBALs)
- Free control blocks that are associated with abended hardware system connection and clear hanging software locks
- Force to terminate the BCPii connection to a specified target hardware or establish a BCPii connection to this target hardware
- Permanently suspends the usage of a BCPii connection to the specified target hardware or resume from this connection mode afterwards
- Enforce BCPii session priority for nominated applications

Syntax

Parameters

TERM
Terminates all BCP internal interface connections and disable the BCP internal interface completely. An System Automation agent restart or an ACF COLD start may be required to re-establish the SA-BCPii again.

GLOBAL
Displays Processor Operations and BCP internal interface common global variables.

LCHECK
Scans NetView CGlobal pool for any available SA-BCPii lock variable and delete it. This command issues no additional message.

LOCALCPC
Returns the processor name of the local CPC as defined in the active PDB, followed by netid.nau address of the attached support element.

> **Note:** This data is returned in a PIPE KEEP, which has the name LOCALCPC.

BCPIIPRIO *appl_designator*
SA-BCPii protocol usage is shared between SA z/OS and applications like GDPS. Currently no serialization mechanism grants exclusive non-disruptive usage of an SA-BCPii session when needed.

The BCPIIPRIO flag allows you to prevent active SA-BCPii sessions from being terminated by SA z/OS.

While this flag is set, the internal SA-BCPii session management will not try to terminate SA-BCPii connections relevant for the application identified by the designator. The setting of this flag is not persistent. It must be set after each System Automation agent start. The scope of the flag is the System Automation agent where it was set. The currently supported *appl_designators* are:

GDPS
If the IBM Service Offering GDPS is installed, configured and running, SA_BCPii session terminations to processors also defined in the GEOPLEX domain/options of this System Automation agent will NOT be executed by the internal SA-BCPii session management. However, session terminations issued by GDPS or by using a INGHWSRV command function will still work.

NONE
Clears the existing BCPIIPRIO setting, if any. The internal SA-BCPii session management may now terminate active SA-BCPii sessions again.

Note, that specifying BCPIIPRIO without an *appl_designator* shows the current flag setting in WTO message ING823I.

target_system_name
> Displays NetView common global variables (CGLOBALs) for the specified target system name.

target_hardware_name **(no parameters)**
> Displays NetView common global variables (CGLOBALs) for the specified target hardware name.

target_hardware_name_FORCE
> Enforces termination of the BCPii connection to the target hardware.

target_hardware_name_CONNECT
> Establishes the BCPii connection to the target hardware.

target_hardware_name_SUSPEND
> The BCPii connection to the target hardware is put into SUSPENDED mode, a running connection is terminated before it is suspended. The only action possible for a suspended connection is RESUME.

target_hardware_name_RESUME
> A previously suspended BCPii connection is put back into normal mode. In that mode, a CONNECT can be issued again.

Restrictions and Limitations

This command is provided as a diagnostic service and recovery tool for SA-BCPii connections only. Do not use it for normal SA-BCPii operation. Be also aware of this restriction when this command is called from an automation script.

The setting of the BCPIIPRIO flag has side effects for 'INGAMS REFRESH' and 'ACF COLD' processing if processor/system/lpar related ACF data was changed. The internal SA-BCPii session management may trigger the termination and restart for one or multiple processor connections. With the flag set, the termination step is always skipped. The re-initialization of a still active SA-BCPii session will always end successfully, but configuration changes, if any, will not be picked up for this session.

Usage

You should use the FORCE option only after a connection failure to free control blocks that are associated with the target hardware name or as a last option to terminate a SA-BCPii session, if no other application provided method (for example, GDPS) is possible.

The CONNECT tries to start an asynchronous SA-BCPii session to the target hardware, but does not register for specific events. It is expected that applications (for example, GDPS) take care of this.

It is recommended to use SUSPEND as part of an operational procedure before allowing an IBM customer engineer (CE) to perform a repair or a MCL upgrade action which requires an SE reboot or restart. Use RESUME to recover a previously suspended SA-BCPii SE connection, once the IBM CE has ended the repair/upgrade action.

Note, that SA-BCPii application such as GDPS, may provide SUSPEND/RESUME support in their user interfaces or APIs. It is recommended to use the application-provided support in those cases.

A typical use case for BCPIIPRIO with GDPS would be to make sure, that before complex HW operations management actions like IPLs or CPC capacity changes are started, the flag is set and after successful execution set back to NONE again. This reduces the risk that an unwanted automatic SA-BCPii session management action is disruptive for your HW automation. Please note, that technical session problems cannot be avoided with this flag. This also applies to uncoordinated SE maintenance actions, which may require a SE reboot.
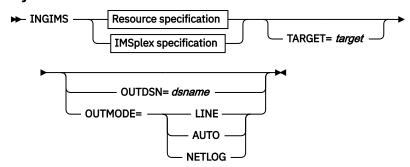
INGIMS

Purpose
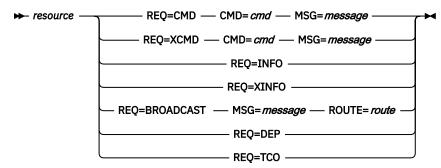
The INGIMS command lets you:

- Issue both type-1 and type-2 IMS commands, and to issue those commands against an IMSplex and its members.
- Broadcast messages to all or selected IMS users.
- Issue a list of defined transactions or commands and view the output.
- Display the output of IMS transactions in fullscreen or pipeable line mode.
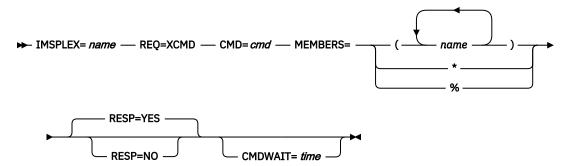
Syntax

Resource specification

IMSplex specification

Parameters

resource
> The resource specifies the name of the IMS subsystem that the command is issued to. The format is subsystem[/APL[/system]], where the subsystem is the specific name of the desired IMS subsystem and system is the name of the system that the IMS is running on.
>
> **Note:** If you specify REQ=XCMD or REQ=XINFO, SA z/OS determines the IMSplex name that the IMS subsystem belongs to and routes the command to that IMS.

REQ
> Specifies the request to be issued to the IMS subsystem. It can be one of the following:

CMD

Issues the specified IMS command or transaction and displays the results. The command is forwarded to IMS using its console interface.

Enclose the command in single or double quotation marks if the command and parameters contain spaces.

REQ=CMD is the default.

Note: Do not specify the prefix character, forward slash (/), for IMS commands.

XCMD

This is the same as CMD but the command is forwarded to IMS via the IMS Operations Manager if either the IMSPLEX parameter is specified or an IMSplex name for the given resource is available in the policy. IMS type 2 commands are also supported in that case. Otherwise the console interface is used that supports only type-1 commands. However, the output is formatted in the same way in either case.

Note: Do not specify the prefix character, forward slash (/), for IMS commands.

INFO

Issues a set of predefined commands and displays the results. The list of commands is obtained from the user-defined keyword-data pairs for the IMSINFO message ID in the policy of the subsystem that is specified by the resource name. The individual commands are executed as with CMD.

XINFO

This is the same as INFO but the individual commands are executed as with XCMD.

BROADCAST

Issues an IMS broadcast to all or selected users.

DEP

Displays the dependent region associated with the control region.

TCO

Displays the details about the IMS Timed Control Operations function.

IMSPLEX

Specifies the IMSplex name.

MEMBERS

Identifies a list of members where the command should be executed. It can be:

- Asterisk (*), which causes the command to be forwarded to all registered command processing clients in the IMSplex.
- Percent sign (%), which causes the command to be forwarded to one registered command processing client with MASTER capability.
- A list of member names or type identifiers, or both. The type identifiers are subcategories of the category IMS (that is, DBCTL, DCCTL, DBDC, or FDBR) and must be preceded by an asterisk, for example, *DCCTL or *FDBR. *CTL can be used as shorthand for "*DBCTL *DCCTL *DBDC".

MEMBERS is optional. If omitted the command is forwarded to all registered command processing clients.

RESP

Specifies whether output should be returned to the caller or not. RESP is optional and the default is YES

CMDWAIT

Specifies the maximum wait time for a command to complete. CMDWAIT is optional and the default is the value of CGLOBAL WAITTIME.

MSG

Specifies the message to be sent to all or selected IMS terminals or users for the REQ=BROADCAST request. Enclose the message in single or double quotation marks.

For REQ=CMD the MSG parameter can be used to contain a list of words that will be used to end processing if they are received anywhere in the output results. The words will normally be a required message ID. If no words are entered the CMD will be processed until any result is received.

ROUTE

Specifies the IMS routing information used to select the IMS terminals or users are to receive the message for a REQ=BROADCAST request. The contents of the ROUTE parameter are the parameters to be supplied to the /BRO transaction to route messages to IMS terminals or users. See the /BRO transaction for the details of the parameters for that transaction.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

To use the INGIMS command, system operations must be initialized. IMS subsystems must be enabled for system console commands using the MCS/E-MCS Console.

Usage

The INGIMS command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter `ingims` a panel similar to Figure 52 on page 140 is displayed.

```
EVIKYCMD                    SA z/OS  - Command Dialogs      Line
Domain ID   = IPSFM     ---------- INGIMS   ----------      Date = 06/08/09
Operator ID = NETOP1                                        Time = 15:08:38

Resource        => SREL1_____    -or-  IMSPlex name => _____
IMS Members     => _____
Target          => _____              System name, domain ID or sysplex name
Request         => XCMD_____            CMD or XCMD, INFO or XINFO, BROADCAST, DEP, TCO
IMS Command     => _____
    Response    => YES    Yes/No         Command wait time => 60_  (seconds)
IMS Route       => _____
IMS Message     => _____
                => _____




Command ===>
   PF1=Help    PF2=End       PF3=Return                    PF6=Roll
                             PF9=Refresh                   PF12=Retrieve
```

Figure 52. INGIMS Command Dialog Panel

- The **Resource** field shows the name of the IMS subsystem to be used for issuing the requests. The format is name/type[/system]. Wildcards are supported.
- The **IMSPlex name** field shows the name of the IMSplex.
- The **IMS Members** field identifies the members where the commands should be processed. The IMS is either named by its subsystem ID or its type identifier. Type identifiers are DB, DC, FDBR, CQS, and so on. You must prefix the type identifier with an asterisk (*), for example, *DBDC. You can use *CTL as shorthand for *DB *DC *DBDC.

- The **Target** field shows the name of the system (system name, domain ID, or sysplex name) that the command should be routed to. Specifying this is only necessary if the resources do not reside in the local sysplex.
- The **Request** field shows the request to be carried out. It can be CMD, BROADCAST, INFO, XCMD, or XINFO.

  Note: If you specify XCMD or XINFO, you must use either the **IMSPlex name** or **IMS Members** field, or both, to specify the destination of the request.
- The **IMS Command** field shows the IMS transaction to be executed on the IMS subsystem specified by the resource field.
- The **Response** field indicates whether the output should be returned to the caller.
- The **Command wait time** field specifies the maximum wait time for a command to complete. The default is the value of WAITTIME common global variable.
- The **IMS Route** field shows the routing parameters for the /BRO command when the request is BROADCAST.
- The **IMS Message** field shows the message to be sent to users/terminals for the BROADCAST request.

The output from the IMS transaction appears in the blank area below the **IMS Message** field.

If you specify, for example, INGIMS EIMSDBRC REQ=BROADCAST a panel similar to is displayed.

```
EVIKYCMD                    SA z/OS  - Command Dialogs      Line
Domain ID   = IPSFM     ---------- INGIMS   ----------     Date = 06/08/09
Operator ID = NETOP1                                       Time = 15:11:23

Resource      => EIMSDBRC/APL/AOC8        -or-  IMSPlex name => _____
IMS Members   => _____
Target        => _____          System name, domain ID or sysplex name
Request       => BROADCAST         CMD or XCMD, INFO or XINFO, BROADCAST, DEP, TCO
IMS Command   => BROADCAST_____
    Response  => ___     Yes/No      Command wait time => ___    (seconds)
IMS Route     => ACTIVE_____
IMS Message   => _____
              => _____




 Command ===>
    PF1=Help     PF2=End        PF3=Return                    PF6=Roll
                                PF9=Refresh                   PF12=Retrieve
```

Figure 53. INGIMS REQ=BROADCAST Command Dialog Panel

If you specify, for example, INGIMS REQ=XCMD CMD='DIS ACT' output similar to the following is displayed in a NetView window (which allows you to scroll through the output):

```
OM=IMSAA1OM Rc=00000000 Rsn=00000000
Master=MAC1 User=STCUSER Cmd=DIS ACT

MbrName  MsgData
MAA1      REGID JOBNAME    TYPE   TRAN/STEP PROGRAM  STATUS          CLASS
MAA1         4 IMSAA1M1    TP                        WAITING           1
MAA1           JMPRGN      JMP    NONE
MAA1           JBPRGN      JBP    NONE
MAA1           BATCHREG    BMP    NONE
MAA1         1 IMSAA1F1    FPM    NO MSG.   DFSIVP4
MAA1         3 IMSAA1F3    FPM    NO MSG.   DBFSAMP3
MAA1           DBTRGN      DBT    NONE
MAA1           IMSAA1RC    DBRC
MAA1           IMSAA1DL    DLS
MAA1      VTAM ACB OPEN          -LOGONS ENABLED
MAA1      IMSLU=N/A.N/A            APPC STATUS=DISABLED  TIMEOUT=   0
MAA1      OTMA GROUP=N/A      STATUS=NOTACTIVE
```

```
MAA1     APPC/OTMA SHARED QUEUE STATUS - LOCAL=INACTIVE    GLOBAL=INACTIVE
MAA1     APPC/OTMA RRS MAX TCBS -   40 ATTACHED TCBS -    1 QUEUED RRSWKS-
MAA1     APPLID=IPXAGIA1  GRSNAME=        STATUS=DISABLED
MAA1     LINE ACTIVE-IN -    1 ACTIV-OUT -    0
MAA1     NODE ACTIVE-IN -    0 ACTIV-OUT -    0
MAA1     *09139/155812*
```

If you specify, for example, `INGIMS REQ=XINFO` output similar to the following is displayed:

```
QUERY CQS DATA-------------------------------------------------------------

OM=IMSAA1OM Rc=00000000 Rsn=00000000
Master=MAC1 User=STCUSER Cmd=DIS CQS

MbrName  MsgData
MAA1     DFS4444I DISPLAY FROM ID=MAA1
MAA1          JOBNAME   VERS#  STATUS
MAA1          IMSAA1SQ   1.5  CONNECTED
MAA1          *09148/174750*
DISPLAY COORDINATOR CONTROLLERS--------------------------------------------

OM=IMSAA1OM Rc=00000000 Rsn=00000000
Master=MAC1 User=STCUSER Cmd=DIS CCTL

MbrName  MsgData
MAA1     DFS4444I DISPLAY FROM ID=MAA1
MAA1          CCTL              STATUS
MAA1          IMSAA1SQ   1.5  CONNECTED
MAA1          *09148/174715*
```

Note that a separator line is inserted between the individual command outputs.

You can issue a command against members of an IMSplex with the IMSPLEX parameter, for example:

```
INGIMS IMSPLEX=IMXPLEX_1 MEMBERS=*CTL REQ=XCMD CMD='QUERY AREA' OUTMODE=LINE
```

If you wish to view IMS dependent regions, use the INGIMS command dialog with REQ=DEP and the following screen is displayed:

```
EVIKYDP0                 SA z/OS  - Command Dialogs     Line  1     of 5
Domain ID   = IPSFP      ---- Dependent Regions -----    Date = 08/03/07
Operator ID = OPER                                       Time = 12:44:37
Control Reg.= IMSCTL/APL/KEY4
CMD: A Update    B Start     C Stop      D INGRELS   E INGVOTE   F INGINFO
     H DISPTRG   I INGSCHED  N /ASSIGN   P /PSTOP                / scroll
CMD Name         Type System Reg.Id Type Trans/Step Program  IMS Status
--- ----------- ---- ------ ------ ---- ---------- -------- ----------------
 _   IMSDBRC     APL  KEY4          DBRC
 _   IMSDLS      APL  KEY4          DLS
 _   IMSFP1      APL  KEY4   1      FPME NO MSG.    DFSIVP4
 _   IMSMP1      APL  KEY4   2      TP                       WAITING
 _   IMSPPI      APL  KEY4   3      BMP  IMS941PP   EVIRYPPI




 Command ===>
  PF1=Help    PF2=End      PF3=Return                       PF6=Roll
                           PF9=Refresh PF10=Previous PF11=Next    PF12=Retrieve
```

Figure 54. IMS Dependent Regions Panel

INGINFO

Purpose

INGINFO displays details about a particular group or resource from the automation manager point of view.

Syntax

Parameters

resource
Specifies the name of the resource to be displayed. The format is *name/type[/system]*.

NOHIST
Specifies that no history information should be included in the display.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

None.

Usage

The INGINFO command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter, for example, `inginfo TPXA/APL/KEY3` a panel similar to Figure 55 on page 144 is displayed.

```
INGKYIN0                   SA z/OS  - Command Dialogs       Line  1    of 901
Domain ID   = IPSNO        ---------- INGINFO  ----------   Date = 05/25/06
Operator ID = NETOP1            Sysplex = KEY1PLEX          Time = 11:06:35

 Resource   ==>  TPXA/APL/KEY3_____ format: name/type/system
 Target     ==>  _____       System name, domain ID or sysplex name

 Resource   : TPXA/APL/KEY3
 Description : Simulated subsystem

 Status...
    Observed Status   : AVAILABLE
    Desired  Status   : AVAILABLE
    Automation Status : IDLE
    Startable Status  : YES
    Compound Status   : SATISFACTORY     Last changed : 2006-05-24 06:19:24
    Health Status     : N/A

 Dependencies...
    PreStart          : Satisfied
    Start             : Satisfied

Command ===>
 PF1=Help     PF2=End      PF3=Return    PF4=DISPINFO          PF6=Roll
              PF8=Forward  PF9=Refresh                         PF12=Retrieve
```

Figure 55. INGINFO Command Dialog Panel

This panel shows detailed information about the specified resource that includes:

- Resource statuses and dependencies
- Resource settings
- Relationships that have been defined for the resource
- Requests that have been issued against resource
- Votes that are pending for the resource
- History data that has been collected for the resource

There are two input fields, **Resource** and **Target**, where you can specify the name of the resource and the system that is to be queried. You can specify a wildcard for the resource name. Specify the system name only when obtaining details about a resource that is not part of the local sysplex.

If the specified resource name is not unique a selection panel will be displayed where you can select the resource concerned. You can either enter a resource name to get details about the resource, or press the PF9 key to refresh the information about the current resource.

If the resource is of type APL (that is, application), you can use the PF4 key to invoke the DISPINFO command to obtain details about the resource from the automation agent point of view. PF4 invokes DISPMTR when the resource is a monitor resource, DISPAPG when the resource is an application group (that is, type APG), and it invokes DISPSYS when the resource is a system resource (that is, SYS).

If the resource is of type APL (that is, application) and is also associated with a pacing gate, you can use the PF5 key to invoke the INGPAC command to obtain information about this pacing gate. The PF5 key is not shown for applications that are not linked to a pacing gate and also not shown for any other resource type.

You can use the FIND(F) and RFIND(RF) subcommands to search the displayed data for a specific string. The line containing the string is then displayed as top line of the display. For example, to locate the line containing "abc" enter FIND abc. Optionally you may add the direction parameter, which is either P (previous) or N (next). The default is next. When you want to locate the next or previous occurrence of the string, enter RFIND or RF optionally followed by the direction.

Notes:

1. The history data is stored using GMT time stamps so it is necessary for INGINFO to convert these time stamps to local-time before displaying the data. The GMT-to-local-time conversion calculation will be one hour different after a daylight-saving-time change. Data written after a daylight-saving-time change will be retrieved as expected but data written before will be offset by one hour.

2. For groups, you may see `Failed  :`Yes under the heading **Group Details....**. This Group Failed flag is set when any member of the group (Basic, Move or Server) enters a HardDown state (CTLDOWN, BROKEN, STOPPED). The flag will not be cleared automatically by a subsequent successful (re)start of the APG's members. It remains set until manually cleared. Its sole purpose is to support the MakeAvailable/passive/WhenGroupHasNotFailed relationship. The usage is for situations where the (re)start of a dependent resource must be prevented until a certain recovery-related action has been performed. There are two ways to clear the flag manually:
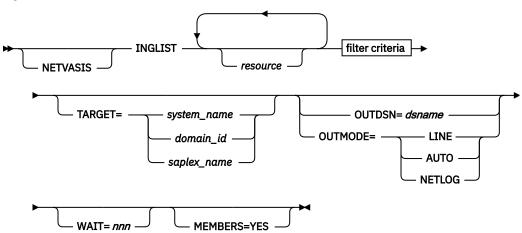
> via the INGSET command (INGSET SET resource GRPFAILED=NO)
>
> via the option 'A Update' from the INGLIST command. On panel INGKYST1, the group failed flag can be manipulated under the option '5. Set Group Failed Flag ___(Yes or No)'.

INGLIST
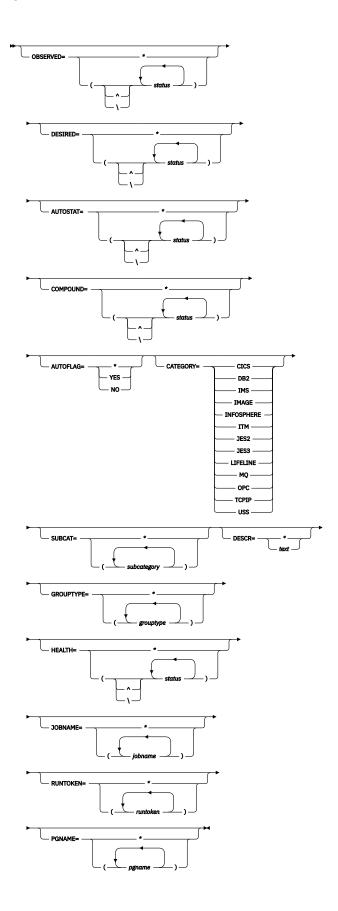
Purpose

The INGLIST command displays details about one or more resources.

Syntax

filter criteria

```
►►─┬─ OBSERVED= ─┬────────────── * ──────────────┬─►
   │             │   ┌──────────────◄──────────┐ │
   │             └─(─┼──────┬──── status ─┬──)──┘ │
   │                 ├─ ^ ──┤             │       │
   │                 └─ \ ──┘             │       │
   │                                              │
   ├─ DESIRED= ─┬────────────── * ──────────────┬─┤
   │            │   ┌──────────────◄──────────┐ │
   │            └─(─┼──────┬──── status ─┬──)──┘ │
   │                ├─ ^ ──┤             │       │
   │                └─ \ ──┘             │       │
   │                                             │
   ├─ AUTOSTAT= ─┬────────────── * ─────────────┬─┤
   │             │   ┌────────────◄──────────┐  │
   │             └─(─┼──────┬──── status ─┬──)┘  │
   │                 ├─ ^ ──┤                     │
   │                 └─ \ ──┘                     │
   │                                              │
   ├─ COMPOUND= ─┬────────────── * ─────────────┬─┤
   │             │   ┌────────────◄──────────┐  │
   │             └─(─┼──────┬──── status ─┬──)┘  │
   │                 ├─ ^ ──┤                     │
   │                 └─ \ ──┘                     │
```

```
   ├─ AUTOFLAG= ─┬─ * ───┬─┬─ CATEGORY= ─┬─ CICS ──────┬─┤
   │             ├─ YES ─┤ │             ├─ DB2 ───────┤ │
   │             └─ NO ──┘ │             ├─ IMS ───────┤ │
   │                       │             ├─ IMAGE ─────┤ │
   │                       │             ├─ INFOSPHERE ┤ │
   │                       │             ├─ ITM ───────┤ │
   │                       │             ├─ JES2 ──────┤ │
   │                       │             ├─ JES3 ──────┤ │
   │                       │             ├─ LIFELINE ──┤ │
   │                       │             ├─ MQ ────────┤ │
   │                       │             ├─ OPC ───────┤ │
   │                       │             ├─ TCPIP ─────┤ │
   │                       │             └─ USS ───────┘ │
```

```
   ├─ SUBCAT= ─┬──────────── * ───────────┬─┬─ DESCR= ─┬─ * ───┬─┤
   │           │   ┌───────◄────────┐     │ │          └─ text ┘ │
   │           └─(─┴── subcategory ──┴──)─┘ │                    │
   │                                                             │
   ├─ GROUPTYPE= ─┬──────────── * ───────────┬───────────────────┤
   │              │   ┌───────◄────────┐     │
   │              └─(─┴── grouptype ──┴──)───┘
```

```
   ├─ HEALTH= ─┬────────────── * ──────────────┬─┤
   │           │   ┌──────────────◄──────────┐ │
   │           └─(─┼──────┬──── status ─┬──)──┘ │
   │               ├─ ^ ──┤                      │
   │               └─ \ ──┘                      │
   │                                             │
   ├─ JOBNAME= ─┬──────────── * ───────────┬─────┤
   │            │   ┌───────◄────────┐     │
   │            └─(─┴── jobname ──┴──)─────┘
   │
   ├─ RUNTOKEN= ─┬──────────── * ───────────┬────┤
   │             │   ┌───────◄────────┐     │
   │             └─(─┴── runtoken ──┴──)────┘
   │
   └─ PGNAME= ─┬──────────── * ───────────┬──────►◄
              │   ┌───────◄────────┐     │
              └─(─┴── pgname ──┴──)──────┘
```

Parameters

NETVASIS

Prefix the INGLIST command with NETVASIS if you want to pass the description text in lower or mixed case.

resource

Specifies the name of the resources to be displayed. The format is *name/type[/system]*. It can be a list of names. The resource names must be separated by a blank. Asterisks (*) and a percentage sign (%) can be used as wildcard characters.

filter criteria

The filter criteria to be applied prior to displaying the data. See also "INGFILT" on page 121 for further information. The following values can occur:

OBSERVED

Specifies the observed statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to AV for available. If '^' or '\' is used, all statuses except the ones you specify are displayed. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). Here is a list of possible Observed Status values and their shortest possible abbreviations: AVAILABLE (A), UNKNOWN (U), SYSGONE (SY), SOFTDOWN (SO), HARDDOWN (H), STARTING (STAR), DEGRADED (D), STOPPING (STO), PROBLEM (P), WASAVAILABLE (W), and STANDBY (STAN).

DESIRED

Specifies the desired statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to AV for available. If '^' or '\' is used, all statuses except the ones you specify are displayed. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). Here is a list of possible Desired Status values and their shortest possible abbreviations: AVAILABLE (A), UNAVAILABLE (U), and UNKNOWN (UNK).

AUTOSTAT

Specifies the automation status to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to ID for idle. If '^' or '\' is used, all statuses except the ones you specify are displayed. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). Here is a list of possible Autostat Status values and their shortest possible abbreviations: UNKNOWN (U), IDLE (ID), ORDERED (O), BUSY (B), DENIED (D), PROBLEM (P), and INTERNAL (IN).

COMPOUND

Specifies the compound status. The statuses must be separated by a blank. It can be abbreviated, for example, to SA for satisfactory. If '^' or '\' is used, all statuses except the ones you specify are displayed. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). Here is a list of possible Compound Status values and their shortest possible abbreviations: PROBLEM (P), DENIED (DEN), INHIBITED (INH), AWAITING (AW), INAUTO (INA), DEGRADED (DEG), and SATISFACTORY (S).

AUTOFLAG

Specifies the automation flag to be displayed. It can be either YES or NO and can be abbreviated. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

CATEGORY

Specifies the IBM-defined or user-defined category that the resource belongs to. More than one value can be specified. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

SUBCAT

Specifies the IBM-defined or user-defined subcategory of the resource. More than one value can be specified. The subcategory can contain wildcard characters. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command). For compatibility reasons keyword SUBTYPE is still accepted.

DESCR

Specifies the text string used as a filter. The text can contain wildcards. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character. The DESCR parameter is case-sensitive. The text string must be enclosed in single or double quotation marks or parentheses() to maintain the case-sensitivity of the entry. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

GROUPTYPE

Specifies the type (nature) of the resource group. More than one value can be specified. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

HEALTH

Specifies the desired health statuses to be displayed. The statuses must be separated by a blank. It can be abbreviated, for example, to NO for normal. You can also specify an asterisk (*) to reset the current filter setting, for example, INGFILT HEALTH=*. If '^' or '\' is used, all statuses except the ones you specify are displayed. Here is a list of possible Health Status values and their shortest possible abbreviations: SYSGONE (S), UNKNOWN (U), NORMAL (N), WARNING (W), MINOR (M), CRITICAL (C), and FATAL (F).

JOBNAME

The jobname assigned to the resource. More than one jobname can be specified. Wildcards are supported. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

RUNTOKEN

The runtoken assigned to the resource. More than one runtoken can be specified. Wildcards are supported. If an asterisk (*) is specified, the filter is reset (the filter previously set by the INGFILT command).

PGNAME

The pacing gate assigned to the resource. More than one pacing gate can be specified. Wildcards are supported. You can also specify an asterisk (*) to reset the current filter setting.

For further information about statuses, see *IBM System Automation for z/OS User's Guide.*

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17. Note, however, that for the INGLIST command the minimum record length of the output data set is 256 bytes.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

MEMBERS

Displays the members of resource groups that match the filter criteria. The only valid specification is YES. MEMBERS=NO is accepted but does not have any meaning.

Note: When specifying MEMBERS=YES only one resource name can be specified and it must be fully specified.

Restrictions and Limitations

None.

Usage

The INGLIST command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter `inglist`, you will see information about all automated resources, as shown in Figure 56 on page 149.

```
INGKYST0                   SA z/OS  - Command Dialogs     Line  1    of 12
Domain ID   = IPXF1        -------- INGLIST    ---------    Date = 02/07/17
Operator ID = NETOP1            Sysplex = KEYABC_X           Time = 17:27:19
 A Update   B Start   C Stop    D INGRELS  E INGVOTE  F INGINFO  G Members
 H DISPTRG  I INGSCHED J INGGROUP K INGCICS  L INGIMS   M DISPMTR  P INGPAC
 R Resume   S Suspend  T INGTWS   U User     X INGWHY  /
scroll
CMD Name         Type System   Sus Compound     Desired      Observed   Nature
--- ----------- ---- -------- --- ------------ ----------- ---------- --------
 _  RGT#PS1      APG              SATISFACTORY AVAILABLE    AVAILABLE  BASIC
 _  RGT#PS1      APL  KEYA        SATISFACTORY AVAILABLE    AVAILABLE
 _  RGT#PS1      APL  KEYB        SATISFACTORY AVAILABLE    AVAILABLE
 _  RGT#PS1      APL  KEYC        SATISFACTORY AVAILABLE    AVAILABLE
 _  RGT#PS2      APG              SATISFACTORY UNAVAILABLE  SOFTDOWN   BASIC
 _  RGT#PS2      APL  KEYA        SATISFACTORY UNAVAILABLE  SOFTDOWN
 _  RGT#PS2      APL  KEYB        SATISFACTORY UNAVAILABLE  SOFTDOWN
 _  RGT#PS2      APL  KEYC        SATISFACTORY UNAVAILABLE  SOFTDOWN
 _  RGT#PS3      APG              SATISFACTORY AVAILABLE    AVAILABLE  MOVE
 _  RGT#PS3      APL  KEYA        SATISFACTORY UNAVAILABLE  SOFTDOWN
 _  RGT#PS3      APL  KEYB        SATISFACTORY AVAILABLE    AVAILABLE
 _  RGT#PS3      APL  KEYC        SATISFACTORY UNAVAILABLE  SOFTDOWN

Command ===>
 PF1=Help    PF2=End      PF3=Return   PF4=DISPSTAT  PF5=Filters   PF6=Roll
             PF8=Forward  PF9=Refresh PF10=Previous PF11=Next     PF12=Retrieve
```

Figure 56. INGLIST Command Dialog Panel

The amount of data depends on the screen size. Press PF10/11 to scroll horizontally.

Use the PF5 key to restrict the list of resources to be displayed. This causes the INGFILT panel to be displayed, where you specify the filter criteria to be used for the display.

You can use the PF4 key to toggle to the DISPSTAT panel to view the same resources, but now from the automation agent viewpoint. To return to the INGLIST panel press the PF3 key on the DISPSTAT panel. Note that pressing PF4 on the DISPSTAT panel displays the INGLIST panel for all resources shown in the DISPSTAT panel. However, this might not be the same as the original INGLIST display because the DISPSTAT display might be modified due to filtering or suppressing of resources that the automation agent does not handle, such as application groups.

This panel displays the following information:

- The **CMD** field lets you specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  A

  Resets the status of the resource or application group (observed status, automation status). Sets or resets attributes that are assigned to the resource. The automation agent status can also be updated if you enter this command code. See "Setting the Status or Attribute of a Resource or Application Group" on page 152.

  B

  Calls the INGREQ command dialog to make the resource available. See "INGREQ" on page 203 for further information.

  C

  Calls the INGREQ command dialog to make the resource unavailable. See "INGREQ" on page 203 for further information.

D

Displays dependency information and its evaluation for the resource.

E

Invokes the INGVOTE command, showing all requests currently present for the resource. Allows the operator to cancel a request.

F

Shows details about the resource by invoking the INGINFO command.

G

Shows all members for the selected application group or processor in a new window.

H

Invokes the DISPTRG command to show the trigger definitions for the selected resource.

I

Invokes the INGSCHED command to show the resource overrides for the selected resource.

J

Invokes the INGGROUP ACTION=MEMBERS command to show member details.

K

Invokes the INGCICS command using the selected resource.

L

Invokes the INGIMS command using selected resource.

M

Invokes the DISPMTR command to show the monitors that have been defined for the selected resource.

P

Invokes the INGPAC command using the selected resource.

R

Calls the INGSUSPD command dialog to resume automation for the resource. See "INGSUSPD" on page 243 for further information.

S

Calls the INGSUSPD command dialog to suspend automation for the resource. See "INGSUSPD" on page 243 for further information.

T

Invokes the INGTWS command using selected resource.

U

Invokes the AOFEXC04 user exit if it has been installed.

X

Invokes the INGWHY command. The X character queries the automation manager and various agents for the reasons why a resource is in the displayed status or why it cannot be brought into the desired status. See "INGWHY" on page 265 for further information.

- The **Name** field shows the name of the resource.
- The **Type** field shows the type of the resource.
- The **System** field shows where the resource is defined.
- The **Sus** field shows whether the resource is suspended or not. No automation is done for the resource if it is suspended.
- The **Compound** field shows the compound status of the resource. This is a summary of all statuses of the resource and provides a single value to check the status of a resource.
- The **Desired** field shows the status that the automation manager is trying to move the resource to. It can either be available or unavailable.
- The **Nature** field applies to group resources only and defines the type of the group. It can have the following values:

BASIC
　　Indicates that the group contains a number of different resources, all of which perform different roles to constitute a complete application.

MOVE
　　Indicates that the group contains alternate instances of the same resource.

SERVER
　　Indicates that the group contains a number of readily interchangeable resources. The group has a target that tells the automation manager how many of them should be made available for the group to be available.

- The **Automation** field shows the status representing the automation agents' automation for the resource.
- The **Startable** field indicates whether or not it is possible to start the resource if the automation manager is asked to do so at this point in time.
- The **Health** field shows the health status of the resource.
- The **Auto** field shows the automation flag that is maintained by the automation manager. No automation is performed for the resource by the automation manager if the flag is off.
- The **Hold** field shows the hold flag that is maintained by the automation manager.
- The **Description** field shows descriptive information about the resource.
- The **Starttype** field shows the preset start type to be used the next time the resource is made available (started). This value is set by INGSET and will override any TYPE value specified (or defaulted) on the next INGREQ start request.
- The **Stoptype** field shows the preset stop type to be used the next time the resource is made unavailable (shutdown). This value is set by INGSET and will override any TYPE value specified (or defaulted) on the next INGREQ stop request. However, a stop type of FORCE, wherever specified, will always be honored.
- The **Trigger** field shows the trigger that is associated with the resource.
- The **Schedule** field shows the schedule (service period) that the resource is linked to.
- The **Category** field shows the IBM-defined or user-defined category of the resources. For IBM-defined categories, these might be CICS, DB2, or IMS.
- The **Subcategory** field shows the IBM-defined or user-defined subcategories of the resource. For IBM-defined the resource categories might be CICS, DB2, IMS, OPC, INFOSPHERE, LIFELINE, MQ and ITM.
- The **Jobname** field shows the job name assigned to the resource.
- The **Qual** field indicates how a resource qualifies for the current runmode. There are three indicators:

  G
  　　Resource qualifies because it is in one or more groups that qualify.

  R
  　　Resource qualifies because it was explicitly added via the INGRUN command.

  T
  　　Resource qualifies because of its runtokens.

- The **Inform List** field shows the list of specified targets (such as SDF) that receive application status changes.
- The **DDS** field shows the default desired status of the resource.
- Resources can be associated with a pacing gate during startup and shutdown phases to control how many resources can be started or stopped concurrently. For such resources the following information is available:

  Pacing Gate
  　　The name of the pacing gate that is associated with this resource.

Pacing Status

The pacing status of the resource. The following status values exist:

blank

The resource is not associated with a pacing gate.

Inactive

There is no activity in any of the pacing gates associated with the resource.

Waiting

The resource is waiting for transition through a pacing gate.

Starting

The resource is currently in transition through the pacing gate to become AVAILABLE.

Stopping

The resource is currently in transition through the pacing gate to become UNAVAILABLE.

Different colors are used to indicate when a particular status is regarded as abnormal:

- A desired status of UNAVAILABLE is shown in blue.
- A compound status of PROBLEM is shown in red, DENIED and INHIBITED are shown in pink, while a compound status of DEGRADED is shown in yellow.
- An observed status of HARDDOWN or PROBLEM is shown in red, while an observed status that is not in line with the desired status is shown in yellow.

Additionally you can use the following command codes:

- The slash character (/) to make the selected line the first line of the display.

The SORT, FIND, and RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

Setting the Status or Attribute of a Resource or Application Group

If you enter command code A for a resource, a panel similar to Figure 57 on page 152 is displayed.

```
 INGKYST1                    SA z/OS  - Command Dialogs
 Domain ID   = IPUFP      ---------- INGLIST  ----------   Date = 04/08/05
 Operator ID = NETOP1          Sysplex = KEY1PLEX          Time = 17:25:08

  Resource . . : AM/APL/KEY4
  Description. : Primary Automation Manager

  Action to be performed  ==>   __                        current setting
   1. Set START Type    _____
             Parm    _____
   2. Set STOP  Type    _____
             Parm    _____
   3. Set Automation Flag  NO                              YES
   4. Set Hold Flag   YES                                  NO
   5. Set Group failed flag    ___ (Yes or No)

   6. Set Observed Status      _____               AVAILABLE
   7. Set Automation Status    _____               IDLE
   8. Set Agent Status         _____               UP


 Command ===>
    PF1=Help     PF2=End      PF3=Return                   PF6=Roll
                                                          PF12=Retrieve
```

Figure 57. INGLIST Command Dialog Panel To Update Status

Use this panel to update the observed or automation status of the selected resource, or to modify other resource settings. In detail, you can:

- Set the start or stop type to be used the next time
- Turn the automation manager's Global Automation flag on or off

The automation manager checks the Global Automation flag before it sends any order to the automation agent to start or stop the specific resource. The purpose of this flag is to prevent (if flag is set to NO) or enable (if flag is set to YES) the starting or stopping of resources from the point of view of the automation manager. This can be done for resources that reside on systems that are currently inactive, for example, to prevent the startup of the resource at IPL time of the system.

- Turn the automation manager's Hold flag on or off

The Hold flag specifies whether the resource is to be started. The Hold flag can be set only if the resource is down, that is if its observed status is either HardDown, SoftDown, SysGone, or Unknown. When the Hold flag is set to YES, the specific resource is set in compound status of DENIED unless there is a start request or a vote against it.

For instance, when an APL with default desired status of AVAILABLE is a member of a BASIC group and it has no other vote against it, this APL will be in status DENIED. When an operator issues a start request for it, the APL is started.

- Turn the Group Failed flag on or off

The Group Failed flag is set when any member of the group (BASIC, MOVE, or SERVER) enters a HardDown state (CTLDOWN, BROKEN, or STOPPED). The flag is not cleared automatically by a subsequent successful start or restart of the APG's members. It remains set until manually cleared. Its sole purpose is to support the MakeAvailable/passive/WhenGroupHasNotFailed relationship. The usage is for situations where the start or restart of a dependent resource must be prevented until a certain recovery-related action is performed.

- Update the observed status
- Update the automation status
- Update the agent status

Fill in the following fields:

Action
This identifies what to update. This is a one-digit numeric character ranging from 1 to 8. Depending on the specified action, fill out the appropriate field.

START type
Specify the new start type if action 1 is entered. Specify a question mark (?) to see a list of defined startup types. To reset the start type to its default, specify NORM.

STOP type
Specify the new stop type if action 2 is entered. Valid shutdown types are NORM, IMMED, and FORCE. To reset the stop type to its default, specify NORM.

Group failed flag
Specify YES or NO if action 5 is entered.

Observed Status
Specify the new observed status if action 6 is entered. You can abbreviate the observed status, for example, you can enter AV for available. Here is a list of possible observed status values and their shortest possible abbreviations: AVAILABLE (A), UNKNOWN (U), SYSGONE (SY), SOFTDOWN (SO), HARDDOWN (H), STARTING (STAR), DEGRADED (D), STOPPING (STO), PROBLEM (P), WASAVAILABLE (W), and STANDBY (STAN).

Automation Status
Specify the new automation status if action 7 is entered. You can abbreviate the automation status. Here is a list of possible Automation Status values and their shortest possible abbreviations: UNKNOWN (U), IDLE (ID), ORDERED (O), BUSY (B), DENIED (D), PROBLEM (P), and INTERNAL (IN).

Agent status
Specify the automation agent status if action 8 is entered. The agent status can be one of the following: CTLDOWN, RESTART, UP, MOVED, AUTODOWN, or ENDED.

Setting the Hold flag to YES will only be granted if:

- The resource is down, that is, its observed status is either HardDown, SoftDown, SysGone, or Unknown.

- The automation manager is not in the process of starting the resource.

If the resource has a start vote that is propagated from a SERVER group, the resource is started even when the Hold flag is set to YES.

INGLKUP
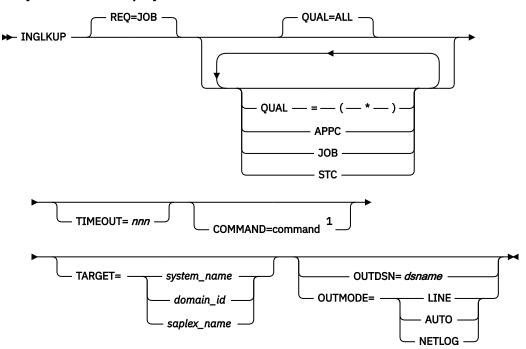
Purpose

INGLKUP has three purposes:

1. The INGLKUP command displays all jobs that are not controlled by SA z/OS. You can either stop, cancel, or force those jobs with the corresponding MVS command.

   You can list all active jobs, started tasks (STCs), and APPC/MVS transaction programs. You can define an exclude list to tailor the list that is displayed.

2. The INGLKUP command can also be used to obtain diagnostic information about a particular resource if you want to perform debugging.

3. The INGLKUP command queries the automation manager and the various agents for the reasons why the resource concerned could not be brought into the desired status.

Syntax
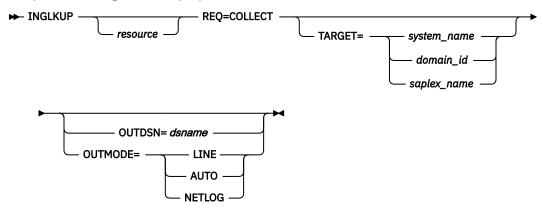
1. Syntax for JOB display
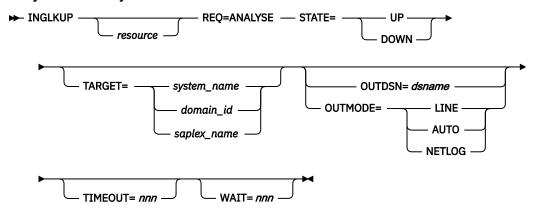
Notes:

   [1] Line Mode only

2. Syntax for diagnostic display

```
►►─ INGLKUP ─┬──────────┬─ REQ=COLLECT ─┬──────────────────────────────────┬─►
             └─ resource ─┘              └─ TARGET= ─┬─ system_name ─┬──────┘
                                                     ├─ domain_id ───┤
                                                     └─ saplex_name ─┘

►─┬─────────────────────────────┬─►◄
  ├──────── OUTDSN= dsname ──────┤
  └─ OUTMODE= ─┬─ LINE ──┬───────┘
               ├─ AUTO ──┤
               └─ NETLOG ─┘
```

3. Syntax for analyse function

```
►►─ INGLKUP ─┬──────────┬─ REQ=ANALYSE ─ STATE= ─┬─ UP ───┬─►
             └─ resource ─┘                       └─ DOWN ─┘

►─┬────────────────────────────┬──┬────────────────────────────────┬─►
  └─ TARGET= ─┬─ system_name ─┬─┘  ├──────── OUTDSN= dsname ────────┤
              ├─ domain_id ───┤    └─ OUTMODE= ─┬─ LINE ──┬─────────┘
              └─ saplex_name ─┘                 ├─ AUTO ──┤
                                                └─ NETLOG ─┘

►─┬──────────────────┬─┬───────────────┬─►◄
  └─ TIMEOUT= nnn ───┘ └─ WAIT= nnn ───┘
```

Parameters

REQ

Specifies the type of request to be performed.

JOB

Displays all jobs, started tasks, and APPC/MVS transaction programs that are not controlled by SA z/OS. Note that the term JOB includes batch jobs, started tasks, and APPC/MVS programs.

COLLECT

Causes diagnostic information to be displayed in the netlog if OUTDSN is not specified.

ANALYSE (deprecated)

Reports possible reasons why the resource concerned could not be brought into the desired state.

Use INGWHY command instead.

resource

Specifies the name of the resource to be processed. The format is name{/type{/system}}. Wildcard is supported. If more than one resource matches the wildcard specification, a selection panel is displayed.

Not all resource types are supported. Message ING178I is issued if no resource matches the specified pattern or if the resource type is not supported.

A resource specification is valid only with REQ=COLLECT or REQ=ANALYSE.

QUAL

Specifies the type of "job" to be displayed. QUAL can be ALL, JOB, STC, APPC, or *. The default is ALL. You can specify more than one qualifier by enclosing the qualifiers in parentheses.

COMMAND
Specifies the command to be issued in order to terminate the jobs/started tasks (STC). Valid entries are STOP, CANCEL, or FORCE. These commands may be abbreviated. This parameter is used with Line Mode only.

STATE
Specifies the state the resource should be in:

UP
Resource is available.

DOWN
Resource is in a "DOWN" state.

TIMEOUT
Specifies the maximum number of seconds the INGLKUP command waits for responses from the remote system that the command was sent to. The maximum is 999 seconds. The default is 30 seconds.

WAIT
Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds. If omitted, the time interval is 30 seconds.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17. The record length must be at least 80 bytes if a resource is specified or 256 bytes if no resource is specified.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

INGLKUP issues the MVS D J,L command to get all active jobs. Then the REXX system address spaces are added to this list through the MVS D A,AXR* command.

With the DISPSTAT command, the list of subsystems managed by System Automation is obtained. For the INGLKUP display, the two lists are compared, also taking the user-defined exclude list into consideration. System address spaces other than AXR* are not displayed.

INGLKUP may display subsystem address spaces if the subsystems are NON-MVS subsystems but are represented by an MVS address space. This occurs, for example, in the case of the IMS PPI dependent region.

Usage

1. Exclude List for REQ=JOB: An exclude list may be built by using User Entry Type (UET) pairs. The exclude list allows the automation administrator to reduce the list of active jobs that are shown when REQ=JOB.

The UET data is specified in the policy database as follows:

Entry
INGLKUP

Type
EXCLUDE

Keyword/Data
JOB

Data

Is JOB=*jobname* (where *jobname* specifies the JOB or STC to be excluded from the display). Wildcard is supported in *jobname*. For more information, refer to *IBM System Automation for z/OS Defining Automation Policy*.

2. Output for REQ=COLLECT: If you specify a resource name with REQ=COLLECT, the output from one or more of the following commands is collected depending on the resource type:

- INGINFO
- INGRELS
- INGSCHED
- DISPAPG
- DISPINFO
- DISPMTR
- DISPTRG

If you do not specify a resource name with REQ=COLLECT, the output from the following commands is collected:

- INGLIST
- INGSESS
- DISPMTR
- DISPSTAT

Whether you specify a resource name or not, output from the following commands is always displayed with REQ=COLLECT:

- INGAMS
- INGHIST
- INGVOTE

Examples

If you specify `inglkup` and cancel a job with command code C, a panel similar to is displayed.

```
INGKYLU0                    SA z/OS  - Command Dialogs      Line  1    of 24
Domain ID   = IPSFP        ---------- INGLKUP  ----------   Date = 04/12/12
Operator ID = NETOP1            System  = KEY4              Time = 14:36:17

Cmd:  C cancel job      F force job       P stop job

Cmd Job        Step       Procedure Type  ASID  System
--- --------   --------   --------- ----  ----  --------
 _   AMST       AMST       AMPROC    SO          KEY4
 _   AMST2      AMST2      AMPROC    SO          KEY4
 _   APPC       APPC       APPC      S           KEY4
 _   ASCH       ASCH       ASCH      S           KEY4
 _   BTSO       BTSO       AAAZSSEM  S           KEY4      ** CANCELLED **
 _   CU12       STEP1      CU12      AO    0049  KEY4
 _   CU12       STEP1      CU12      AO    005A  KEY4
 _   CU129      STEP1      CU12      AO          KEY4
 _   FTPD1      STEP1      FTPOE     AO          KEY4
 _   FTPOE1     STEP1      FTPOE     AO          KEY4


Command ===>
   PF1=Help     PF2=End        PF3=Return                   PF6=Roll
                PF8=Forward    PF9=Refresh                  PF12=Retrieve
```

Figure 58. INGLKUP Command Dialog Panel

This panel displays all active jobs, started tasks (STC) and APPC/MVS transaction programs that are not controlled by SA z/OS. You can either stop or cancel or even force the job (or jobs).

For each job the following information is shown:

- The **Cmd** field lets you specify the command codes shown on the panel. Type the appropriate letter next to the job name and press Enter. The following command codes are available:

  C
  > Cancel the job.

  F
  > Force the job.

  P
  > Stop the job.

- The **Job** field shows the job name.
- The **Step** field the step name.
- The **Procedure** field shows the procedure step name.
- The **Type** field shows the job type.
- The **ASID** field shows the address space ID (this is only present if the job name is not unique).
- The **System** field shows the name of the system that the job is running on.

The SORT, FIND, and RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

If you specify REQ=ANALYSE for the INGLKUP command, the following panel is displayed:

Figure 59. INGLKUP Command Dialog Panel for the ANALYSE Option

```
INGKYLU2                    SA z/OS  - Command Dialogs      Line
Domain ID   = IPUNA      ---------- INGLKUP  ----------     Date = 12/14/11
Operator ID = OPER1            Sysplex = AOCAPLEX           Time = 14:13:25

 Resource  =>  PMTRB3/MTR/AOC5                    Examined State ==>  UP
 Target    =>             System name, domain ID or sysplex name

 Name         Type System   Cat  Problem
 ----------- ---- --------  ---  ----------------------------------------------
 PMTRB3       MTR  AOC5      Pot  AM Observed status is UNKNOWN
 PMTRB3       MTR  AOC5      Pot  AM Automation status is UNKNOWN
 PAPLMTRA     APL  AOC5      Pot  AM Observed status is UNKNOWN
 PAPLMTRA     APL  AOC5      Pot  AM Automation status is UNKNOWN
 PAPLMTRB     APL  AOC5      Pot  AM Observed status is UNKNOWN
 PAPLMTRB     APL  AOC5      Pot  AM Automation status is UNKNOWN



 Command ===>
   PF1=Help     PF2=End      PF3=Return              PF6=Roll
                             PF9=Refresh             PF12=Retrieve
```

INGMDFY

Purpose

The INGMDFY command displays the currently defined actions for the startup or shutdown of a subsystem and allows you to modify them for the next startup or shutdown.

INGMDFY also allows you to define additional actions or to delete defined actions for the startup or shutdown of a subsystem.

Syntax

▶▶─ INGMDFY ──┬── *subsystem* ──┬── *phase* ─▶◀
              └── *jobname* ──┘

Parameters

subsystem
>The name of the subsystem that the defined actions are to be displayed for.

jobname
>The job name of the subsystem that the defined actions are to be displayed for.

phase
>This parameter is used to specify whether startup or shutdown actions are to be displayed.

>>**START**
>>>Startup actions are to be displayed.

>>**STOP**
>>>Shutdown actions are to be displayed.

Restrictions and Limitations

- The INGMDFY command can only be used when SA z/OS is initialized.
- The INGMDFY command is provided for fullscreen mode.
- To ensure consistency during the startup or shutdown process of an application, the save and reset functions are not applicable during startup or shutdown processing of the related application.
- Persistence of modifications:

  - NetView Recycle (or ACF COLD which should only be used in emergency cases)

    Both the modified start/stop definitions in storage and the previously loaded ACF data in the KEEP are lost. At restart, SA z/OS initializes with the automation policy data from disk.

  - Configuration Refresh

    If the configuration data for a subsystem has been changed in the automation policy, both the modified start/stop definitions in storage and the previously loaded ACF data in the KEEP are lost during the configuration refresh. The new ACF data is loaded from disk.

  - Temporarily Changing ACF Data with ACF REQ=REPL

    When using ACF REQ=REPL, only the currently loaded ACF data is modified. An existing KEEP remains untouched so that previously loaded ACF data is restored after the next start/stop or after INGMDFY expires.

Security Considerations

The INGMDFY command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp*.RES._CONFIG	UPDATE	Always

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

INGMDFY also displays default startup commands if no startup commands are defined for applications with a job type other than NONMVS and they can be modified.

Examples

If you enter INGMDFY followed by a subsystem name and START or STOP, a panel similar to is displayed.

```
AOFKEDSS               SA z/OS  - Command Dialogs        Line   1    of 15
Domain ID   = IPSNO     ---------- INGMDFY  ----------    Date = 10/16/13
Operator ID = NETOP1          Sysplex = KEY1PLEX          Time = 20:55:00

Subsystem:  VTAM          Category:             Extstop :  NEVER     Modified: No
                          Subcategory:          Jobtype :  MVS

S/C Define Command  S/R Define Reply

Cmd Phase        AutoFn/* Command Text
    Pass         Retry CT Reply Text
--- ----------  -------- -------------------------------------------------------
    SHUTINIT
_   _____  NETOPER  MVS D NET,BFRUSE
_   _____  _____ _____
    SHUTNORM
_   PASS1        _____ MVS Z NET,QUICK
_   PASS2        _____ MVS Z NET,CANCEL
_   _____  _____ _____
    SHUTIMMED
_   PASS1        _____ MVS Z NET,CANCEL
_   _____  _____ _____


Command ===>
PF1=Help PF2=End    PF3=Return  PF4=Reset    PF5=Save Changes    PF6=Roll
                    PF8=Forward                                  PF12=Retrieve
```

Figure 60. INGMDFY Command Dialog Panel

Use the command code S or C to overwrite the command definition of a selected row in another panel or to define a new command for an empty row.

Use the command code S or R to overwrite the reply definition of a selected row in another panel or to define a new reply in an empty row.

Only one command code can be issued at a time.

Additionally you can use the slash character (/) to make the selected line the first line of the display.

When overwriting the displayed data, the changes are at first accumulated in storage, until PF5 is used to save the changes. Thereafter the previously loaded configuration definitions are saved and the changed definitions are loaded into storage. The changed definitions are used for the next startup or shutdown of the application.

After the changed definitions have been used to start up or shut down an application, the changes are discarded and the saved configuration data is restored into storage to be used for further startups or shutdowns of the application.

The Modified flag indicates that changed startup or shutdown definitions have been loaded into storage.

PF7/PF8 lets you scroll forward and backward if more than one screen is needed to display the data.

PF10/PF11 lets you shift right and left if the defined action is longer than the screen width.

For further details about the fields on the panel, see the online help and *IBM System Automation for z/OS Defining Automation Policy*.

INGMOVE

Purpose
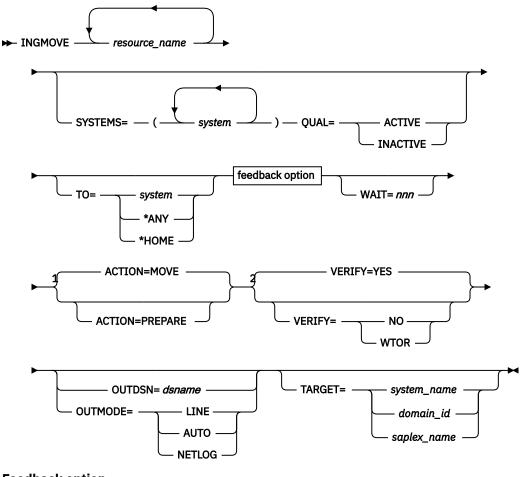
INGMOVE makes moving sysplex application groups easier. Rather than manipulating the preference value of each member in the sysplex application group, you simply specify where the group should be moved to.

In a sysplex application group of type MOVE only one member is active at a time. By specifying the new location of the move group, the active member is terminated and the member associated with the new location is activated.
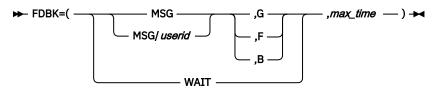
INGMOVE supports the moving of a sysplex application group to another system.

Syntax

To move sysplex application groups

```
>>- INGMOVE --+---------------+->
              |      <----    |
              +- resource_name +->

>--+--------------------------------------------------------+->
   |                                                        |
   +- SYSTEMS= -- ( --+--------+-- ) -- QUAL= --+- ACTIVE --+
                      |  <---  |                |           |
                      +- system +              +- INACTIVE -+

>--+-----------------------------+-- | feedback option | --+------------+->
   |            +- system --+     |                          |           |
   +- TO= --+-- system --+--+     |                          +- WAIT= nnn +
            +- *ANY -----+
            +- *HOME ----+

     1 +- ACTION=MOVE ------+    2 +- VERIFY=YES ------+
>----+--------------------+----+--------------------+---->
     +- ACTION=PREPARE ---+    +- VERIFY= --+- NO ---+
                                            +- WTOR -+

>--+----------------------------------+--+- TARGET= --+- system_name +--+-><
   +- OUTDSN= dsname ---------------+  |              +- domain_id ---+
   +- OUTMODE= --+- LINE ---+-------+  |              +- saplex_name -+
                 +- AUTO ---+
                 +- NETLOG -+
```

Feedback option

```
>>- FDBK=( --+-- MSG ----------+--+-- ,G --+-- ,max_time -- ) -><
             +-- MSG/userid ---+  +-- ,F --+
             +------ WAIT ------+  +-- ,B --+
```

Notes:

[1] Can only be used in line mode.

[2] The default depends on the type of task that the INGMOVE command runs on. If the task that the command runs on, is an autotask associated with a *ANY* console, the default is WTOR. The default for an unattended task is NO.

Parameters

resource_name
    Specifies the name of the sysplex application group. More than one name can be specified, separated by a blank or a comma. Each name can contain a wildcard.

    If no group name is specified, all sysplex application groups of type MOVE are displayed.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

TO

Specifies the system that the application group should be moved to.

Alternatively, *ANY can be specified. This causes the application to be moved to any other viable system in the sysplex.

In the background, an INGGROUP ACTION=EXCLUDE is done. The advantage of this, however, is that the INGMOVE command checks for the successful completion of the move operation within the allowed time interval.

FDBK

Specifies the feedback parameter that causes the final result of the command to be reported back to the designated instance.

MSG

Causes message signaling of the successful or unsuccessful completion of the command to be performed.

The message is sent back to the originator of the command. The originator is determined by the NetView OPID(S) function unless the user ID is specified. Depending on the status, either message ING300I or ING301I is issued. The message text contains the command that was processed successfully or failed.

userid

Identifies the NetView user ID of the person to be notified if different to the originating user.

Use the following values to specify when to issue the message:

G

Issue the message only when the resource has reached its expected status.

F

Issue the message only if the resource did not reach its expected state in the specified time interval.

B

Issue the message in all cases.

WAIT

To wait for the completion of the command (denoted by the *max_time* parameter). Note that the WAIT option is rejected when the INGMOVE command executes on a work operator.

max_time

The time interval in NetView format (mm:ss, :ss, mm or hh:mm:ss) that SA z/OS will wait. If the specified resource has not reached the expected state, the command is considered to have failed and the operation is posted in error.

SYSTEMS

Specifies a list of systems to be used as a filter. Only groups that can run on one of the specified systems are displayed. If more than one system is specified, they must be separated by a blank character and enclosed in parentheses.

QUAL

Specifies a qualifier for the SYSTEMS filter. It can be one of the following:

ACTIVE

Shows only those groups that are running on one of the systems specified with the SYSTEMS parameter.

INACTIVE

Shows only those groups that are not running on one of the systems specified with the SYSTEMS parameter.

ACTION
> Specifies when the action is to be done. Valid values are:
>
> **MOVE**
> > Perform the move immediately. This is the default.
>
> **PREPARE**
> > Perform the move at the next recycle.

VERIFY
> Specifies whether the operator is prompted for confirmation prior to carrying out the requested action. The default depends on the type of task that the INGMOVE command runs on. It is NO for Unattended tasks, otherwise YES.
>
> **YES**
> > Asks the operator for confirmation.
>
> **NO**
> > No verification is performed. This setting is always for Unattended tasks.
>
> **WTOR**
> > The list of affected resources is displayed before the requested action is carried out. The operator is prompted to verify the list via WTOR.
>
> The default depends on the type of task that the INGMOVE command runs on. If the task the command runs on is an autotask associated with a *ANY* console, the default is WTOR. The default for an unattended task is NO.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
> For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The FDBK parameter will only monitor resources within the local sysplex.

Security Considerations

The INGMOVE command supports resource level security. If turned on, the following profile in class SYSAUTO is checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp.*RES.*resname.restype*	UPDATE	Always

If multiple resources are affected, multiple profiles are checked. The request is carried out or rejected as a whole.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*

Examples

If you enter `ingmove` a panel similar to Figure 61 on page 164 is displayed.

INGMOVE

```
INGKYMV0                 SA z/OS  - Command Dialogs    Group  1    of 7
Domain ID   = IPSNO       ---------- INGMOVE  ----------  Date = 11/23/09
Operator ID = NETOP1          Sysplex = KEY1PLEX         Time = 13:08:38

 B Start   C Stop    D INGRELS  E INGVOTE  F INGINFO  G Members  I INGSCHED
 J INGGROUP M Move    P Prepare  R Reset   X Box Group            / scroll
Cmd Group name    Obs Status        ---- Systems ----            Move to
--- ----------   -----------    -------- -------- -------- ---------   --------
 _   ARMGROUP     SOFTDOWN       KEY1     KEY2     KEY3     KEY4        _____
                                 KEY5     KEY6     KEY7
 _   MOVDISRN     AVAILABLE      KEY2     KEY4                         *_____
 _   MOVDISRY     AVAILABLE      KEY2     KEY4                         KEY2____
 _   MOVPLEXA     AVAILABLE      KEY1     KEY2     KEY3     KEY4        KEY2____
                                 KEY5     KEY6
 _   MOVPLEXB     SOFTDOWN       KEY1     KEY2     KEY3     KEY4        _____
 _   MOVPLEXC     SOFTDOWN       KEY1     KEY2     KEY3     KEY4        _____
 _   MOVPLEXD     AVAILABLE      KEY1     KEY2     KEY3                 =_____


Command ===>
 PF1=Help      PF2=End       PF3=Return                    PF6=Roll
                             PF9=Refresh                   PF12=Retrieve
```

Figure 61. INGMOVE Command Dialog Panel

This panel shows all sysplex application groups of type MOVE (referred to as *move groups*) that match the specified filter criteria. The following information is shown:

- The **Group name** column shows the name of the move group. Because the move groups are unique within a sysplex, only the first part of the resource group name is shown.

- The **Obs Status** column shows the observed status of the move group as seen by the automation manager.

- The **Systems** columns show a list of the systems where a member of the MOVE group exists and could run. Different colors are used to indicate the state of the system or the member of the group that is running on that system, as follows:

  – Red if the system is down

  – Yellow if the member of the group that is running on that system is not startable

  – Green if a member of the group is currently active on that system

  – Pink if the system is excluded

  – White if the system is avoided

  – Turquoise in all other cases

  The *home* system, or systems, which are those that have the highest preference value, are underlined.

  The system that has the highest actual preference is shown in reverse video, unless it is a home system. Note that this can be more than one system.

- The **Move to** column is an input field where you can specify the system that the group should be moved to. Moving a sysplex application move group means terminating the member that is currently active and starting the member on the designated system.

  Initially, SA z/OS shows the best system to be used for a move operation in this field, based on the state of the group members and their preference points. The proposed system is shown in blue.

  You can designate the system by specifying in the **Move to** field:

  – The name of the system.

  – An asterisk (*). This means that the group is moved back to its home system, which is the one with the highest base preference value. If more than one home system exists, it is moved to the first one in the list.

  – An equals sign (=). This is a shorthand form that means to take the value from the nearest field above with a value specified in it.

You can enter the following action codes in the **Cmd** field to launch other commands:

B

Start. Calls the INGREQ command dialog to make the resource available. See "INGREQ" on page 203 for further information.

C

Stop. Calls the INGREQ command dialog to make the resource unavailable. See "INGREQ" on page 203 for further information.

D

Invokes the INGRELS command to display dependency information and its evaluation for the resource.

E

Invokes the INGVOTE command, showing all requests currently present for the resource. Allows the operator to cancel a request.

F

Shows details about the resource by invoking the INGINFO command.

G

Invokes the INGLIST MEMBERS=YES command to show all members for the selected application group in a new window.

I

Invokes the INGSCHED command to show the resource overrides for the selected resource.

J

Invokes the INGGROUP ACTION=MEMBERS command to show member details.

M

Moves the group to the designated system.

P

Moves the group to the designated system when the group is next recycled.

R

Resets the preference values of the group members to the values that are defined in the policy database.

X

Boxes the group. The member that is currently active acquires a preference of 2800 so that if the system is terminated the group will *not* move to another system.

You can use the / character to place the selected line as the first line of the display.

Note: This panel does not support the FIND and SORT subcommands.

If you specify one or more systems Figure 62 on page 165 is displayed to ask you for confirmation.

```
INGKYMV1                  SA z/OS  - Command Dialogs      Line  1    of 3
Domain ID   = IPSNO       ---------- INGMOVE  ----------  Date = 09/10/04
Operator ID = NETOP1                                      Time = 12:23:25

    Verify the Move Group activities

    Group name   Runs on   Move to   Action
    -----------  --------  --------  --------------------
    MOVDISRN     AOCB      AOCD      now
    MOVPLEXA     AOCA      AOCB      now
    MOVPLEXB               AOCB      at recycle
```

Figure 62. INGMOVE Confirmation Panel

For each group that is to be moved the panel shows:

• The name of the group

• The name of the system where the group is currently active

• The name of the system that the group should be moved to

• Descriptive information about the action

Specifying GO at the command line or pressing the PF10 key carries out the move operation. Specifying CANCEL at the command line or pressing the PF11 key returns you to the previous panel.
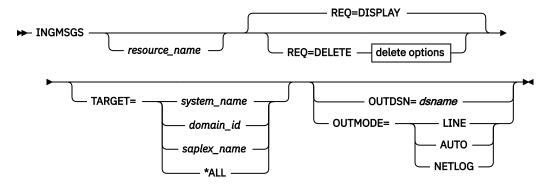
Note: Pressing PF2 or PF3 has the same behavior as PF11.

INGMSGS
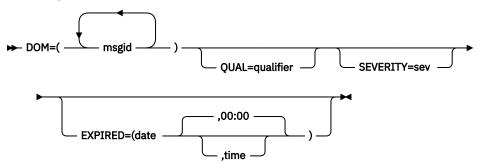
Purpose

The INGMSGS command displays all important (that is, exceptional) messages that currently exist for a given system. The command is also used to delete exceptional messages.

Syntax

```
                                    ┌─ REQ=DISPLAY ─────────────┐
►► INGMSGS ──┬─────────────────┬────┤                          ├─────►
             └─ resource_name ──┘    └─ REQ=DELETE ─ delete options ─┘

   ►──┬──────────────────────────────┬──┬────────────────────────────┬──►◄
      └─ TARGET= ─┬─ system_name ─┬──┘  └─ OUTDSN= dsname ───────────┘
                  ├─ domain_id ───┤     └─ OUTMODE= ─┬─ LINE ───┐
                  ├─ saplex_name ─┤                  ├─ AUTO ───┤
                  └─ *ALL ────────┘                  └─ NETLOG ─┘
```

delete options

```
            ┌◄────────────┐
►► DOM=( ───┴─ msgid ─┬───┴── ) ──┬──────────────────┬──┬─────────────────┬──►
                                  └─ QUAL=qualifier ──┘  └─ SEVERITY=sev ──┘

   ►──┬──────────────────────────────────────────────┬──►◄
      │              ┌─ ,00:00 ─┐                     │
      └─ EXPIRED=(date ─┴─ ,time ─┴── ) ──────────────┘
```

Parameters

resource_name
> An optional parameter used as a filter. Only exceptional messages that are associated with the specified resource are shown. The resource name can contain a wildcard. More than 1 resource name can be specified. If no resource name is specified, only messages that are not associated with a resource automated by SA z/OS are taken into account (MVSESA).

REQ
> Specifies the type of request to be performed:

> **DISPLAY**
>> Displays all exceptional messages for the resource. This is the default setting.

> **DELETE**
>> Deletes the message(s) based on the delete settings:

DOM
> Specifies one or more IDs of messages to be deleted. The message IDs must be separated by a blank character and enclosed in parenthesis or quotes if more than one message ID is specified. The message ID can contain wildcards.

QUAL

Specifies a qualifier that is used to identify the message in addition to its message ID.

SEVERITY

Specifies the severity of the message used as Filter Criteria. Valid entries are UNUSUAL, IMPORTANT and CRITICAL.

EXPIRED

Specifies the expiry date and time of the message. Any message that was issued prior to the specified timestamp will be deleted when also the other specified filter criteria match. The date format is yyyy-mm-dd and the time format is hh:mm. The time specification is optional.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The INGMSGS command can only be used when SA z/OS has initialized.

A qualifier is not displayed when invoking INGMSGS in line mode.

Examples

If you enter `ingmsgs` a panel similar to Figure 63 on page 167 is displayed.

```
INGKYMSG                SA z/OS  - Command Dialogs    Line  1     of 26
Domain ID   = IPUFA     -------- INGMSGS   ---------   Date = 11/23/09
Operator ID = NETOP1        System  = AOCA            Time = 17:16:48

CMD:  D Delete    F INGINFO/DISPSYS

CMD Timestamp          S Message
--- ------------------ - --------------------------------------------------------
 _  2009-11-23 09:08:05 C SYSTEM=AOCA RESOURCE=HGSIPLALWY/APL/AOCA
                          AOF571I 09:08:05 : HGSIPLALWY SUBSYSTEM STATUS FOR JO
                          B HGSIPLA IS STOPPED - AT SYS-OPS RELOAD
 _  2009-11-23 09:08:05 C SYSTEM=AOCA RESOURCE=APLC/APL/AOCA
                          AOF571I 09:08:05 : APLC SUBSYSTEM STATUS FOR JOB APLC
                           IS BROKEN - AT SYS-OPS RELOAD
 _  2009-11-23 09:08:06 C SYSTEM=AOCA RESOURCE=HGSTRTIPL/APL/AOCA
                          AOF571I 09:08:06 : HGSTRTIPL SUBSYSTEM STATUS FOR JOB
                           HSTRTIPL IS STOPPED - AT SYS-OPS RELOAD
 _  2009-11-23 09:08:06 U SYSTEM=AOCA RESOURCE=HGDDSEXTC/APL/AOCA
                          AOF571I 09:08:06 : HGDDSEXTC SUBSYSTEM STATUS FOR JOB
                           HGDDSEXC IS CTLDOWN - AT SYS-OPS RELOAD


Command ===>
 PF1=Help    PF2=End     PF3=Return                        PF6=Roll
             PF8=Forward  PF9=Refresh                      PF12=Retrieve
```

Figure 63. INGMSGS Command Dialog Panel

This panel displays exceptional messages that have been captured by SA z/OS. An exceptional message is a message whose severity is either Unusual, Important or Critical. By default the messages are displayed in chronological order (the oldest message is shown at the top of the panel) but can be rearranged in any other order, for example, by severity with the SORT subcommand. The individual messages are colored depending on their severity. The color attribute is defined via SDF status definitions.

For each message the following information is shown:

• The **Timestamp** column shows the date and time when the message was captured.

• The **S** column shows the severity assigned to the message. It can be:

U

    Unusual

I

    Important

C

    Critical

- The **Message** column shows the message text, the system where the message was captured, the qualifier if present that is associated with the message and the name of the resource associated with the message. If no resource name is shown, the message is associated with the system.

You can enter the following action codes in the **Cmd** field to launch other commands:

D

    Delete (DOM) the message. This also removes the message from any target it has been forwarded to (SDF, TEP).

F

    Shows details about the resource that is associated with the message by invoking the INGINFO or DISPSYS command.

INGNTFY
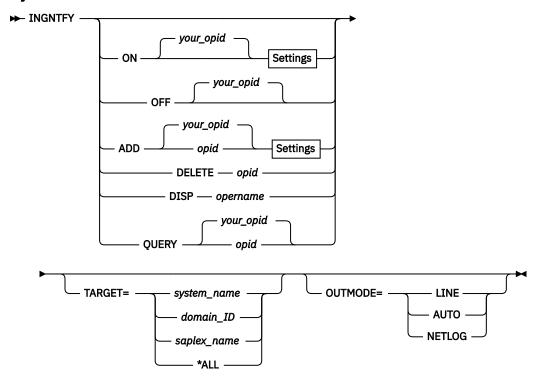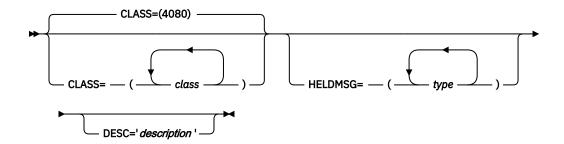
Purpose

INGNTFY allows you to add, change, delete, and display notification operator settings.

Syntax

Settings

Parameters

ON
> Allows the operator who issues the command to receive notifications.

OFF
> Turns off notifications for the operator who issues the command.

ADD
> Adds the operator specified in *opid* to the list of notification operators, or changes the definition of the existing operator specified in *opid*.
>
> **Note:** Use of the ADD function to change the definition of an existing operator completely deletes the old definition. It is necessary to re-specify all message classes and held message types that you want this operator to retain. This allows you to remove unwanted message classes and held message types from an existing operator.

DELETE
> Removes the operator specified in *opid* from the list of notification operators.

DISP
> Displays information about the operator that is specified in *opername*, which can also contain a wildcard, such as *abc, abc*, or *abc*.

QUERY
> Displays information about the operator that is specified in *opid*.

opid
> The ID of the operator to add, change, delete, or query.

your_opid
> The ID of the operator issuing the command.

CLASS
> The classes of messages the operator is to receive. See *IBM System Automation for z/OS Messages and Codes* for information about which classes are valid. Up to ten comma-delimited classes, enclosed in parentheses, can be defined for an operator. The default classes are 40 and 80, unless defined otherwise in the automation control file.

DESC
> An optional description of the operator. If the description contains blanks, commas, or other punctuation characters it must be enclosed in single quotation marks.

HELDMSG
> The type or types of messages to hold on the operator's screen. If more than one type is specified, the types should be separated by commas and enclosed in parentheses. The types are:

> **Type**
> > **Meaning**

> **A**
> > Immediate Action

> **D**
> > Immediate Decision

INGNTFY

> **E**
>> Eventual Action
>
> **I**
>> Information
>
> **W**
>> System Wait

> **TARGET**
>> For information on the TARGET parameter, see "TARGET Parameter" on page 14.
>
> **OUTMODE**
>> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

For further details of message types and message notifications, see *IBM System Automation for z/OS Messages and Codes.*

Restrictions and Limitations

Any changes you make using the INGNTFY command are in effect only until the automation control file is reloaded.

The INGNTFY command can only be used when SA z/OS is initialized.

Examples

To turn your messages off, enter `ingntfy off`

To add notification operator Jim, assign him all messages in class 43, and hold Immediate Action type messages on his screen, enter:

```
ingntfy add jim class=43 heldmsg=a
```

If no parameter is specified in the INGNTFY command, a panel similar to Figure 64 on page 170 is displayed.

```
AOFKAANT                    SA z/OS  - Command Dialogs      Line  1    of 6
Domain ID   = IPUN8     ---------- INGNTFY  ----------      Date = 06/19/09
Operator ID = NETOP1                                        Time = 20:12:52

Cmd:  A Add    C Show/Change settings     D Delete    O Turn OFF msg receiving

Cmd Operator   System    Log  Rcv  Description          Classes
--- --------   --------   ---  ---  ----------------     ------------------------
 _  AUTNOTI1   AOC8       Y    N    MSG AOP              40 80
 _  DON        AOC8       Y    N    DON JONES            40
 _  GIS        AOC8       Y    Y    GISELA STUART        80
 _  MIK        AOC8       Y    Y    MIK SMITH            60
 _  NOTI1      AOC8       N    Y                         40 41 42 43 44
 _  NOTI2      AOC8       N    Y                         80 81 82




Command ===>
   PF1=Help     PF2=End       PF3=Return                   PF6=Roll
                              PF9=Refresh                  PF12=Retrieve
```

Figure 64. INGNTFY Command Dialog Panel

- The **Cmd** field lets you specify the command codes shown on the panel. Type the appropriate letter next to the resource name and press Enter. The following command codes are available:

> **A**
>> Add a notification operator using the settings of the selected operator.

C

> Show or change the settings for the selected operator.

D

> Delete the notification operator.

O

> Turn off message receiving for the selected notification operator.

- The **Operator** field shows the operator ID. It is not necessarily defined to NetView.
- The **System** field shows the name of the system where the operator is defined.
- The **Log** field shows a Y if the operator was logged on when the command dialog was started, or an N if the operator was not logged on.
- The **Rcv (Receive)** field shows a Y if the operator was receiving messages when the command dialog was started, or an N if the operator was not receiving messages.
- The **Description** field shows a description of the operator from either the automation control file or the INGNTFY command dialog.
- The **Classes** field shows the classes that are assigned to the notify operators.

INGPAC
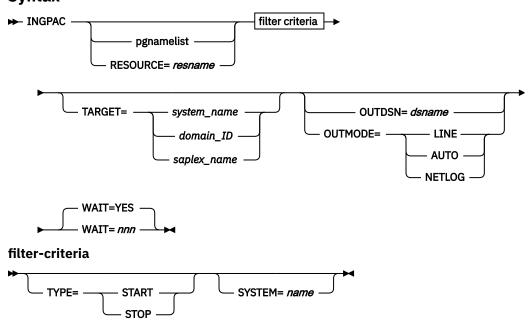
Purpose

The INGPAC command displays information about pacing gates, their characteristics and runtime statistics.

It also shows details about pacing gate contention with the resources currently granted access to the gate and those waiting for access to the gate.

The RESOURCE-keyword can be used to have INGPAC list all pacing gate(s) that are associated with the resource denoted by the *resname* variable.

Syntax

filter-criteria

Parameters

pgnamelist
A list of one or more pacing gate names, separated by blank or comma, enclosed in parentheses. Parentheses can be omitted if the list consists of only one element.

resname
The fully qualified name of the application in automation manager notation for which the associated pacing gates are listed.

filter-criteria
Specifies filter to further reduce the set of pacing gates being displayed. The following filters are displayed:

TYPE
Specify START to only display pacing gates effective for starting of applications.

Specify STOP to only display pacing gates effective for stopping of applications.

SYSTEM
Specify the name of a system to only display pacing gates defined for that system.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT
Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

Restrictions and Limitations

None.

Security Considerations

The INGPAC command supports resource level security. If turned on, the following profile in class SYSAUTO is checked:

Profile	Authority	Condition
AGT.sysplex.xcfgrp.RES._MANAGER.PACING	UPDATE	When command code R is issued to release a resource on the INGPAC detail panel.

Usage other than listed in the table does not cause a resource level security check. For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Examples

If you enter INGPAC a panel similar to that shown in Figure 65 on page 173 is displayed:

```
INGKYPA0            Automation Control - Command Dialogs  Line 1     of 10
Domain Id . : IPUFL   ------------ INGPAC   ------------  Date . . : 07/11/14
Operator Id : JMH              Sysplex = AOC6PLEX         Time . . : 15:38:14

CMD: D Details L List Resources

CMD Pacing Gate          Type  System   Limit    Num Res  Num Wait Avg Wait
--- -------------------- ----- -------- -------- -------- -------- --------
__    AWASGATE           Start AOC6            2        0        0        4
__    AWASGATE           Stop  AOC6            3        0        0       12
__    WASGATE            Start AOC6            2       18       16      491
__    WASGATE            Stop  AOC6      NOLIMIT        0        0        -
__    WASGATEA           Start AOC6            1        0        0        -
__    WASGATEA           Stop  AOC6      NOLIMIT        0        0        -
__    WASGATEB           Start AOC6            1        0        0        -
___   WASGATEB           Stop  AOC6      NOLIMIT        0        0
-
___   WASGATEC           Start AOC6            1        0        0        -
___   WASGATEC           Stop  AOC6      NOLIMIT        0        0
-


Command ===> _____

F1=Help      F2=End      F3=Return                          F6=Roll
                         F9=Refresh    F10=Previous  F11=Next   F12=Retrieve
```

Figure 65. INGPAC Pacing Gate(s) Display Panel

The amount of data depends on the screen size. Press PF10/11 to scroll horizontally.

- The CMD field lets you specify command codes. To use one of the command codes shown, type the appropriate letter next to the pacing gate and press Enter. The following command codes are available:
  - **D** to display a detail panel showing pacing gate statistics and providing a snapshot of resources currently using the pacing gate or waiting for use.
  - **L** to list all resources that potentially may use this pacing gate for start or stop activities.

The SORT, FIND, and RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 or online help for further information.

Refer to the online help on the panel (PF1) for a description of individual fields.

If you enter command code **D** for a pacing gate, a panel similar to Figure 66 on page 174 is displayed here:

```
   Domain Id . : IPUFL   ------------ INGPAC   ------------   Date . . : 07/11/14
   Operator Id : JMH              Sysplex = AOC6PLEX          Time . . : 15:38:14

   Pacing gate: WASGATE                  Type: Start               System: AOC6
   Description: WebSphere startup pacing gate                      Limit : 2

   Wait time(s)          Active time  (s)        Number Resources
   -----------------     ---------------------   ------------------
   Current:       541    Current:          21    Waiting:        7
   Average:       500    Average:          78    Active:         2
   Maximum:       903    Maximum:         303    Other:          0

   CMD:    I Resource Info    R Release

   CMD Resource Name              Status   Wait      Actve    Total     Req Date
   --- ----------------------    -------- --------- --------- --------- --------
   __    WAS05/APL/AOC6           Starting      602        28       630 07/09/14
   __    WAS25/APL/AOC6           Starting      614        13       627 07/09/14
   __    WAS21/APL/AOC6           Waiting       329         0       329 07/09/14
   __    WAS22/APL/AOC6           Waiting       329         0       329 07/09/14
   __    WAS26/APL/AOC6           Waiting       626         0       626 07/09/14
   __    WAS27/APL/AOC6           Waiting       626         0       626 07/09/14
   __    WAS28/APL/AOC6           Waiting       626         0       626 07/09/14
   __    WAS29/APL/AOC6           Waiting       626         0       626 07/09/14
   __    WAS30/APL/AOC6           Waiting       626         0       626 07/09/14

Command ===> _____

 F1=Help     F2=End      F3=Return                             F6=Roll
                         F9=Refresh    F10=Previous  F11=Next   F12=Retrieve
```

Figure 66. INGPAC Pacing Gate Detail Display Panel

The amount of data depends on the screen size. Press PF10/11 to scroll horizontally.

- The CMD field lets you specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  - **I** to display a panel with details about this application
  - **R** to release the resource to let it start or stop regardless of the pacing gate status at the moment.

The SORT, FIND, and RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 or the online help for further information.

Refer to the online help on the panel (PF1) for a description of the individual fields.

INGPW

Purpose

The INGPW command initializes the SA z/OS password protection feature. The INGPW command processor maintains a VSAM file containing passwords for user IDs, called the password data set. These passwords are used when establishing sessions to external products. The records in the password data set are keyed using a combination of the user ID and owner ID. Each record has these fields:

The current-password field
The new-password field
The password mask
The date-password-last-changed field
The password change interval
Passwords are stored in encrypted format
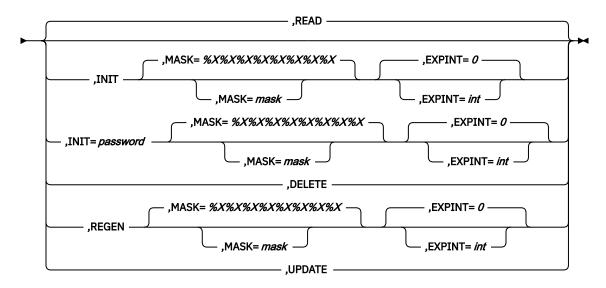
Syntax

```
▶▶── INGPW ── user_ID ── owner_ID ──▶
```

```
                                        ,READ
      ┌─────────────────────────────────────────────────────────────────┐
  ──┬─┴───────────────────────────────────────────────────────────────┬─┴──▶◀
    │           ,MASK= %X%X%X%X%X%X%X%X            ,EXPINT= 0           │
    │   ,INIT ──┬───────────────────────┬──┬──────────────────────┬────│
    │           └── ,MASK= mask ─────────┘  └── ,EXPINT= int ──────┘    │
    │                                                                   │
    │              ,MASK= %X%X%X%X%X%X%X%X            ,EXPINT= 0         │
    ├─ ,INIT=password ──┬─────────────────┬──┬──────────────────────┬──┤
    │                   └── ,MASK= mask ───┘  └── ,EXPINT= int ──────┘  │
    │                              ,DELETE                              │
    │             ,MASK= %X%X%X%X%X%X%X%X            ,EXPINT= 0          │
    ├─ ,REGEN ──┬───────────────────────┬──┬──────────────────────┬────┤
    │           └── ,MASK= mask ─────────┘  └── ,EXPINT= int ──────┘    │
    │                              ,UPDATE                              │
    └───────────────────────────────────────────────────────────────────┘
```

Parameters

user_id
user id (4-32 characters). The parameter is case-sensitive.

owner_id
(1-8 characters) the owning entity for which password maintenance services are required (custom value, policy entry, and so on, depends on consumer service). The parameter is case-sensitive.

READ
Specifies that the appropriate password is retrieved from the data set. This is the default if no request is specified.

INIT
Used to create an entry in the password data set for the specified *user_id* and *owner_id* values and to specify an initial or new password value for the entry. Using INGPW with the INIT parameter is required as part of installing the password protection feature. An INIT request without a new password can be used to redefine expiration interval and password mask for the existing password record. If a value is specified for the MASK=*mask* keyword together with the INIT keyword, then the value of the mask becomes the default mask for the REGEN keyword.

password
Specifies initial/new password for the specified *user_id* and *owner_id*. The password value must be between 4 and 32 characters long. The password is case-sensitive.

DELETE
Specifies that the record with the matching *user_id* and *owner_id* should be deleted.

REGEN
Causes a new password to be generated (satisfying the requirements of the mask if it is specified). The current and new passwords are shown in response to INGPW REGEN and any subsequent INGPW READ until there is a INGPW UPDATE.

MASK
Describes the format used when generating new passwords for specified *user_id* and *owner_id* records. The password generation mask consists of 4 to 32 pairs of characters, each pair defining the attributes of a single password character. The first character of each pair determines how the second character is used.

!
  A password character of the value indicated by the following mask character is required.

%
A password character of the type indicated by the following mask character is required.

?
A password character of the type indicated by the following mask character is optional.

The password mask is processed from left to right, and generates a string of characters with a length equal to or greater than the number required. Passwords of at least 4 characters are required. The password character type codes indicate a set of characters to be used when generating a new password. The valid type codes are case-sensitive and are as follows:

- $ - National only
- A - Uppercase alphabetic only
- a - Lowercase alphabetic only
- B - Uppercase Alphabetic/National
- b - Lowercase Alphabetic/National
- C - Uppercase Consonant (Alphabetic, no vowels)
- c - Lowercase Consonant (Alphabetic, no vowels)
- E - Even numerics
- N - Numeric only
- O - Odd numerics
- V - Uppercase vowels only
- v - Lowercase vowels only
- W - Uppercase alphanumerics (no vowels)
- w - Lowercase alphanumerics (no vowels)
- X - Uppercase alphanumerics
- x - Lowercase alphanumerics
- Y - Uppercase alphabetical/National
- y - Lowercase alphabetical/National
- Z - Uppercase alphanumeric/National (no vowels)
- z - Lowercase alphanumeric/National (no vowels)

For example, a password mask of !N!N!T%$%C?N%N%E would cause passwords to be generated that begin with 'NNT' followed by a national character, a consonant, and a two or three digit even number. If a value is not specified for mask, then the system-defined default is %X%X%X%X%X%X%X%X.

EXPINT
Defines the expiration interval used when defining or generating new passwords.

int
number of days before current password expiration and next password regeneration. Default is 0 (no password expiration required). The expiration interval can be 0 to 365 days.

UPDATE
Makes the new password generated by REGEN become the current password.

Return Codes

0
Successful completion.

4
No storage obtained.

8
Record not found in VSAM data set.

12
> Error Processing VSAM data set.

16
> Bad Invocation.

20
> Not Authorized.

Security considerations

For security reasons, using command-class checking on INGPW is strongly recommended. Refer to *IBM System Automation for z/OS Planning and Installation* for more details about command authorization.

Access to the password records can be protected using the ING.PW.user_id.owner_id resource in the SYSAUTO class defined in RACF. The following example shows how to define an INGPW resource in RACF:

```
RDEFINE SYSAUTO ING.PW.ENSOPERATOR.ZBXENS UACC(NONE)
```

The user record for *user_id* ENSOPERATOR and *owner_id* ZBXENS is defined as a resource in the RACF class SYSAUTO with a universal access attribute of NONE. Note that you use a wildcard character to specify the resource more generically if that is suitable for your environment.

Level of password access	
READ:	read password record (READ request)
UPDATE:	update existing password (UPDATE request)
CONTROL:	initialize or change existing record (INIT,REGEN requests)
ALTER:	delete password record (DELETE request)

Usage

Use a blank instead of a comma to separate the *user_id* and *owner_id* values.

If parameter values are required in mixed case (for example, mixed case passwords), you must use the 'NetVasis INGPW' form to make sure that the data is passed without uppercase translation. Failure to do so may result in incorrect data returned or generated by the INGPW command.

Examples

```
NETVASIS INGPW TestUser TESTSRV,INIT=MYp01WDs,MASK=%A%A%a%N%N%A%A%a
```

The command initializes a new record for `used_id=TestUser` and `owner_id=TESTSRV` with initial mixed case password `MYp01WDs` and set MASK to generate passwords in mixed case.

```
INGPW TestUser TESTSRV,INIT=MYp01WDs,MASK=%A%A%a%N%N%A%A%A
```

The command initializes a new record for `used_id=TestUser` and `owner_id=TESTSRV` with initial upper case password `MYP01WDS` and set MASK to generate passwords in uppercase.
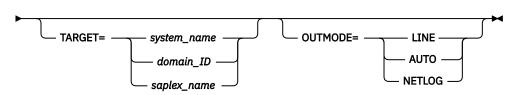
INGPLEX

Purpose

The INGPLEX command comprises all the sysplex-related functions of SA z/OS. It can be called in full mode and in line mode.

Syntax

```
►►─ INGPLEX ─►
```

```
├─ CDS ─┬─────────────────────────────────────────────────────┤
│       └─ TYPE= ─┬─ ARM ─────┬──┬────────────────┬─┘
│                 ├─ CFRM ────┤  └─ DETAIL=CHPID ──┘
│                 ├─ LOGR ────┤
│                 ├─ SFM ─────┤
│                 └─ SYSPLEX ─┘
├─ CF ──1──────────────────────────────────────────────────────┤
├─ CONsole ─────────────────────────────────────────────────────┤
├─ DUMP ────────────────────────────────────────────────────────┤
├─ IPL ─┬─ DEL ──2── = ─ IPLRECD ────────────────┬──┬─────────────┬─┤
│       ├─ SHOW ── = ─ IPLRECD ──────────────────┤  └─ DSN=dsn ──┘
│       ├─ DISP ── = ─ IPLREC ───────────────────┤
│       ├─ COMP ── = ─ IPLREC ── WITH ── = ─ IPLREC ─┤
│       └─ LIST=sysname ──────────────────────────┘
├─ SDump ───────────────────────────────────────────────────────┤
├─ SLIP ─┬───────────────┬─┬────────────────────┬─────────────────┤
│        └─ ID=slipid ───┘ └─ SYSTEM= sysname ──┘
├─ STR ──3── STR_PARMS ─────────────────────────────────────────┤
├─ SVCdump ─┬───────────────────────────────────────────────┬───┤
│           └─ sysname ─┬────────────────────────────────┬─┘
│                       └─ REQ ──4── = ─┬─ LIST ──┬─┘
│                                       ├─ COMP ──┤
│                                       └─ DUMP ──┘
└─ SYStem ──────────────────────────────────────────────────────┘
```

```
►─┬──────────────────────────────┬─┬──────────────────────┬─►◄
  └─ TARGET= ─┬─ system_name ──┬─┘ └─ OUTMODE= ─┬─ LINE ───┬─┘
              ├─ domain_ID ────┤                ├─ AUTO ───┤
              └─ saplex_name ──┘                └─ NETLOG ─┘
```
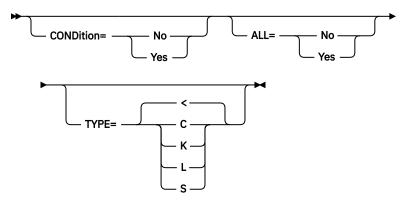
IPLRECD

```
►►─ sysname / timestamp ─►◄
```

IPLREC

```
►►─ sysname / timestamp [/ member [/ suffix ]] ─►◄
```

STR_PARMS

Notes:

  [1] For details see "INGCF" on page 91.

  [2] Line mode only

  [3] For details, see "INGSTR" on page 237.

  [4] Line mode only

Parameters

CDS

Displays information about CDSs and supports replacement of the current alternate CDS by a new one as well as making the alternate CDS the new primary. For further information about INGPLEX CDS refer to "INGPLEX CDS" on page 183.

TYPE

The type of CDS that the CDS function is issued for. Possible values are ARM, CFRM, LOGR, SFM, and SYSPLEX.

DETAIL

If you specify this parameter with the CDS function, the channel paths for the respective CDS type are displayed.

CF

This is the equivalent of the INGCF command.

CONsole

Displays information about consoles.

DUMP

Shows the DUMP submenu.

IPL

Shows and compares IPL information. It can be issued with the following options:

DEL

Deletes a single IPL record and all its related information. Note that the DEL parameter is supported in line mode only.

SHOW

Shows the details panel of the specified IPL record.

DISP

Shows all, one, or particular PARMLIB members used by the IPL of the specified system and at the specified date and time.

COMP

Compares all, one, or particular PARMLIB members used by the IPL of the specified system and at the specified date and time with those specified in the WITH parameter.

LIST

Shows the IPL summary records of the specified system.

WITH

The COMP parameter compares all, one, or particular PARMLIB members used by the IPL of the specified system, at the specified date and time with those specified in parameter WITH.

DSN (APAR OA55386)

Is the name of a VSAM data set that holds IPL records. The default is the data set name associated with the ddname HSAIPL.

sysname

Is the name of the system in the sysplex.

timestamp

Is the IPL date and time. The format is YYYYMMDDhhmm.

member

Is the name of the PARMLIB member without the suffix.

suffix

Is the suffix of the PARMLIB member.

For further information about INGPLEX IPL refer to "INGPLEX IPL" on page 193.

SDUMP

Displays and controls the SDUMP options being set on all systems in the sysplex. For further information about INGPLEX SDUMP refer to "INGPLEX SDUMP" on page 194.

SLIP

Displays and controls all SLIP traps of all systems in the sysplex. Controlling is limited to DISABLE, ENABLE, or REMOVE a SLIP trap. The following parameters are supported:

ID

Limits the line mode output and the initial full screen display to the particular SLIP trap ID.

slipid

Is the ID of a SLIP trap. It can consist of one to four characters. Wildcards are not supported.

SYSTEM

Limits the line mode output and the initial full screen display to the particular system.

For further information about INGPLEX SLIP refer to "INGPLEX SLIP" on page 199.

STR

This parameter is equivalent to the INGSTR command.

CONDition

Defines whether or not the rebuild condition of each structure is to be determined and displayed.

ALL

Defines whether allocated and unallocated structures or just allocated structures are displayed.

TYPE

Defines what type of structures are to be displayed:

C

cache

K

lock

L

list

S

serialized list

(Default: all)

SVCdump

Allows you to issue a multisystem dump of up to 15 address spaces including data spaces owned by the address spaces, structures used by the address spaces, and XCF group members on the same or on other systems in the sysplex of those groups the address spaces have joined. The following parameters are supported:

sysname
Is the name of the system that has joined the XCF group of the NetView that the operator is logged on to.

REQ
Specifies the type of the line-mode request.

LIST
Requests the list of all active address spaces. This is the default when the parameter is omitted.

COMP
Requests the list of all components of the address spaces that are passed to the command.

DUMP
Requests a dump of the address spaces and their components that are passed to the command.

For further information about INGPLEX SVCDUMP refer to "INGPLEX SVCdump" on page 196.

SYStem
Displays information about a member system of the sysplex.

TARGET
For information on the TARGET parameter, refer to "TARGET Parameter" on page 14 .

OUTMODE
For information on the OUTMODE parameter, refer to "OUTMODE Parameter" on page 16.

Example

If you specify INGPLEX without parameters, the selection panel shown in Figure 67 on page 181 is displayed.

```
INGLX000                   SA z/OS  - Command Dialogs
Domain Id . : IPSFP   ------------ INGPLEX ------------   Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX          Time . . : 08:58:40

SAplex . . . . . . : KEY4PLEX

Select the desired command:                                  INGPLEX ...

  1 Display systems (including ETR & signalling paths)          SYStem
  2 Display consoles                                            CONsole
  3 Control coupling facilities (INGCF)                         CF
  4 Control couple data sets                                    CDS

  6 Display IPL information                                     IPL
  7 Control dumps                                               DUMP


 10 Control all structures (allocated and unallocated) (INGSTR)  STR



Command ===>
F1=Help     F2=End      F3=Return                           F6=Roll
                                                            F12=Retrieve
```

Figure 67. INGPLEX Selection Panel

Use this panel to launch other command dialogs showing sysplex-related information.

Use one of the following command codes to invoke another command dialog:

1 INGPLEX SYStem
Displays the target sysplex name, its GRS mode and its systems. For each system the following details are shown:

- System name
- Status

- SSUM action
- SSUM interval time
- SSUM weight
- SFM failure detection interval
- WLM query timestamp
- Total free SUs
- SUs used
- SU-consuming resources
- Free SUs

See "INGPLEX SYStem" on page 188.

2 INGPLEX CONsole

Displays the following details for the target sysplex:

- Master console name
- WTO & WTOR buffer utilization
- Number of queued messages of various types
- Awaiting mounts and operator requests
- List of consoles with more details, such as:
  - Name
  - Status
  - Authority
  - Number of WTOR buffers, etc.

See "INGPLEX CONsole" on page 190.

3 INGPLEX CF

Displays the coupling facilities in the sysplex, their spaces, and CF levels. Each coupling facility can be drained and enabled. The structures of each coupling facility can be displayed, rebuilt, and forced. Duplexing can be started and stopped, when supported. The paths of the coupling facility can be displayed and set online or offline.

See "INGCFL" on page 106.

4 INGPLEX CDS

Displays the couple data sets in the sysplex. For each couple data set, paths and more detailed information can be displayed. The couple data sets can be switched and new alternate data sets can be allocated.

See "INGPLEX CDS" on page 183.

6 INGPLEX IPL

Displays and compares IPL information being used during the IPL of an operating system. The information shown or compared can be varied from all available information to the content of a particular PARMLIB member.

See "INGPLEX IPL" on page 193.

7 INGPLEX DUMP

Displays the default dump options as well as the setting of the slip traps for all systems in the sysplex. It also allows you to change the settings either locally, sysplexwide, or for some systems in the sysplex. In addition, the function allows to take multisystem SVC dumps.

See "INGPLEX SDUMP" on page 194, "INGPLEX SVCdump" on page 196, and "INGPLEX SLIP" on page 199.

10 INGSTR

Displays all allocated and unallocated structures, independent of the coupling facility. The structures can be displayed, rebuilt, forced, and duplexing can be started and stopped, when supported. You can also reallocate all structures from their current location to their preferred location if all systems in the sysplex support the XCF REALLOCATE command.

See "INGSTR" on page 237.

INGPLEX CDS

Purpose

The CDS function displays information about all the couple data sets in the system, including details of the corresponding policies. For every CDS type that is required by the implementation INGPLEX CDS allows the operator to:

- Switch from the primary to the alternate CDS
- Define a new alternate CDS
- Change the active policy (if applicable)

Actions are started by specifying an action code for a selected CDS type on the panel.

Actions

The possible action codes are:

*A: Allocate alternate CDS

Replaces the current alternate CDS for a selected CDS type with a new one. There are two options how to do this:

- The alternate CDS is allocated automatically by SA z/OS.

  This automatic allocation requires that spare volumes have been defined, and that one of these spare volumes is available.

- Specify the data set that is to be used as the new alternate CDS.

  If you specify your own data set, observe the following:

  – The data set must exist

  – It must have been formatted with the XCF formatting tool

  – It must be at least as large as the current primary CDS, which means that every value you have passed to the XCF formatting tool (for example, in the case of a sysplex CDS, the maximum number of systems supported) must be equal to or greater than the corresponding value of the primary CDS.

C: Display CHPIDs

Displays information about the channel paths for the selected CDS type.

D: Display CDS information

Displays detail information about the selected CDS type. This comprises the formatting parameters and the policies that are contained in the CDS, if applicable. When the CDSs of the selected type contain policies, the detail information panel provides further actions:

D: Display policy

Displays details about the selected policy.

S: Start policy

Makes the selected policy the active policy.

The policy switch must be confirmed before it is executed.

*P: Switch alternate CDS to primary CDS
Makes the alternate CDS the primary one. Because an alternate CDS is no longer available after the switch, SA z/OS shows a confirmation panel before the action is performed. On the panel, you can specify a new alternate CDS. When CDS recovery is switched on and you do not supply your own alternate CDS, SA z/OS tries to allocate a new alternate CDS automatically. The special requirements for manual and automatic creation of the new alternate CDS are the same as those for the replacement of the alternate CDS (action code A).

Examples

The following example illustrates the switch from the primary to the alternate CDS.

The following examples start with issuing INGPLEX CDS and pressing F8 on the CDS command dialog to scroll down the CDS list. The panel shown in Figure 68 on page 184 is displayed.

```
 INGKX300                   SA z/OS  - Command Dialogs      Line  13   of 21
 Domain Id . : IPSFP     ---------- INGPLEX CDS -----------  Date . . : 01/26/18
 Operator Id : NETOP1           Sysplex = KEY1PLEX           Time . . : 09:03:52

 SAplex  . . . . . ==> KEY4PLEX_____   COUPLExx . . . . . : COUPLESY
 Interval  . . . . . : 900                OPNotify . . . . . : 900
 Maxmsg  . . . . . . : 99999              Cleanup  . . . . . : 30
 Retry . . . . . . . : 255                Classlen . . . . . : 956
 Max CFlevel . . . . : 20                 Max SMlevel  . . . : 20
 SMREBLD . . . . . . : 1
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

 Cmds: A allocate alternate CDS  / C display CHPIDs
       D display CDS information / P switch alternate CDS to primary CDS

    Type        MS   Volume  Dev   Couple Dataset Name
    --------    --   ------  ----  -------------------------------------------
 _  LOGR
     PRIMARY..: 32   KEY1XP  483D  SYS1.KEY1PLEX.PLOGCDS
     ALTERNATE: 32   KEY1XA  583D  SYS1.KEY1PLEX.ALOGCDS
 _  SFM

 Command ===>
 F1=Help     F2=End      F3=Return                          F6=Roll
 F7=Backward F8=Forward  F9=Refresh                         F12=Retrieve
```

Figure 68. INGPLEX CDS Command Dialog Panel

The panel header contains sysplex-related information about the system that the INGPLEX command was executed on. The details are as follows:

- The **System** field shows the name of the system.
- The **Interval** field shows the system failure detection interval in seconds. This interval is the amount of time XCF lets elapse without a status update before assuming that the system failed.
- The **OPNotify** field shows the number of seconds that XCF waits before notifying the operator of a potential system problem.
- The **Maxmsg** field shows the default value for the maximum amount of kilobytes of message buffer space. This default value is used when MAXMSG is not specified on SETXCF START commands.
- The **Cleanup** field shows the number of seconds that XCF waits for cleanup of members.
- The **Retry** field shows the default value for the retry limit. This value is used when the RETRY keyword is not specified on SETXCF START commands.
- The **Classlen** field shows the default length (in bytes) of messages allowed for a transport class. This value is used when CLASSLEN is not specified on the SETXCF START CLASSDEF command.
- The **Max CFlevel** field shows the maximum CFLEVEL supported by this system. This system can connect to a coupling facility with a higher CFLEVEL than the value of **Max CFlevel** but would not be enabled to use any functions supported by the higher level coupling facility.
- The **COUPLExx** field shows the COUPLE*xx* Parmlib member used for system IPL.

- The **SMRBLD** field shows whether (value 1) or not (value 0) system-managed rebuild has been activated in the CFRM couple data set.
- The **Max SMlevel** field shows the maximum system-managed process level supported by this system.

The main part of the screen shows information about the primary and alternate CDSs for every CDS type. Press F8 to scroll and display further entries. The **MS** field shows the maximum number of systems that are supported by the CDS.

Making an Alternate CDS the Primary CDS

In this example, the alternate LOGR couple data set is made the new primary CDS. A new alternate CDS is automatically generated.

To switch the LOGR couple data set, enter P before LOGR on the panel displayed in , and press Enter. INGPLEX CDS displays the confirmation panel shown in .

```
INGKX30A                    SA z/OS  - Command Dialogs
Domain Id . : IPSFP    ---------- INGPLEX CDS -----------   Date . . : 01/26/18
Operator Id : NETOP1           Sysplex = KEY1PLEX          Time . . : 09:04:33


                       SETXCF PSWITCH Confirmation

You are going to remove the LOGR    primary couple data set.
The alternate couple data set  SYS1.KEY1.ALOGCDS
becomes the primary as soon as you proceed with the GO function key.
Immediately after the switch, automation will try to allocate a new alternate
couple data set on one of the spare volumes defined during the customization.
If you want the automation to allocate your own alternate couple data set
complete the necessary information below.

  Your alternate couple dataset...

     Name    ==> _____

     Volume ==> _____

Command ===>
          F2=End       F3=Return                         F6=Roll
                                F10=Go       F11=Cancel   F12=Retrieve
```

Figure 69. Confirmation Panel for Switching from the Current Primary CDS to the Alternate CDS

Use this panel to determine how a new alternate CDS is to be created after the switch. You can either specify your own new alternate CDS or let SA z/OS create it for you. When you specify the new alternate CDS yourself, the data set must exist and must have been formatted with the XCF formatting tool. Automatic creation requires that spare volumes have been defined for LOGR couple data sets.

Pressing F10 causes SA z/OS to generate the new alternate CDS. After returning to the CDS command dialog, refreshing the panel, and scrolling down with F8, the panel looks as shown in .

```
INGKX300              SA z/OS  - Command Dialogs     Line  13   of 21
Domain Id . : IPSFP    ---------- INGPLEX CDS -----------  Date . . : 01/26/18
Operator Id : NETOP1         Sysplex = KEY1PLEX           Time . . : 09:04:52

SAplex  . . . . . ==> KEY4PLEX_____   COUPLExx . . . . . : COUPLESY
Interval  . . . . . : 900                OPNotify . . . . . : 900
Maxmsg  . . . . . . : 99999              Cleanup  . . . . . : 30
Retry . . . . . . . : 255                Classlen . . . . . : 956
Max CFlevel . . . . : 20                 Max SMlevel  . . . : 20
SMREBLD . . . . . . : 1

Cmds: A allocate alternate CDS  / C display CHPIDs
      D display CDS information / P switch alternate CDS to primary CDS

     Type         MS   Volume  Dev   Couple Dataset Name
     --------     --   ------  ----  ------------------------------------------
  _   LOGR
       PRIMARY..: 32   KEY1XP  483D  SYS1.KEY1PLEX.ALOGCDS
       ALTERNATE: 32   AUCUSR  262D  AOC.CDS.TEST.LOGR.CDS02
  _   SFM


Command ===>
F1=Help      F2=End      F3=Return                        F6=Roll
F7=Backward  F8=Forward  F9=Refresh                       F12=Retrieve
```

Figure 70. INGPLEX CDS Command Dialog Panel after the Switch

The previous alternate LOGR CDS has become the primary, and there is a new alternate, which was created by SA z/OS.

Switching the CFRM Policy

In this example, the active CFRM policy is switched.

Enter D before CFRM on the panel displayed in , and press Enter. The panel shown in is displayed.

```
INGKX311              SA z/OS  - Command Dialogs     Line  1    of 3
Domain Id . : IPSFP    ---------- INGPLEX CDS -----------  Date . . : 01/26/18
Operator Id : NETOP1         Sysplex = KEY1PLEX           Time . . : 09:08:40

                   CFRM Couple Data Set Information
Data Set Information
 Volume Device FORMAT TOD          Data Set Name
 ------ ------ ------------------  ------------------------------------------
 KEY1XP  483D  03/09/2005 13:48:08 SYS1.KEY1PLEX.PXESCDS
 KEY1XA  583D  03/09/2005 14:54:00 SYS1.KEY1PLEX.AXESCDS
Control Card Information
  MS   POLICY  CF   STR  CONNECT  SMREBLD  SMDUPLEX  MSGBASED
  --   ------  --   ---  -------  -------  --------  --------
  32       8  16   255       64        1         1         0
Policy Information
Cmds: D display policy / S start policy
   Name           CF  Str  Date        Time      Userid
   --------       --  ---  ----------  --------  --------
  _ HIRPOL   ACTIVE   3   72  09/13/2017 12:45:48  HIR
  _ SYSPOL1           3   72  07/14/2016 09:50:18  LOGO

Command ===>
F1=Help      F2=End      F3=Return                        F6=Roll
             F8=Forward  F9=Refresh                       F12=Retrieve
```

Figure 71. CFRM Couple Data Set Information Panel before Policy Switch

The panel shows information about the names and locations of the CDSs. The panel also shows the parameters that were used by the formatting tool of XCF for the allocation of the CDS. The **POLICY** column, for example, displays the maximum number of policies the CDS can contain. Furthermore, the panel shows information about the policies in the CDS, for example, how many coupling facilities and structures are defined in every policy, and which policy is currently active.

To switch to the HIRPOL policy, enter S before this policy and press Enter. INGPLEX CDS displays the confirmation panel shown in Figure 72 on page 187.

```
INGKX30D                  SA z/OS  - Command Dialogs
Domain Id   = IPSFP       ------- INGPLEX CDS -------        Date = 01/26/18
Operator Id = NETOP1           Sysplex = KEY1PLEX            Time = 10:13:17


                      SETXCF START   Confirmation

You are going to start a new CFRM    CDS policy named  SYSPOL1  .

The current policy

   HIRPOL

will be stopped as soon as you proceed with the GO function key,




Command ===>
          F2=End       F3=Return                             F6=Roll
                             F10=Go       F11=Cancel   F12=Retrieve
```

Figure 72. Confirmation Panel for Policy Switch

Displaying the Channel Paths for a CDS Type

In this example, the channel paths for the CFRM couple data sets are displayed.

Enter C before CFRM on the panel displayed in Figure 68 on page 184, and press Enter. The panel shown in Figure 73 on page 187 is displayed.

```
INGKX318                  SA z/OS  - Command Dialogs     Line  1    of 8
Domain Id . : IPSFP    ---------- INGPLEX CDS ----------  Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX          Time . . : 09:50:21

                        CFRM Channel Path Information
System    T  DEVN  CHPIDs                                     SSID
--------  -  ----  ------------------------------------       ----
KEY1      P  483D  30=+ 38=+                                   4800
          A  583D  34=+ 3C=+                                   5800
KEY2      P  483D  30=+ 38=+                                   4800
          A  583D  34=+ 3C=+                                   5800
KEY3      P  483D  30=+ 38=+                                   4800
          A  583D  34=+ 3C=+                                   5800
KEY4      P  483D  30=+ 38=+                                   4800
          A  583D  34=+ 3C=+                                   5800




Command ===>
F1=Help      F2=End       F3=Return                             F6=Roll
                          F9=Refresh                            F12=Retrieve
```

Figure 73. Channel Path Information for CFRM Couple Data Sets

- The **System** field shows the name of the sysplex members.
- The **T** field (for 'type') indicates whether the CDS is the primary (value 'P') or alternate (value 'A').
- The **DEVN** field displays the number of the device that the CDS resides on.
- The **CHPIDs** field shows the status of the paths to the devices in the format *chpid=status_code*. The codes are those of the operating system. They have the following meaning:

+

The path is logically and physically available and I/O on the path was successful.

*

The path is physically, but not logically available. The subchannel's logical path indicator is off but I/O to the path is successful. You can use the command VARY PATH (*ddd*,*nn*),ONLINE to make channel path *nn* logically available to device *ddd*.

-

The path is neither logically nor physically available. The subchannel's logical and physical indicators are both off for this channel path. You can use the command CONFIG CHP(*nn*),ONLINE to make the channel path logically available to all devices connected to the channel.

&

The device is reserved to another path. This indicator applies to devices with the dynamic pathing selection feature.

<

The path is installed but not physically available. The start subchannel request received a condition code of 3.

>

The device microcode has detected an error and will not allow I/O to complete on the path.

B

The path is unable to communicate. The device indicates that a busy or reserve condition exists on the path.

C

A controller error occurred while accessing the device.

D

A device error occurred while accessing the device.

I

Intervention is required; the device is not ready.

R

The path is available and the device is reserved to this path/group. This only applies to devices with the dynamic pathing feature.

T

A time out has occurred; there is no response from the device. The cause of the time out is undetermined and this condition is transient.

U

A storage control unit or storage director error occurred while accessing the device.

X

Unable to determine the failing unit.

- The **SSID** field displays the storage subsystem that the device belongs to.

INGPLEX SYStem

Purpose

The SYSTEM function displays the target sysplex name, its GRS mode and its member systems.

Example

shows an example of the INGPLEX SYSTEM command dialog panel.

```
AOFKX100                  SA z/OS  - Command Dialogs      Line 1     of 4
Domain Id . : IPSFP   --------- INGPLEX SYSTEM ---------   Date . . : 01/26/18
Operator Id : NETOP1         Sysplex = KEY1PLEX           Time . . : 09:52:00

GRS Mode  . . . . . : STAR

Cmds: C CPU / E ETR / I IPL / O IOS / S STOR/ESTOR
      D Device / T Structure (signalling path information)

                      Monitor                ----------- SSUM------------
   System    Status   Timestamp  INTERVAL  Action       TIME      WEIGHT
   --------  -------- ---------  --------  ----------   --------  ------
__ KEY1      ACTIVE   08:52:25   900       ISOLATE      0         1
__ KEY2      ACTIVE   08:52:25   900       ISOLATE      0         1
__ KEY3      ACTIVE   08:52:23   900       ISOLATE      0         1
__ KEY4      ACTIVE   08:52:25   900       ISOLATE      0         1




Command ===>
F1=Help      F2=End       F3=Return                          F6=Roll
                          F9=Refresh   F10=Previous F11=Next  F12=Retrieve
```

Figure 74. INGPLEX SYSTEM Command Dialog Panel 1

The following command codes are available:

C

Displays the online or offline status of one or more processors and any vector facilities, or ICRFs attached to those processors.

E

Displays the timer synchronization mode and ETR ports.

I

Displays IPL information.

O

Displays IOS-related configuration information.

S

Displays the number of megabytes of central and expanded storage assigned and available to the system.

D

Displays the device number of one or more inbound or outbound signalling paths that XCF can use and information about inbound or outbound XCF signalling paths to this system.

T

Displays detailed signalling path information for all coupling facility structures.

The following information is displayed:

- The **Sysplex** field shows the name of the sysplex.
- The **GRS Mode** field shows the GRS mode of the target system. The mode can be either STAR or RING.
- The **Cmd** field allows you to specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name, and press Enter.
- The **System** column shows the name of the system.
- The **Status** column shows the status of the system.
- The **Monitor Timestamp** column shows the last time stamp recorded for status monitoring on this system.
- The **INTERVAL** column shows the system failure detection interval in seconds. This interval is the time XCF allows to elapse without a status update before assuming that the system failed.

The last three columns contain configuration data of the SFM policy (if applicable).

- The **SSUM Action** field shows the SSUM action. It can be one of the following:

- – ISOLATE
- – DEACTIVATE
- – RESET
- – PROMPT
- – N/A

- The **SSUM TIME** field shows the SSUM interval as specified in the current SFM policy.

- The **SSUM WEIGHT** field shows the SSUM weight specified in the current SFM policy. This value is used in sysplex reconfigurations after a signalling connectivity failure.

Use the PF11 key to view WLM-related information to the right, as shown in .

```
AOFKX100                    SA z/OS  - Command Dialogs       Line   1   of 4
Domain Id . : IPSFP    --------- INGPLEX SYSTEM ---------   Date . . : 01/26/18
Operator Id : NETOP1           Sysplex = KEY1PLEX           Time . . : 09:53:00

GRS Mode  . . . . . : STAR

Cmds: C CPU / E ETR / I IPL / O IOS / S STOR/ESTOR
      D Device / T Structure (signalling path information)


             -------------------------- WLM Data --------------------------
    System   Timestamp          SUs Total   SUs Used    Resources   SUs Exp.
    --------  ----------------   ----------  ----------  ----------  ----------
 __ KEY1     N/A                       N/A         N/A         N/A         N/A
 __ KEY2     N/A                       N/A         N/A         N/A         N/A
 __ KEY3     N/A                       N/A         N/A         N/A         N/A
 __ KEY4     2018-01-26 09:51    16598610       48473          89    16471785




    Command ===>
    F1=Help    F2=End     F3=Return                            F6=Roll
                          F9=Refresh    F10=Previous  F11=Next  F12=Retrieve
```

Figure 75. INGPLEX SYSTEM Command Dialog Panel 2

- The **Timestamp** field shows the last time stamp when capacity data was queried from WLM.

- The **SUs Total** field shows the number of available SUs.

- The **SUs Used** field shows the number of used SUs in the last 10 minutes.

- The **Resource** field shows the number of SU-consuming resources with a desired state of AVAILABLE.

- The **SUs Exp.** field shows the number of free SUs, taking into account the resources that SA z/OS is about to start or stop.

INGPLEX CONsole

Purpose

The CONSOLE function displays the following information for the target sysplex:

- The name of the master console
- WTO & WTOR buffer utilization
- Number of queued messages (replies) of various types
- Awaiting mounts
- Operator requests and list of consoles (name, status, authority, number of WTOR buffers, UD, device, system, ALTGRP, MSCOPE)

Example

```
INGLX400                SA z/OS  - Command Dialogs      Line   1   of 22
Domain Id . : IPSFP   -------- INGPLEX CONSOLE ---------  Date . . : 01/26/18
Operator Id : NETOP1         Sysplex = KEY1PLEX          Time . . : 09:55:45

Master Console . . . : n/a
Message Buffer Usage : 0 / 3000        Reply Buffer Usage . : 9 / 300
Awaiting Replies . . : 9               Eventual Action  . . : 0
Immediate Action . . : 0               Awaiting Mounts  . . : 0
Critical Action  . . : 0               Operator Requests  . : 0
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D Details / R Requests

   Console   Status    AUTH    NBUF  UD  Device    System    ALTGRP    MSCOPE
   --------  --------  ------  ----  --  --------  --------  --------  --------
__ MASTER1   INACTIVE  MASTER     0  -     01C0    --none--    n/a     *ALL
__ MASTER1A  INACTIVE  MASTER     0  -     01E0    --none--    n/a     *ALL
__ MASTER1B  INACTIVE  ALL        0  -     01E4    --none--    n/a     *ALL
__ MASTER1C  INACTIVE  MASTER     0  -     01E5    --none--    n/a     *ALL
__ MASTER15  INACTIVE  MASTER     0  -     01C5    --none--    n/a     *ALL
__ MASTER2   INACTIVE  MASTER     0  -     01C0    --none--    n/a     *ALL

Command ===>
F1=Help     F2=End      F3=Return                         F6=Roll
            F8=Forward  F9=Refresh                        F12=Retrieve
```

Figure 76. INGPLEX CONS Command Dialog Panel

Use one of the following command codes to get more information for the selected console or consoles:

D
   Displays details for the console

R
   Displays current requests for the console

The fields on the command dialog panel display the following information:

- The **Sysplex** field shows the name of the sysplex.

- The **Message Buffer Usage** field shows the limit of the number of WTO message buffers allowed outstanding.

- The **Awaiting Replies** field shows a decimal number representing the number of messages awaiting replies.

- The **Immediate Action** field shows a decimal number representing the number of outstanding immediate action messages (with descriptor codes 1 or 2). If the number is greater than 99999, asterisks appear in this field.

- The **Critical Action** field shows a decimal number representing the number of outstanding critical eventual action messages (with descriptor code 11). If the number is greater than 99999, asterisks appear in this field.

- The **Master Console** field shows the name of the master console.

- The **Reply Buffer Usage** field shows the limit of the number of WTOR message buffers allowed outstanding. The maximum value of yyyy is specified by the RMAX parameter in the CONSOLxx parmlib member.

- The **Eventual Action** field shows a decimal number representing the number of outstanding eventual action messages (with descriptor code 3). If the number is greater than 99999, asterisks appear in this field.

- The **Awaiting Mounts** field shows a decimal number representing the number of outstanding mount requests.

- The **Operator Requests** field shows a decimal number representing the number of outstanding requests for operator intervention.

INGPLEX CONSOLE

- The following details are shown for each MCS console that has been defined. If the MSCOPE information does not fit on the primary screen, the PF10 function key is available for you to toggle between the primary panel and the panel showing MSCOPE information.

- The **Console** field shows the name of the console as specified in the CONSOLxx parmlib member.

- The **Status** field shows the status of the console. The following values can occur:

HARDCOPY
Hardcopy log. This condition is only indicated if the console is active on the system where the command processes.

ACTIVE
Active console

ACTIVE-P
In the process of becoming an active console. This condition is only indicated if the console is active on the system where the command is processing.

MASTER
Master console

INACTIVE
Inactive console

INACT-P
In the process of becoming a non-active console. This condition is only indicated if the console is active on the system where the command is processing.

PROB-DET
The active system console is in the problem determination mode. PD is indicated only for the system console.

SUBSYS
Subsystem-allocatable console

- The **AUTH** field shows which commands may be entered from this console. The following values can occur:

ALL
Any INFO, SYS, IO, or CONS command may be entered from this console.

CONS
INFO commands and any commands from the console command group may be entered from this console.

INFO
Any command from the informational command group may be entered from this console.

IO
INFO commands and any commands from the I/O Control command group may be entered from this console.

MASTER
The specified console is authorized to enter any operator command.

NONE
This console does not have command authority.

SYS
INFO commands and any commands from the system control command group may be entered form this console.

- The **NBUF** field shows the number of WTO message buffers currently queued to this console. If nnnn is greater than 9999, asterisks (****) appear in this field.

- The **UD** field shows whether this console is receiving messages with the UD attribute.

- The **Device** field shows the device number of the console as specified in the CONSOL*xx* parmlib member.

- The **System** field shows the system name of the active console.

- The **ALTGRP** field shows the alternate group defined for this console.
- The **MSCOPE** field lists the name of the system or systems that this console is receiving unsolicited messages from. Note that these systems might be different from the system where this console is physically attached.

INGPLEX IPL

Purpose

With the INGPLEX IPL command you can view and compare the IPL information of the operating system. The IPL information is collected by the PROCLIB member (for further information, refer to the installation procedure step "Configure SYS1.PARMLIB Members" in "Configuring SA z/OS on Host Systems" of *IBM System Automation for z/OS Planning and Installation*). If a system does not behave after IPL as expected, the IPL recording function enables you to identify parameters that were changed, for example, since the last IPL. The recording function enables you to compare different IPL scenarios. INGPLEX IPL is a tool that helps to identify and resolve the cause of startup problems. The following information can be displayed:

- The selected system (or blank)
- The name of the sysplex
- The maximum number of IPLs that are stored for each system
- An indicator showing whether comments in PARMLIB members are ignored when collecting information

The parameter DSN on invocation allows you to select a different IPL data set for displaying or comparing IPL information. It might be useful in case of a disaster recovery when you need IPL information of the sysplex that is down.

Example

```
INGLX200                  SA z/OS  - Command Dialogs     Line   1   of 22
Domain Id . : IPSFP    ---------- INGPLEX IPL -----------  Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX          Time . . : 09:56:43

System  . . . . . ==>                    Max. number of IPL records/system : 10
SAplex  . . . . . ==> KEY4PLEX           Suppression of PARMLIB comments . : Y
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: C compare record / D display details / E erase record

   System    IPL Timestamp    /local          Dev  Volume  OpSys  Release  FMID
   --------  ---------------------------- ---- ------  ------ -------- -------
__ KEYA      2017-11-08 17:59/11-08 18:58  5025 22M711  z/OS   SP7.2.2  HBB77A0
__ KEY1      2018-01-10 17:44/01-10 18:43  500F 21M801  z/OS   SP7.2.1  HBB7790
__ KEY1      2017-12-06 17:55/12-06 18:54  500B 21M712  z/OS   SP7.2.1  HBB7790
__ KEY1      2017-11-08 17:54/11-08 18:54  502F 21M711  z/OS   SP7.2.1  HBB7790
__ KEY1      2017-10-04 17:17/10-04 19:16  500F 21M710  z/OS   SP7.2.1  HBB7790
__ KEY1      2017-09-06 16:54/09-06 18:54  500B 21M709  z/OS   SP7.2.1  HBB7790
__ KEY2      2018-01-10 17:51/01-10 18:51  500F 21M801  z/OS   SP7.2.1  HBB7790
__ KEY2      2017-12-06 18:04/12-06 19:04  500B 21M712  z/OS   SP7.2.1  HBB7790
__ KEY2      2017-11-08 18:02/11-08 19:02  502F 21M711  z/OS   SP7.2.1  HBB7790


Command ===>
F1=Help     F2=End      F3=Return                        F6=Roll
            F8=Forward  F9=Refresh  F10=Previous F11=Next    F12=Retrieve
```

Figure 77. INGPLEX IPL Main Panel

Use F10 and F11 to scroll through all available columns. SORT by column numbers is supported as well as the FIND and RFind command to locate information on the panel. You can also limit the display to a particular system by specifying the system name in the appropriate entry field.

The following command codes are available:

C

Compares the complete IPL information with another IPL record. A second panel will be displayed where you can select the second record.

D

Displays detailed information about this IPL record.

E

Erases the IPL information records. This action must be confirmed.

- The **Sysplex** field shows the name of the sysplex.
- The **System** field shows the name of the system in the sysplex.
- The **IPL Timestamp** field shows the date and time of the IPL. The format is YYYY-MM-DD HH:MM converted to local timezone.
- The **Dev** field shows the IPL device number.
- The **Volume** field shows the volume serial of the IPL device.
- The **OpSys** field shows the name of the operating system, for example, z/OS or OS/390®.
- The **Release** field shows the release level of the operationg system.
- The **FMID** field shows the FMID of the operating system.

For further information about the panel fields refer to the online help.

INGPLEX SDUMP

Purpose

The INGPLEX SDUMP command lets you control the default dump options sysplexwide.

Example

The dump functions can be invoked directly by specifying the commands, or from the dump panel of the INGPLEX command selecting the appropriate command. In addition, you can invoke the dump submenu from the main panel of the INGPLEX command selecting command **7**. The panel shown in Figure 78 on page 194 is displayed.

```
INGLX250                   SA z/OS  - Command Dialogs
Domain Id . : IPSFP    ------------ INGPLEX ------------   Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX          Time . . : 10:03:49

SAplex  . . . . . . : KEY4PLEX

Select the desired command:                              INGPLEX ...

  1 Control default SDUMP options                          SDUMP
  2 Issue SVC dumps                                        SVCDUMP
  3 Control SLIP trap settings                             SLIP
    Create a SLIP trap                                     SLIPCR







  Command ===>
  F1=Help     F2=End      F3=Return                              F6=Roll
                                                                 F12=Retrieve
```

Figure 78. INGPLEX Dump Options Panel

If you select option 1, the panel shown in Figure 79 on page 195 is displayed. Option 4 is only available for screen sizes with more than 42 rows.

```
INGLX251                 SA z/OS  - Command Dialogs      Line   1   of 12
Domain Id . : IPSFP   --------- INGPLEX SDUMP ----------   Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX          Time . . : 10:23:48

SAplex  . . . . . ==> KEY4PLEX        Permission . . . . : ALL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: C change

   System   Dump options
   --------  ------------------------------------------------------------------
__  KEY1     Q=     Type=      Buffers=   0K  MaxSpace=    2000M  MsgTime=   60
                               CSA       LPA LSQA NUC PSA RGN              SQA
                    TRT
__  KEY2     Q=     Type=      Buffers=   0K  MaxSpace=    2000M  MsgTime=   60
                               CSA       LPA LSQA NUC PSA RGN              SQA
                    TRT
__  KEY3     Q=     Type=      Buffers=   0K  MaxSpace=    2000M  MsgTime=
60                              CSA        LPA LSQA NUC PSA RGN             SQA
                               CSA        LPA LSQA NUC PSA RGN             SQA
                    TRT
__  KEY4     Q=     Type=      Buffers=   0K  MaxSpace=    2000M  MsgTime=   60

   Command ===>
   F1=Help      F2=End       F3=Return                        F6=Roll
                F8=Forward   F9=Refresh                        F12=Retrieve
```

Figure 79. INGPLEX SDUMP Panel

The following command code is available:

C change
Invokes the modification panel by providing the options of the selected system as input:

- The **Sysplex** field shows the name of the sysplex.

- The **System** field shows the name of the system in the sysplex.

- The **Permission** field shows your authorization level.

- The **Dump options** field shows the default SDUMP options of all systems in the sysplex. For each system the following details are displayed:

  Q=
  Shows whether or not SDUMP quiesces the system while dumping the contents of the SQA or CSA.

  TYPE=
  Causes SVC dump to dump the cross memory address spaces that the caller has when SVC dump gets control (XMEM) or when the error causing the dump occurs (XMEME).

  With z/OS version 2.3, MVS supports the option XMEMT. You can specify it alone, or together with XMEM or XMEME. If specified together, the INGPLEX SDUMP panel will display XMEM* or XMEME*.

  XMEMT sets the SDUMP system dump options list to cross memory of target ASIDs. Specifying TYPE=XMEMT causes the SVC dump to dump private storage (depending on the SDATA options that are in effect) from the active cross memory address spaces of the originally requested, non-exempt target address spaces specified on the ASID/JOBNAME and TSONAME parameters on the DUMP command. The added XMEMT ASIDs are listed in message IEA047I.

  BUFFERS=
  Shows the reserved storage exclusively used by SVC dump. This storage can be used while capturing the contents of the common area storage.

  MaxSpace
  Shows the maximum amount of virtual storage that SVC dump can use to capture volatile virtual storage data, summary dump data, and component-specific data before writing the dump to DASD.

  MsgTime
  Shows how long (mm) the message IEA793A is shown at the console. When the system deletes the message, it also deletes the captured dump.

The FIND and RFIND commands are supported. If you specify command code C, the panel shown in is displayed.

```
 INGLX252                 SA z/OS  - Command Dialogs
 Domain Id . : IPSFP    --------- INGPLEX SDUMP ----------   Date . . : 01/26/18
 Operator Id : NETOP1          Sysplex = KEY1PLEX            Time . . : 10:24:49

 System   . . . . . . : KEY1              Recommended options are underlined.

 NODUMP ... ==> N     (all other options below are ignored)

 ALLNUC ... ==> _     ALLPSA(*)  ==> _    COUPLE ... ==> _    CSA ...... ==> Y
 GRSQ ..... ==> _     LPA ...... ==> Y    LSQA ..... ==> Y    NUC ...... ==> Y
 PSA ...... ==> Y     RGN ...... ==> Y    SERVERS .. ==> _    SQA(*) ... ==> Y
 SUMDUMP(*) ==> _     SWA ...... ==> _    TRT ...... ==> Y    WLM ...... ==> _
 XESDATA .. ==> _     (*) = The NOxxx option is generated when not selected.

 Q(uiesce)  ==> ___      (YES / NO)
 Type ..... ==> _____    (XMEM / XMEME)
           ==> _____    (XMEMT)
 Buffers .. ==> 0K___    (nnnnK / nnnM)
 MaxSpace . ==> 2000____  (MB)
 MsgTime .. ==> 60___    (minutes)

 Command ===>
 F1=Help      F2=End        F3=Return     F4=Set SYS   F5=Undo all  F6=Roll
                                          F10=Set SYSS F11=Set SYSP F12=Retrieve
```

Figure 80. INGPLEX SDUMP Modification Panel

The modification panel allows you to modify all SDUMP options. Furthermore, you can delete SDUMP options. After entering your changes you can set the new options for:

- The selected system
- All systems in the sysplex
- Selected systems in the sysplex

To set the options press the appropriate F-key. If you want to modify selected systems in the sysplex, you are prompted for the systems that the SDUMP options are being changed for. To reset the options to the state when the modification panel was invoked press F5 Undo all.

Note: The user must be authorized to change any SDUMP option. The authorization can be any of those that are used for controlling coupling facilities and couple data sets.

For further information about the panel fields refer to the online help.

INGPLEX SVCdump

Purpose

The INGPLEX SVCDUMP function allows you to issue a multisystem dump of up to 15 address spaces of a single system including their data spaces and structures.

Example

```
INGLX26S                 SA z/OS  - Command Dialogs       Line   1   of 2
Domain Id . : IPSFP   -------- INGPLEX SVCDUMP ---------   Date . . : 01/26/18
Operator Id : NETOP1            Sysplex = KEY1PLEX         Time . . : 10:30:23

The following systems of the sysplex are registered to the automation.
Use any non-blank character to select one system and then press ENTER.

    Sel.  System
    ----  --------
     __   KEY1
     __   KEY4








  Command ===>
  F1=Help      F2=End        F3=Return                        F6=Roll
                                                              F12=Retrieve
```

Figure 81. INGPLEX SVCDUMP Target System Selection Panel

- The **Sel** field lets you select a system that a multisystem dump is issued from.
- The **System** field shows the name of the system having joined the same XCF group the operator is logged on to.

For further information about the panel fields refer to the online help. After selecting a system and pressing Enter, the panel shown in is displayed.

```
INGLX260                 SA z/OS  - Command Dialogs       Line  1    of 86
Domain Id . : IPSFP   -------- INGPLEX SVCDUMP ---------   Date . . : 01/26/18
Operator Id : NETOP1            Sysplex = KEY1PLEX         Time . . : 10:29:11

System  . . . . . ==> KEY4
SAplex  . . . . . ==> KEY4PLEX
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D/S de-/select job names for the SVC dump (up to 15 can be specified)

    Jobname   ASID  WorkUnitID  Userid
    --------  ----  ----------  --------
 __ TNF       0024
 __ TRACE     0004
 __ TSO       003B  STC05983    STCUSER
 __ VLF       0019
 __ VMCF      0025
 __ VTAM      001E  STC05982    STCUSER     selected
 __ WATS      0217  TSU06587    _           selected
 __ WLM       000B
 __ XCFAS     0006


  Command ===>
  F1=Help      F2=End        F3=Return              F5=NextPnl    F6=Roll
               F8=Forward    F9=Refresh                           F12=Retrieve
```

Figure 82. INGPLEX SVCDUMP Address Space Selection Panel

If, for example, you select the VTAM address space and the WATS address space (which is a user), press Enter and then press F5, the panel shown in is displayed.

```
INGLX261                   SA z/OS  - Command Dialogs        Line   1   of 20
Domain Id . : IPSFP    -------- INGPLEX SVCDUMP ---------   Date . . : 01/26/18
Operator Id : NETOP1          Sysplex = KEY1PLEX            Time . . : 10:36:02

System  . . . . . . . : KEY4
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D/S de-/select the areas to be dumped (max. 113 structures)
         A selection of the job name includes all related areas. If you make
         a selection press ENTER to confirm your selection before you proceed.

   Jobname    ASID  T Data Space/XCF Group Member/Structure
   --------   ----  - -----------------------------------------
__  VTAM      001E
__               D IST90C95
__               D 00012IXL
__               D 00013IXL
__               L ISTGENERIC selected
__               M ISTCFS01.KEYB.VTAM.IPXVH___DEIBMIPS        selected
__               M ISTXCF.KEYB.VTAM.IPXVH___DEIBMIPS          selected
__  WATS      0217

 Command ===>
 F1=Help      F2=End      F3=Return   F4=PrevPnl  F5=NextPnl     F6=Roll
              F8=Forward   F9=Refresh                            F12=Retrieve
```

Figure 83. INGPLEX SVCDUMP Address Space Detail Panel

Address space VTAM has some data spaces (D), one list structure (L) and some XCF group members (M). TSO user WATS has nothing.

The following command codes are supported:

D

Deselects the previous selection.

S

Selects a local address space, data space, structure, or XCF group member address space for the SVC dump.

If you press F5, the dump option selection panel is displayed, as shown in .

```
INGLX262                  SA z/OS  - Command Dialogs
Domain Id   = IPSFP   ---------- INGPLEX SVC -----------   Date . . : 01/26/18
Operator Id = NETOP1         Sysplex = KEY1PLEX            Time . . : 10:40:36
System  . . . . . . : KEY4

Title .... ==>  _____
          ==>  _____

SDATA Dump Options (recommended options are underlined)
ALLNUC ... ==> _     ALLPSA(*)  ==> Y    COUPLE ... ==> _    CSA ...... ==> Y
GRSQ ..... ==> Y     LPA ...... ==> _    LSQA ..... ==> _    NUC ...... ==> Y
PSA ...... ==> _     RGN ...... ==> Y    SERVERS .. ==> _    SQA(*) ... ==> Y
SUMDUMP(*) ==> Y     SWA ...... ==> _    TRT ...... ==> Y    WLM ...... ==> _
XESDATA .. ==> _     (*) = The NOxxx option is used when not selected.

Structure Dump Options (SUMMARY and ADJUNCT/ENTRYDATA are mutually exclusive)
COCLASS .. ==> _     EMCONTROLS ==> _    LISTNUM .. ==> _    STGCLASS . ==> _
ADJUNCT .. ==> _     ENTRYDATA  ==> _    SUMMARY .. ==> _

Command ===>
F1=Help     F2=End      F3=Return   F4=PrevPnl  F5=Dump      F6=Roll
                                                             F12=Retrieve
```

Figure 84. INGPLEX SVCDUMP Dump Option Panel

The panel shows the default dump options that are set on invocation. After specifying the dump title, press F5 to issue the dump. When the dump is taken, the function returns to the address space selection panel with all selections cleared. The SORT, FIND and RFIND commands are supported for selection panels only. For further information about the panel fields refer to the online help.

Executing this command in line-mode requires the following 5 steps:

1. Execute the command:

```
INGPLEX SVC sysname [REQ=LIST] OUTMODE=LINE
```

2. Remove the first 5 lines and the last line from the output. Then select the address spaces that you want to dump and save the entries using a PIPE command:

```
PIPE ... | SAFE INGRX260
```

Keep the same format that is returned in the REQ=LIST output.

3. Execute the command:

```
INGPLEX SVC sysname REQ=COMP OUTMODE=LINE
```

4. Again remove the first 5 lines and the last line from the output. Then select the address spaces and the associated components, such as data spaces, XCF group members, and cache and list structures and save these entries using a PIPE command:

```
PIPE ... | LIT \dump title/sdata options/stropt\ |SAFE INGRX260
```

Keep the same format that is returned in the REQ=COMP output. The dump options passed by the LIT stage correspond exactly to the values in Figure 84 on page 198.

5. Execute the command:

```
INGPLEX SVC sysname REQ=DUMP OUTMODE=LINE
```

```
"PIPE NETV INGPLEX SVC "sysname" OUTMODE=LINE" ,
   "| SEP" ,
   "| NOT TAKE 5" ,
   "| NOT TAKE LAST" ,
   "| STEM z."

"PIPE STEM z.",
   "| LOCATE 1.6 /RASP  /" , /* locate RASP and     */
           "1.6 /TRACE /" , /* TRACE address space */
   "| SAFE INGRX260"

"PIPE NETV INGPLEX SVC "sysname" REQ=COMP OUTMODE=LINE" ,
   "| SEP" ,
   "| NOT TAKE 5" ,
   "| NOT TAKE LAST" ,
   "| STEM z."

dumpopt = 'Dump RASP and TRACE in line mode' || ,
        '/ALLNUC ALLPSA CSA GRSQ LSQA PSA RGN SQA SWA TRT'

"PIPE STEM z.",
   "| NLOC 17.1 /M/" ,        /* don't process XCF group members */
   "| LIT \"dumpopt"\" ,
   "| SAFE INGRX260"

"PIPE NETV INGPLEX SVC "sysname" REQ=DUMP OUTMODE=LINE" ,
   "| CONS ONLY"
```

Figure 85. INGPLEX SVC Line Mode Sample

INGPLEX SLIP

Purpose

With the INGPLEX SLIP command you can display serviceability level indication processing (SLIP) traps being set at all systems in the sysplex. With INGPLEX SLIP you can view, enable, disable, and delete the SLIP trap defined in the sysplex.

Example

```
INGLX270              SA z/OS  - Command Dialogs     Line   1   of 144
Domain Id . : IPSFP   ---------- INGPLEX SLIP ----------   Date . . : 01/26/18
Operator Id : NETOP1         Sysplex = KEY1PLEX          Time . . : 10:42:57

System  . . . . . ==> _____ (leave blank for all systems)
Slip Trap Id  . . ==> ____     (leave blank for all ids)
SAplex  . . . . . ==> KEY4PLEX          Permission . . . . : ALL
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: +/- display/hide settings D disable E enable R remove

   System    Id    Status    Settings
   --------  ----  --------  -------------------------------------------------
__ KEY1      SS71  ENABLED
__ KEY1      S071  ENABLED
__ KEY1      S3C4  ENABLED
__ KEY1      XB37  ENABLED
__ KEY1      XC1A  ENABLED
__ KEY1      XD1A  ENABLED
__ KEY1      XD37  ENABLED
__ KEY1      XEC6  ENABLED


Command ===>
F1=Help     F2=End       F3=Return                       F6=Roll
            F8=Forward   F9=Refresh                      F12=Retrieve
```

Figure 86. INGPLEX SLIP Main Panel

The following command codes are available:

+

Shows the settings of the SLIP trap.

-

Hides the settings of the SLIP trap.

D

Disables the SLIP trap.

E

Enables the SLIP trap.

R

Deletes the SLIP trap.

The SORT, FIND and RFIND commands are supported.

Note: The user must be authorized to enable, disable, and delete a SLIP trap. The authorization can be any of those that are used for controlling coupling facilities and couple data sets.
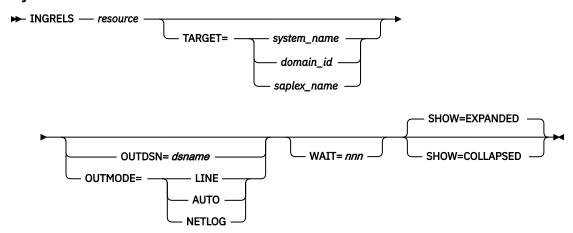
For information about the panel fields refer to the online help.

INGRELS

Purpose

The INGRELS command shows the relationships that are defined for the given resource.

Syntax

```
▶▶─ INGRELS ── resource ──────────────────────────────────────▶
                         └─ TARGET= ─┬─ system_name ─┬─┘
                                     ├─ domain_id ───┤
                                     └─ saplex_name ─┘

▶─┬──────────────────────────────┬──┬──────────┬──┬─ SHOW=EXPANDED ──┬─◀
  ├─ OUTDSN= dsname ──────────────┤  └ WAIT= nnn ┘  └─ SHOW=COLLAPSED ─┘
  └─ OUTMODE= ─┬─ LINE ───┬───────┘
               ├─ AUTO ───┤
               └─ NETLOG ─┘
```

Parameters

resource
Specifies the name of the resource to be displayed. The format is *name/type[/system]*.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

SHOW
Specifies whether or not to show just the relationships or also the relationship conditions. It can be:

EXPANDED
This shows relationships and their conditions. This is the default.

COLLAPSED
This shows just the relationships.

Restrictions and Limitations

None.

Usage

The INGRELS command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter `ingrels` and the name of a resource, a panel similar to that in Figure 87 on page 202 is displayed.

```
INGKYRL0                    SA z/OS - Command Dialogs        Line  1    of 115
Domain ID   = IPUN8        ---------- INGRELS  ----------    Date = 01/02/03
Operator ID = NETOP1          Sysplex = AOC8PLEX             Time = 13:15:00

 Resource    =>  NETVIEW/APL/AOC8
 Target      =>  _____        System name, domain id or sysplex name

Cmd:  - Collapse   + Expand   E INGVOTE   F INGINFO   J INGGROUP   S Focus

Cmd Name         Type System   Dir Relationship
--- ----------- ---- -------- --- -------------------------------------------
 _  ALWAYSUP     APL  AOC8      B  HasParent  - Strong
                                   Cond: stopDependency - UNSATISFIED
                                   Cond: reallyDown - UNSATISFIED
                                   Cond: allExpectedDown
 _  AOC8         SYG  AOC8      B  HasMember
                                   Cond: startDependency
                                   Cond: stopDependency
                                   Cond: extStart - UNSATISFIED
                                   Cond: extStop - UNSATISFIED
                                   Cond: extStopDelayed
                                   Cond: prestartDependency
                                   Cond: prestopDependency
                                   Cond: groupTriggerStartupInhibited - YES
                                   Cond: groupTriggerShutdownInhibited - YES
                                   Cond: groupAutomationDisabled - UNSATISFIED
 _  BZOENEW      APL  AOC8      B  HasParent  - Strong
                                   Cond: stopDependency - UNSATISFIED


Command ===>
  PF1=Help      PF2=End       PF3=Return     PF5=Collapse all   PF6=Roll
                PF8=Forward   PF9=Refresh    PF11=Expand all    PF12=Retrieve
```

Figure 87. INGRELS Command Dialog Panel

- The **Cmd** field lets you specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  +

  Shows the condition details that exist for the selected relationship. This is only applicable if the relationship conditions are collapsed.

  -

  Collapses the condition details so that only the relationship is shown.

  E

  Shows the requests and votes of the resource (it displays the INGVOTE panel for the resource).

  F

  Shows detailed information about the resource (it displays the INGINFO panel for the resource).

  J

  Displays the INGGROUP panel for the resource.

  S

  Focuses on the selected resource. This is equivalent to specifying the selected resource name in the Resource field at the top of the panel.

- The **Name** field shows the name of the resource that the specified resource has a relationship with. This is referred to as the relationship partner and is also called the supporting resource.

- The **Type** field shows the type of the resource.

- The **Target** field shows the name of the system where the resource resides.

- The **Dir** field shows the direction of the relationships as seen from the specified resource.

  F

  Forward. The relationship exists from the specified resource to the partner resource.

  B

  Backward. The relationship exists from the partner resource to the specified resource.

- The **Relationship** field shows the name of the relationship that exists between the two resources. This defines the dependency that exists between the two resources. The status of all descendants will be considered for a relationship with strong chaining. For weak chaining only the direct descendants are checked. Weak is the default. Strong chaining causes SA z/OS to check all relationships of the involved resources along the dependency graph.

  If the relationship name contains 'active', this means that an attempt is made to bring the supporting resource in the required state to satisfy the dependency. Active is the default.

The following PF keys are supported:

- Use the PF5 key to collapse the visible relationship conditions for all relationships.
- Use the PF11 key to see the relationship condition details for all relationships.

If you collapse all condition details, the INGRELS panel looks like .

```
INGKYRL0                  SA z/OS  - Command Dialogs      Line  1    of 27
Domain ID   = IPUN8      ---------- INGRELS  ----------     Date = 01/02/03
Operator ID = NETOP1          Sysplex = AOC8PLEX            Time = 13:15:41

 Resource    =>  NETVIEW/APL/AOC8
 Target      =>  _____          System name, domain id or sysplex name

Cmd:  - Collapse   + Expand   E INGVOTE   F INGINFO   J INGGROUP   S Focus

Cmd Name          Type System   Dir Relationship
--- ----------- ---- -------- --- ---------------------------------------------
 _   ALWAYSUP    APL  AOC8      B  HasParent  - Strong
 _   AOC8        SYG  AOC8      B  HasMember
 _   BZOENEW     APL  AOC8      B  HasParent  - Strong
 _   ECICAOR     APL  AOC8      B  HasParent  - Strong
 _   ECICSTOR    APL  AOC8      B  HasParent  - Strong
 _   EDB2IRLM    APL  AOC8      B  HasParent  - Strong
 _   EDM2MSTR    APL  AOC8      B  HasParent  - Strong
 _   EIMSCTL1    APL  AOC8      B  HasParent  - Strong
 _   EIMSDBRC    APL  AOC8      B  HasParent  - Strong
 _   EOPCCNTL    APL  AOC8      B  HasParent  - Strong
 _   EOPCTRK     APL  AOC8      B  HasParent  - Strong
 _   HASPASPR    APL  AOC8      B  HasParent  - Strong
 _   MOVSYS1     APL  AOC8      B  HasParent  - Strong
 _   MOVSYS2     APL  AOC8      B  HasParent  - Strong
 _   MOVSYS3     APL  AOC8      B  HasParent  - Strong
 _   MULTIEVT    APL  AOC8      B  HasParent  - Strong
 _   MULTISTR    APL  AOC8      B  HasParent  - Strong

Command ===>
  PF1=Help     PF2=End       PF3=Return      PF5=Collapse all    PF6=Roll
               PF8=Forward   PF9=Refresh     PF11=Expand all     PF12=Retrieve
```

Figure 88. INGRELS Command Dialog Panel with All Details Collapsed

INGREQ
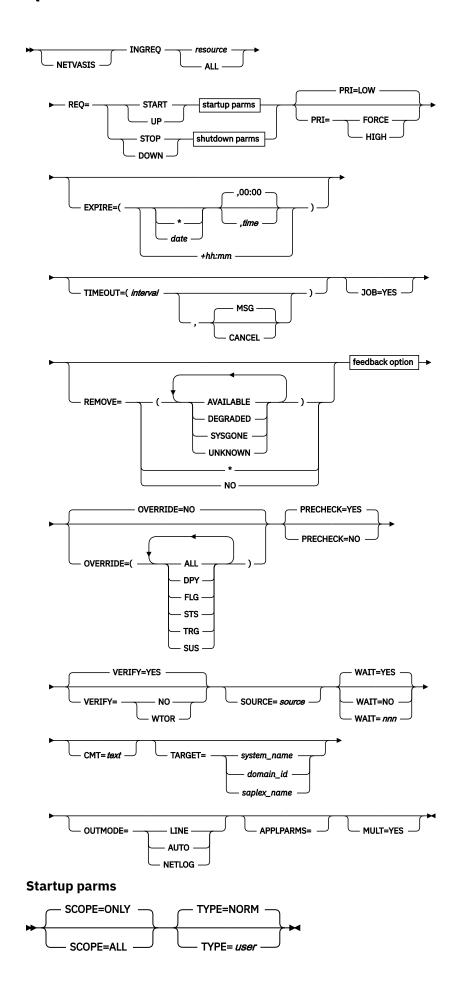
Purpose

The INGREQ command lets you:
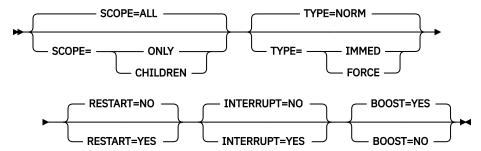
- Initiate the shutdown process for one or more resources
- Initiate the startup process for one or more resources
- Cancel a request that was previously made for the specified resource

Syntax
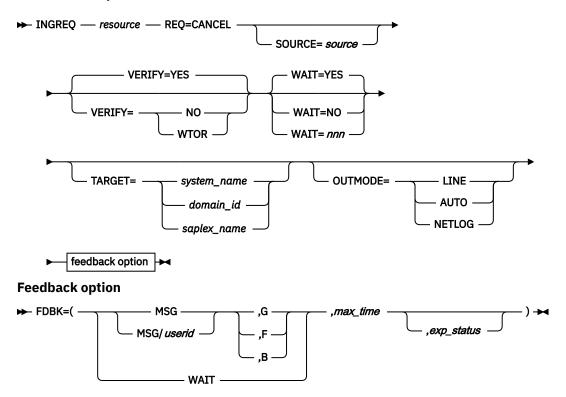
To start up or shut down resources:

INGREQ

```
►►─┬──────────┬─ INGREQ ─┬─ resource ─┬─►
   └ NETVASIS ┘          └─ ALL ──────┘
```

```
►─ REQ= ─┬─┬─ START ─┬─ startup parms ──┬─►─┬─ PRI=LOW ────────┬─►
         │ └─ UP ────┘                  │   │                   │
         └─┬─ STOP ──┬─ shutdown parms ─┘   └─ PRI= ─┬─ FORCE ─┬┘
           └─ DOWN ──┘                               └─ HIGH ──┘
```

```
►─┬───────────────────────────────────────────────────────┬─►
  └ EXPIRE=( ─┬──────────┬─┬─ ,00:00 ──┬─ ) ─┘
              ├─── * ────┤ └─ ,time ───┘
              └─ date ───┘
              └──── +hh:mm ────┘
```

```
►─┬───────────────────────────────────────┬─┬──────────┬─►
  └ TIMEOUT=( interval ─┬──────────────┬─ ) ┘ └ JOB=YES ┘
                        └ , ─┬─ MSG ───┬┘
                             └─ CANCEL ┘
```

```
►─┬─────────────────────────────────────────┬─ feedback option ─►
  └ REMOVE= ─┬─ ( ─┬◄────────────────┬─ ) ─┬─┘
             │     ├─ AVAILABLE ─────┤     │
             │     ├─ DEGRADED ──────┤     │
             │     ├─ SYSGONE ───────┤     │
             │     └─ UNKNOWN ───────┘     │
             ├──────────── * ──────────────┤
             └──────────── NO ─────────────┘
```

```
►─┬─ OVERRIDE=NO ──────────────────────┬─┬─ PRECHECK=YES ─┬─►
  └ OVERRIDE=( ─┬◄───────┬─ ) ─────────┘ └ PRECHECK=NO ───┘
               ├─ ALL ──┤
               ├─ DPY ──┤
               ├─ FLG ──┤
               ├─ STS ──┤
               ├─ TRG ──┤
               └─ SUS ──┘
```

```
►─┬─ VERIFY=YES ────────┬─┬──────────────────┬─┬─ WAIT=YES ──┬─►
  └ VERIFY= ─┬─ NO ───┬─┘ └ SOURCE= source ─┘ ├─ WAIT=NO ───┤
             └─ WTOR ─┘                        └─ WAIT= nnn ─┘
```

```
►─┬───────────┬─┬─ TARGET= ─┬─ system_name ─┬─┬─►
  └ CMT= text ┘             ├─ domain_id ───┤
                            └─ saplex_name ─┘
```

```
►─┬─ OUTMODE= ─┬─ LINE ───┬─┬─┬─────────────┬─┬─ MULT=YES ─┬─►◄
  │            ├─ AUTO ───┤ │ └ APPLPARMS= ┘ └────────────┘
  │            └─ NETLOG ─┘ │
```

Startup parms

```
►►─┬─ SCOPE=ONLY ─┬─┬─ TYPE=NORM ──┬─►◄
   └─ SCOPE=ALL ──┘ └─ TYPE= user ─┘
```

Shutdown parms

```
                   ┌─ SCOPE=ALL ──────────┐           ┌─ TYPE=NORM ──┐
▶▶─┬──────────────────────────────────────┬──┬────────────────────────┬──▶
   └─ SCOPE= ─┬─ ONLY ─────┬─┘              └─ TYPE= ─┬─ IMMED ─┬─┘
              └─ CHILDREN ─┘                          └─ FORCE ─┘
```

```
   ┌─ RESTART=NO ───┐    ┌─ INTERRUPT=NO ───┐    ┌─ BOOST=YES ─┐
──┬──────────────────┬──┬────────────────────┬──┬───────────────┬──◀▶
  └─ RESTART=YES ───┘    └─ INTERRUPT=YES ──┘    └─ BOOST=NO ──┘
```

To cancel a request:

```
▶▶─ INGREQ ── resource ── REQ=CANCEL ─┬──────────────────┬──▶
                                       └─ SOURCE= source ─┘
```

```
   ┌─ VERIFY=YES ──────────┐      ┌─ WAIT=YES ───┐
──┬─────────────────────────┬──┬─────────────────┬──▶
  └─ VERIFY= ─┬─ NO ───┬─┘      ├─ WAIT=NO ─────┤
              └─ WTOR ─┘        └─ WAIT= nnn ───┘
```

```
──┬──────────────────────────────────┬──┬─ OUTMODE= ─┬─ LINE ───┬──┬──▶
  └─ TARGET= ─┬─ system_name ─┬─┘                     ├─ AUTO ───┤
              ├─ domain_id ───┤                       └─ NETLOG ─┘
              └─ saplex_name ─┘
```

```
──┬─ feedback option ─┬──◀▶
```

Feedback option

```
▶▶─ FDBK=( ─┬─ MSG ─────────┬──┬─ ,G ─┬──── ,max_time ──┬───────────────┬── ) ◀▶
            └─ MSG/ userid ─┘  ├─ ,F ─┤                 └─ ,exp_status ─┘
                               └─ ,B ─┘
            └─────────────── WAIT ────────────────┘
```

Parameters

NETVASIS
Prefix the INGREQ command with NETVASIS if you want to pass the description text in lower or mixed case.

resource
Specifies the name of the resource to be processed. The format is *name[/type[/system]]*. Resources of type DMN are not supported.

Wildcards are supported. In fullscreen mode, if more than one resource matches the wildcard specification, a selection panel is displayed. In line mode, if more than one resource matches the wildcard specification and MULT=YES is specified, all selected resources are processed. Multiple resource specification in line mode without MULT=YES causes an error message to be displayed.

To shut down all resources for a system, specify *name*/SYG/*name*, where *name* is the system name. Alternatively, you can specify ALL.

Note: You need not specify the full name of the resource. This applies to the system as well as to the type. If the resource name is unique within the name space of the automation manager, the system name needs not be specified. If the resource name is unique within the appropriate types, the type needs not be specified. A valid resource name could be, for example, CICSPROD.

REQ

Specifies the request to be carried out. It can be either START or STOP. Alternatively you can use UP or DOWN.

Specify CANCEL if you want to cancel a request.

PRI

Specifies the priority given to the request. It can be:

FORCE

Takes precedence over requests posted with HIGH priority, for example, INGREQ=START PRI=FORCE overrules an INGREQ=STOP PRI=HIGH request.

HIGH

High priority.

LOW

Low priority. This is the default.

EXPIRE

Specifies the expiry date and time of the request. The request is automatically removed when it expires. The date format is yyyy-mm-dd; an asterisk (*) is used as today's date. The time format is hh:mm.

Alternatively, you can specify a relative time, for example, +04:00. The relative time will be automatically converted into the absolute date/time. The maximum relative time interval is 24:00 hours.

TIMEOUT

Specifies the interval used to check whether the request has been successfully completed. Either a message is issued, or the request is canceled if the request has not been satisfied after that time. The format is mm.

MSG

Specifies that a message should be issued telling the notify operator that the request was not satisfied within the expected time interval. The default is to issue a message.

CANCEL

Specifies that the request should be canceled.

JOB

Indicates the specified resource is a job name. The job name can contain a wildcard.

REMOVE

Indicates the condition when the request is automatically removed, regardless of whether the request is satisfied or not. If the specified condition matches the observed status of the resource, the request is deleted.

AVAILABLE

When starting a resource and specifying REMOVE=AVAILABLE, this causes the request to be removed from the system as soon as the resource becomes available.

DEGRADED

As soon as the observed status of the resource becomes DEGRADED, the start request is removed. Thus there will be no requests outstanding for the resource and an INGREQ ALL will go through even with low priority.

SYSGONE

If the system where the automation agent runs leaves the sysplex, the observed status of all resources running on that system becomes SYSGONE.

UNKNOWN

If the automation agent stops, the observed status of all resources controlled by the automation agent becomes UNKNOWN.

Alternatively you can specify an asterisk (*) or NO to reset the installation-defined default.

OVERRIDE
Specifies the overrides to be considered for the request. These can be one or more of the following:

NO
Specifies that no override is done. For example, a resource will not be started unless its startup flag is set on and its trigger, if used, is satisfied. This is the default.

ALL
Sets the DPY, FLG, STS, TRG and SUS flags to on. For startup, it means that the resource is made available regardless of the state of the start dependencies defined for the resource, the automation flag settings, its observed status, its trigger setting, or the suspend requests on the resource. For shutdown, it means that the resource is made unavailable regardless of the state of the stop dependencies defined for the resource, its automation flag settings, its observed status, its trigger setting, or the suspend requests on the resource.

DPY
Causes the status of the relevant START/STOP dependencies that are defined for the resource to be ignored.

Note: This parameter should only be used with STOP SCOPE=ONLY.

FLG
The appropriate automation flags will be ignored for the resource.

STS
The current observed status of the resource is ignored by the agent during INGREQ precheck processing. Override STS does not affect automation manager processing. Therefore, the automation manager may still reject the request after the agent has forwarded it to the automation manager.

TRG
The current trigger settings will be ignored when determining whether or not the resource can be started or stopped.

SUS
If there are any suspend requests on the resource, these requests are ignored and the start or stop process is executed.

PRECHECK
Specifies whether or not the startup or shutdown process should pre-validate any actions before actually performing them. The value can be:

YES
Validation is performed for the entry resources. This is the default.

NO
Validation is not performed before the command is issued.

The following validation is done for each resource that is to be affected by the INGREQ request:

- START or STOP ability, depending on current status

  The automation manager will not order the start of a resource that is in a Harddown status. A check is performed to make sure that the resource is not in STOPPED, BROKEN, or CTLDOWN status. The resource is also checked to verify that it is not currently involved in an automated shutdown. For a stop request, a check is performed to verify that the resource is not currently involved in an automated startup.

- Automation flag checks, depending on the request type

  If the global automation flag is on, for a start request, the initstart flag is checked when the resource is currently in DOWN status. For any other down state, the restart flag is checked.

  For a stop request, the terminate flag is checked.

- Existence of start or stop commands

  A check is performed to make sure that the definitions for appropriate start or stop commands exist.

These checks are made on each automation agent that hosts a specific resource before any automation manager involvement in the request. Any failure that is detected during the precheck phase results in an INGREQ request failure. This is indicated by a nonzero return code and a relevant error message that is issued and delivered as set by the OUTMODE parameter.

VERIFY
Specifies whether the startup or shutdown process should be verified. The following specifications are valid:

YES
Depending on the NetView task type that the INGREQ command is running on, the verification is either displayed on a fullscreen panel or, in line mode, shown on the console. The latter is also done when OUTMODE=LINE is coded.

WTOR
The list of affected resources is displayed before the startup or shutdown begins. The operator is prompted to verify the list via WTOR.

NO
No verification is performed. VERIFY is set to NO for unattended tasks. Otherwise it is set to YES.

The default depends on the type of task that the INGREQ command runs on.

SOURCE
Specifies the originator of the request. The default is OPERATOR for an OST and AUTOOPS for an autotask. When REQ=CANCEL, this parameter is used as a filter. Only those requests from the named source are canceled. Wildcards are supported, for example, OP*. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character.

WAIT
Specifies whether or not to wait until the request is complete. The default is YES.

The variable *nnn* is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

CMT
Specifies descriptive information about the request. The maximum length is 120 characters. If the text contains embedded blanks, it must be enclosed in quotation marks or parentheses.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

APPLPARMS
The content of APPLPARMS is put into the &APPLPARMS variable.

MULT
Specifies that more than one resource will be accepted when running in line mode, if the resource wildcard specification results in multiple resources.

SCOPE
Specifies whether the startup or shutdown affects a resource or its descendants, or both. Valid options are:

ONLY
Specifies that only the specified resource is started or stopped. This is the default for startup.

ALL
Specifies that the resource and its descendants are started or stopped. This is the default for shutdown.

CHILDREN (shutdown only)
Specifies that only the descendants of the resource are stopped.

TYPE

Specifies the type of the startup or shutdown. Each type must be defined in the policy database. Valid options are:

NORM (startup or shutdown)

Specifies a normal startup or shutdown. This is the default.

IMMED (shutdown only)

Specifies an immediate shutdown.

FORCE (shutdown only)

Specifies a forced shutdown.

user **(startup only)**

Specifies a user-defined startup type.

Note: If no startup commands are defined for the specified start type, the startup commands for start type NORM are issued.

If the specified stop type is not defined in the policy when shutting down the resource, SA z/OS uses the next lower stop type instead.

The value specified here will be overridden by the INGSET STARTTYPE/STOPTYPE value if previously specified. However, a stop type of FORCE, wherever specified, will always be honored.

Use the VERIFY option to view the TYPE value that will be used for this request.

Once a shutdown has got to a PROBLEM or DENIED state, you can submit another shutdown request against the resource, specifying a different shutdown type or override parameters or both.

If you want to escalate the shutdown of a child subsystem, you can issue the INGREQ directly against it, but you must use a higher priority than the shutdown request against the parent was made with.

RESTART (shutdown only)

Specifies whether the resource should be restarted automatically when it has been shut down completely. Valid options are:

NO

Specifies that no restart is performed. This is the default.

YES

Specifies that a restart is performed.

INTERRUPT (shutdown only)

Specifies whether or not a request to shut down a resource should interrupt the startup phase of the resource:

NO

If the resource is starting, the automation manager waits for the resource's UP message before proceeding with the shutdown. This is the default.

YES

The automation manager interrupts the startup process as soon as this stop request is submitted.

BOOST (shutdown only)

Specifies whether or not the System Recovery Boost should be enabled upon system shutdown automatically. This parameter is used only for system shutdowns and is ignored for shutdown of any other resource.

YES

If a system is shut down, System Recovery Boost is enabled automatically. This is the default.

NO

If a system is shut down, it explicitly opts out from enabling System Recovery Boost, regardless of the setting of the BOOST system parameter in IEASYS*xx*.

FDBK

Specifies the feedback parameter that causes the final result of the command to be reported back to the designated instance.

MSG

Causes message signaling of the successful or unsuccessful completion of the command to be performed.

The message is sent back to the originator of the command. The originator is determined by the NetView OPID(S) function unless the user ID is specified. Depending on the status, either message ING300I or ING301I is issued. The message text contains the command that was processed successfully or failed.

userid

Identifies the NetView user ID of the person to be notified if different to the originating user.

Use the following values to specify when to issue the message:

G

Issue the message only when the resource has reached its expected status.

F

Issue the message only if the resource did not reach its expected state in the specified time interval.

B

Issue the message in all cases.

WAIT

To wait for the completion of the command (denoted by the *max_time* parameter). Note that the WAIT option is rejected when the INGREQ command executes on a work operator.

max_time

The time interval in NetView format (mm:ss, :ss, mm or hh:mm:ss) that SA z/OS will wait. If the specified resource has not reached the expected state, the command is considered to have failed and the operation is posted in error.

exp_status

The observed status that the resource should be in to consider command processing to be complete. The status can be abbreviated, for example, AV for Available. More than one status can be specified and separated by a blank. Here is a list of possible Observed Status values and their shortest possible abbreviations: AVAILABLE (A), UNKNOWN (U), SYSGONE (SY), SOFTDOWN (SO), HARDDOWN (H), STARTING (STAR), DEGRADED (D), STOPPING (STO), PROBLEM (P), WASAVAILABLE (W), and STANDBY (STAN).

Restrictions and Limitations

To use the INGREQ command system operations must be initialized.

The FDBK parameter will only monitor resources within the local sysplex.

Security Considerations

The INGREQ command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	Unless authority is CONTROL
	CONTROL	When SCOPE, OVERRIDE, or INTERRUPT is used with a value other than the default (IBM supplied or installation default)

If multiple resources are affected, multiple profiles are checked. START and STOP requests are carried out or rejected as a whole. CANCEL requests are processed individually.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

The INGREQ command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

By default, System Recovery Boost is enabled during shutdown of a system when the hardware and software prerequisites are met and the BOOST system parameter is not set to NONE. For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Examples

If you enter INGREQ a panel similar to Figure 89 on page 211 is displayed.

```
INGKYRU0                  SA z/OS  - Command Dialogs     Page   1 of 2
Domain ID   = IPSFP     ---------- INGREQ   ----------     Date = 04/27/06
Operator ID = NETOP1                                       Time = 18:52:41

  Resource    =>  CICS/APL/KEY4_____    format: name/type/system
  Target      =>  _____      System name, domain ID or sysplex name

  Request     =>  START_        Request type (START/UP, STOP/DOWN or CANCEL)
  Type        =>  NORM_____    Type of processing (NORM/IMMED/FORCE/user) or ?
  Scope       =>  _____        Request scope (ONLY/CHILDREN/ALL)
  Priority    =>  LOW___        Priority of request (FORCE/HIGH/LOW)
  Expire      =>  _____ , _____   Expiration date(yyyy-mm-dd), time(hh:mm)
  AutoRemove  =>  _____      - see help for list
  Restart     =>  NO_           Restart resource after shutdown (YES/NO)
  Override    =>  NO_____      (ALL/NO/TRG/FLG/DPY/STS/SUS)
  Verify      =>  YES_          Check affected resources (YES/NO/WTOR)
  Comment     =>  _____
                  _____
  Appl Parms  =>  ,CN_____


Command ===>
   PF1=Help     PF2=End     PF3=Return                    PF6=Roll
                                            PF11=Next    PF12=Retrieve
```

Figure 89. INGREQ Command Dialog Panel 1

- The **Resource** field shows the name of the resource to be processed. The format is *name/type[/system]*. Resources of type DMN are not supported. Wildcard is supported.
- The **Target** field shows the name of the system (system name, domain ID, or sysplex name) that the command should be routed to. Specifying this is only necessary if the resources are not part of the local sysplex.
- The **Request** field shows the request to be carried out. This is either START or STOP. Alternatively you can use UP or DOWN. To remove a previously made request from the same source specify CANCEL.
- The **Type** field shows the type of the startup or shutdown. Valid shutdown types are NORM, IMMED and FORCE as well as any other type defined in the policy database for the resource. Specify a question mark (?) to display the list of defined startup types.
- The **Scope** field shows whether the startup or shutdown affects this resource or its descendants, or both.
- The **Priority** field shows the priority given to the request.
- The **Expire** field shows the expiry date and time when the request will be removed.
- The **AutoRemove** field shows the condition when the request is automatically removed regardless of whether the request is satisfied or not.
- The **Restart** field shows whether the resource should be restarted automatically when it has been shut down completely. This applies only when requesting a shutdown of a resource.
- The **Override** field shows the overrides to be considered for the request. The parameter can be used to bypass the conditions or settings that would otherwise prevent a resource, or resources, from starting or shutting down.

- The **Verify** field shows whether the startup or shutdown process should be verified. If YES or WTOR is entered, the list of affected resources is displayed before the startup or shutdown begins. You will be prompted to verify the list. If WTOR is specified, you will be prompted via a WTOR. If NO is entered, the startup or shutdown begins immediately. The default is YES.
- The **Comment** field lets you specify descriptive information, for example, why the request was made.
- The **Appl Parms** field shows modifications or parameters to the START or STOP request.

If you press PF11 a panel similar to Figure 90 on page 212 is displayed.

```
INGKYRU2                  SA z/OS  - Command Dialogs      Page   2 of 2
Domain ID   = IPSFP      ---------- INGREQ   ----------   Date = 04/27/06
Operator ID = NETOP1                                      Time = 18:53:03

  Resource    =>  CICS/APL/KEY4_____   format: name/type/system
  Target      =>  _____        System name, domain ID or sysplex name

  Timeout     =>  0__ / MSG___   Interval in minutes / Option (MSG/CANCEL)
  Precheck    =>  YES            Precheck for flags and passes (YES/NO)
  Interrupt   =>  NO_            Specify YES to terminate Startup processes
  Boost       =>  YES            Specify NO to opt out from System Recovery Boost
                                 during system shutdown




 Command ===>
   PF1=Help    PF2=End     PF3=Return                         PF6=Roll
                                           PF10=Previous
PF12=Retrieve
```

Figure 90. INGREQ Command Dialog Panel 2

- The **Timeout** field shows the time period that the request must complete in. After this time interval either a message is issued, or the request is canceled.
- The **Precheck** field shows whether or not the startup or shutdown process should perform up-front validation.
- The **Interrupt** field shows whether or not a request to shut down a resource should interrupt the startup phase of a resource:

  YES
  The automation manager interrupts the startup process as soon as this stop request is submitted.

  NO
  If the resource is starting, the automation manager waits for the resource's UP message before proceeding with the shutdown. This is the default.

- The **Boost** field shows whether or not the System Recovery Boost should be enabled upon system shutdown automatically. This parameter is used only for system shutdowns and is ignored for shutdown of any other resource.

  YES
  If a system is shut down, System Recovery Boost is enabled automatically. This is the default.

  NO
  If a system is shut down, it explicitly opts out from enabling System Recovery Boost, regardless of the setting of the BOOST system parameter in IEASYS*xx*.
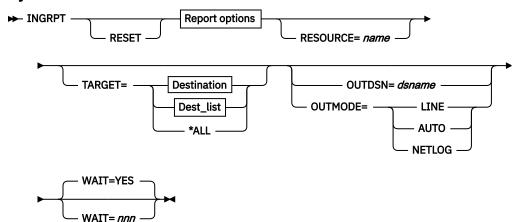
INGRPT

Purpose
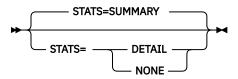
The INGRPT command displays statistical information about the automation agent and some basic information about the automation manager. Two types of reports are produced:

- Summary report.
- Detail report.
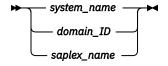
Syntax

Report options

Destination

Dest_list

Parameters

The following parameters are supported:

RESET
Resets the counters to 0. This option can be specified with the STATS parameter to get the statistics information and subsequently reset the counters.

RESOURCE
Is the name of the subsystem that you want to collect the statistics for, for example, TSO. Wildcard is supported, for example, INGRPT STATS=D RESOURCE=abc*. The wildcard can be leading or trailing, for example *abc*.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

STATS

Specifies whether to generate a summary report or a detail report. Detail statistics include information about each resource or subsystem that is automated by the agent. The following options are valid:

SUMMARY

This is the default.

DETAIL

Specifies to show detailed information for each resource (subsystem in the automation agent terminology).

NONE

No report is produced. The NONE option is only useful if the reset option is specified.

Restrictions and Limitations

None.

Usage

Issuing ACF COLD resets the statistic counters.

The statistic counters for a subsystem removed with INGAMS REFRESH are not erased. However, the statistic counters for a subsystem are cleared if ACF COLD or INGRPT RESET is issued.

Examples

If you enter INGRPT you will see the start of a summary report for your system that is similar to Figure 91 on page 215.

```
INGKYRP0                 SA z/OS  - Command Dialogs      Line  1    of 53
Domain ID   = IPUN8       ---------- INGRPT   ----------   Date = 10/31/03
Operator ID = NETOP1           System  = AOC8              Time = 13:04:14

**************************** Summary Statistics ****************************
System   : AOC8                                        31 Oct 2003 13:04:12
----------------------------------------------------------------------------

Begin of statistics : 10/30/03 11:32:25          Domain   : IPUN8
End   of statistics : 10/31/03 13:04:12          Sysplex  : AOC8PLEX
Elapsed time (hours) : 25:32  (1532 min)

Automation Agent Statistics
  CPU time used (seconds)                       :  344.87

  Total number of resources defined             :  69
  Total number of resources managed             :  22

  Total number of messages automated            :  0
  Average number of messages per hour           :  0.0

Command ===>
 PF1=Help     PF2=End     PF3=Return                      PF6=Roll
              PF8=Forward  PF9=Refresh                    PF12=Retrieve
```

Figure 91. INGRPT Command Dialog Panel

This panel shows statistical information about the automation agent and some basic information about the automation manager. The report shows information that has been gathered during the SA z/OS session. The SA z/OS session begins with either SysOps initialization or the last INGRPT RESET command (whichever comes last) until the INGRPT STATS=SUMMARY/DETAIL command is issued. The counters are not retained across SysOps sessions.

The summary report for a particular subsystem shows:

- The total number of messages automated for the resource.
- The average number of messages automation per hour.
- The total number of resulting commands.
- The total number of Start commands issued.
- The total number of Stop commands issued.
- The total number of critical threshold reached hits.
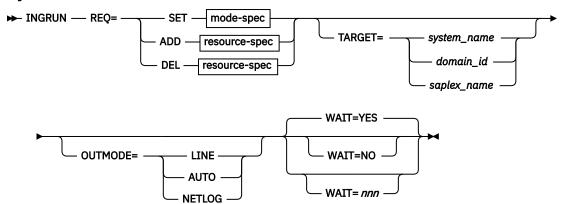
INGRUN

Purpose
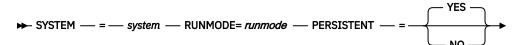
The INGRUN command lets you:
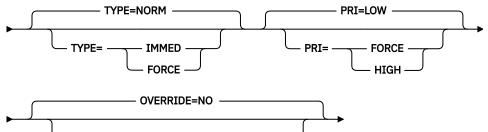
- Set a runmode for a system
- Add the qualification of one or more resources for any runmode
- Delete runmode qualification for one or more resources
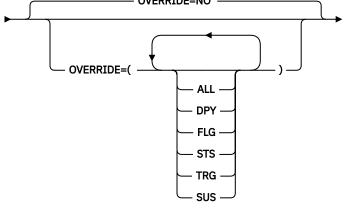
Syntax
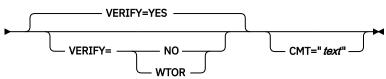
mode-spec

resource-spec

Notes:

[1] Line-mode only

Parameters

REQ
  The request to be carried out.

SET

Specifies a new runmode is set

ADD

Qualifies one or more individual resources for a runmode

DEL

Deletes the runmode qualification for the given resource

RUNMODE

Specifies the runmode to be activated. The runmode must be specified in the policy database. In full-screen mode, a question mark(?) can be specified to display a selection list. Use *ALL to disable runmode consideration.

PERSISTENT

Specifies whether the request should be kept across system IPL. Valid options are:

YES

The runmode request is kept in the takeover file. This is the default setting.

NO

The runmode request is removed as soon as the system leaves the sysplex. For more information, see REMOVE=SYSGONE of the "INGREQ" on page 203 command.

RUNRES

Specifies the resource to be considered qualified for any runmode. The format is *name/type[/system]*. In full-screen mode, if more than one resource matches the specification, a selection panel is displayed. In full-screen mode, for a DEL request a question mark(?) can be specified to display a selection list of all resources previously specified on an ADD request.

MULT

Specifies that more than one resource will be accepted when running in line mode, if the resource wildcard specification results in multiple resources. This command is available in line mode only.

NO

The resource specification must resolve to a single resource.

YES

Multiple resources can be processed with a single invocation of the INGRUN command.

SYSTEM

Specifies the system for which the runmode is set.

TYPE

Specifies the type of shutdown to be used for resources that do not qualify for the new runmode. For more information, see the "INGREQ" on page 203 command.

PRI / PRIORITY

Specifies the priority for the shutdown of the resources that do not qualify for the new runmode. For more information, see the "INGREQ" on page 203 command.

OVERRIDE

Specifies the overrides that are to be considered when shutting down resources that do not qualify for the new runmode. For more information, see the "INGREQ" on page 203 command.

VERIFY

Specifies if the shutdown process of resources that do not qualify for the new runmode should be verified.

CMT / COMMENT

Specifies descriptive information, for example, why the request was made.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies whether to wait or not for the request to complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

For more information, see the "INGREQ" on page 203 command.

Restrictions and Limitations

To use the INGRUN command, system operations must be initialized.

Security Considerations

The INGRUN command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	Always

If multiple resources are affected, multiple profiles are checked. For SET requests, this is the SYG resource corresponding to the selected system (`system/SYG/system`). The request is carried out or rejected as a whole.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

The INGRUN command operates sysplexwide.

Examples

If you enter `ingrun` a panel similar to Figure 92 on page 218 is displayed.

```
INGKYRM0                     SA z/OS  - Command Dialogs
Domain ID   = IPUFJ    ---------- INGRUN    ----------    Date = 08/11/11
Operator ID = NETOPER1                                    Time = 12:10:38

  Request      =>  _____     Request type  (SET, ADD or DEL)
  Target       =>  _____  System name, domain ID or sysplex name

  --- Parameters for SET request -------------------------------------------
  System       =>  _____     System name
  Runmode      =>  _____  Runmode name (mode or ?)
  Persistent   =>  _____      Keep request across IPL (YES/NO)
  Type         =>  _____         Type of processing (NORM/IMMED/FORCE)
  Priority     =>  _____    Priority of request (FORCE/HIGH/LOW)
  Override     =>  _____   (ALL/NO/TRG/FLG/DPY/STS/SUS)
  Verify       =>  _____              Check affected resources (YES/NO/WTOR)
  Comment      =>  _____
  _____

  --- Parameters for ADD or DEL requests -----------------------------------
  Resource    =>  _____  format: name/type/system
AOF710A VERIFY/REVISE INPUT AND THEN PRESS ENTER
Command ===>  _____
  PF1=Help     PF2=End     PF3=Return                       PF6=Roll
                                                           PF12=Retrieve
```

Figure 92. INGRUN Command Dialog Panel

Request
Valid request types are SET, ADD, and DEL.

Target
Specifies the name of the system (system name, domain ID or sysplex name) that the command should be routed to. This is only necessary when you want to operate outside of the local sysplex.

The following parameters are valid for SET only:

System
> Specifies the name of the system that you want to set a runmode for.

Runmode
> Specifies the name of the runmode that you want to set. You can specify a question mark (?) to select a from a list of all available resources.

Persistent
> Specifies whether the request should be kept across system IPL. For more information, see REMOVE=SYSGONE of "INGREQ" on page 203 command.

Type
> Specifies the type of shutdown to be used for resources that do not qualify for the new runmode. For more information, see the "INGREQ" on page 203 command for further details.

Priority
> Specifies the priority for the shutdown of the resources that do not qualify for the new runmode. For more information, see the "INGREQ" on page 203 command for further details.

Override
> Specifies the overrides that are to be considered when shutting down resources that do not qualify for the new runmode. For more information, see "INGREQ" on page 203 for further details.

Verify
> Specifies whether the shutdown process of resources that do not qualify for the new runmode should be verified. For more information, see "INGREQ" on page 203 for further details.

Comment
> Specifies descriptive information, for example, why the request was made.

The following parameter is set for ADD and DEL requests:

Resource
> Specifies the name of the resource for which you want to add or delete the qualification. The format is name/type/system or name/type for sysplex resources. Wildcards and incomplete specifications are supported. For DEL requests a question mark (?) can be specified which lets you choose from a list of resources previously specified on an ADD request.
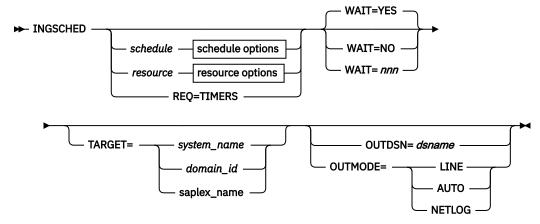
INGSCHED

Purpose
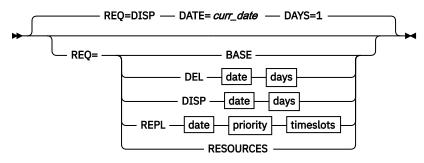
INGSCHED displays a list of all defined schedules (service periods). It lets you:

- Update the time slots (this is referred to as a schedule override).
- Display the list of resources that are associated with the schedule.
- Delete schedule or resource overrides.

Syntax

```
►►─ INGSCHED ─┬───────────────────────────────┬─┬─ WAIT=YES ──┬─►
              │  ┌ schedule ─ schedule options ┐ │  ├─ WAIT=NO ───┤
              ├──┤                             ├─┤  └─ WAIT= nnn ─┘
              │  └ resource ─ resource options ┘ │
              └──────── REQ=TIMERS ──────────────┘
```

```
►─┬──────────────────────────────┬─┬───────────────────────────┬─►◄
  │           ┌ system_name ┐      │  ┌ OUTDSN= dsname ────┐
  └─ TARGET= ─┼ domain_id ──┤      └──┤                    │
              └ saplex_name ┘         └ OUTMODE= ─┬─ LINE ──┤
                                                  ├─ AUTO ──┤
                                                  └─ NETLOG ┘
```

schedule options

```
        ┌─ REQ=DISP ── DATE= curr_date ── DAYS=1 ──────────┐
►►──────┤                                                  ├──►◄
        └─ REQ= ─┬──────────── BASE ──────────────┐
                 ├─ DEL ──│ date │──│ days │───────┤
                 ├─ DISP ─│ date │──│ days │───────┤
                 ├─ REPL ─│ date │─│ priority │─│ timeslots │─┤
                 └──────────── RESOURCES ─────────┘
```

resource options

```
        ┌──────── REQ=DISP ── DATE= curr_date ── DAYS=1 ──────┐
►►──────┤                                                     ├──►◄
        └─ REQ= ─┬─ DEL ──│ date │──│ days │──────────┐
                 ├─ DISP ─│ date │──│ days │──────────┤
                 └─ REPL ─│ date │─│ priority │─│ timeslots │─┘
```

date

```
     ┌─ DATE= curr_date ─┐
►►───┤                   ├──►◄
     └─ DATE= YYYYMMDD ──┘
```

days

```
     ┌─ DAYS=1 ─────┐
►►───┤              ├──►◄
     └─ DAYS=1..366 ┘
```

priority

```
►►──┬──────────────────────────────────────────┬──►◄
    │          ┌ LOW ──┐     ┌ LOW ──┐           │
    └─ PRI=( ──┤       ├─ , ─┤       ├── ) ──────┘
               └ HIGH ─┘     └ HIGH ─┘
```

timeslots

```
▶▶─┬────────────────────────────┬──┬──────────────────────────────┬─◀◀
   │          ◄─────────         │  │           ◄─────────         │
   └─ UP=( ─┬── hhmm-hhmm ──┬─ ) ┘  └─ DOWN=( ─┬── hhmm-hhmm ──┬─ ) ┘
            └──────────────┘                   └──────────────┘
```

Parameters

schedule
  Is the name of the schedule to be displayed.

resource
  Specifies the resource that the schedule overrides are to be displayed for. The format is *name/type[/system]*.

REQ
  Specifies the request. The request can be:

  BASE
    Displays the base schedule information.

  DEL
    Deletes the overrides for the specified date.

  DISP
    Displays the base schedule, schedule override or resource overrides starting with the specified date.

  REPL
    Replaces the schedule or resource override with a new one.

  RESOURCES
    Displays the resources that use the specified schedule (service period).

  TIMERS
    Displays the list of timers that are currently scheduled.

DATE
  Specifies the date in yyyymmdd format that the delete or replace of the override should be done for.

  curr_date
    The current date.

DAYS
  Specifies the number of days for which the overrides should be displayed or deleted.

PRIORITY
  Specifies the priority to be assigned to the override. The first value is the UP priority and the second value is the DOWN priority. Valid values are:

  HIGH
    High priority.

  LOW
    Low priority.

  Both priorities are optional. The default is LOW. The priority values can be abbreviated.

UP
  Specifies the UP start and stop times in the format *hhmm-hhmm*. Up to five time slots can be specified separated by a comma. The UP time slots define the time windows where the resource must or should be available. A priority of HIGH means that the resource must be available, while a priority of LOW means that the resource should be available.

DOWN
  Specifies the DOWN start and stop times. The format is *hhmm-hhmm.* Up to five time slots can be specified separated by a comma. The DOWN time slots define the time window where the resource must or should be *not* available (that is, unavailable). A priority of HIGH means that the resource must

be unavailable, while a priority of LOW means that the resource should be unavailable. If you specify DOWN, specifying the UP priority becomes mandatory.

WAIT

Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN

For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The INGSCHED command can only be used when system operations is initialized.

Service period overrides cannot be modified immediately after a system time change where the system clock was set back, for example, in case of daylight savings. Overrides cannot be modified until the new local time passes the original pre-adjustment local time.

Usage

The INGSCHED command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

The automation agent as well as the automation manager verify each time slot being modified. Due to the delay between these verifications, a time slot of the current day that is still valid when the agent checks it could already be invalid when the automation manager checks it. For example, the agent passes an override request to the manager at 10:59:59. The automation manager scheduler receives the request at 11:00:01 and rejects it because the start time has already elapsed. This is indicated by return code 8 and reason code X'10C4' in message INGY1004. If this error occurs, you can fix it by correcting the time slot in error and reissuing the override.

Examples

If you enter `ingsched` a panel similar to Figure 93 on page 222 is displayed.

```
 INGKYSP0                    SA z/OS  - Command Dialogs      Line  1    of 3
 Domain ID   = IPSNM        ---------- INGSCHED ----------   Date = 08/25/03
 Operator ID = NETOP1                                        Time = 13:56:24

 Cmd:  A Show Details   B Show Overrides    C Show Resources

 Cmd Schedule   Description
 --- --------   --------------------------------------
  _   STD_SERV   Standard Service Period
  _   TSOPLUS    Special service period for TSOPLUS
  _   ONLINE     Schedule for CICS applications




 Command ===>
    PF1=Help      PF2=End        PF3=Return                    PF6=Roll
                                 PF9=Refresh                   PF12=Retrieve
```

Figure 93. INGSCHED Initial Command Dialog Panel

- The **Cmd** field allows you to specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  A

  Show Details. Displays the service periods for the selected schedule without any override.

  B

  Show Overrides. Displays the overrides for the selected schedule starting with the current day for the next *n* days filling one panel.

  C

  Show Resources. Displays the list of resources or application groups that make use of the schedule. This can then be used to modify the service periods for the resource.

- The **Schedule** field shows the schedule (service period) defined in the sysplex.
- The **Description** field shows the description specified for the resource.

Showing Schedule Details

Overrides are shown in white.

The base time slots for a selected schedule are displayed when specifying command code A in front of the schedule. The panel in is displayed (note that INGSCHED REQUEST=BASE shows a similar panel).

```
INGKYSP1                    SA z/OS  - Command Dialogs      Line  1    of 14
Domain ID   = IPSFO      ---------- INGSCHED ----------     Date = 08/25/03
Operator ID = NETOP1          Sysplex = KEY1PLEX            Time = 14:36:07

Schedule. . :  SHIFT1          Weekday A.M. (06:00 - 11:59)

  Day      Pri  Strt/Stop  Strt/Stop  Strt/Stop  Strt/Stop  Strt/Stop
  ---  --  ---  ---------  ---------  ---------  ---------  ---------
  MON  UP   H   0600-1159  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-0559  1200-2400  ____-____  ____-____  ____-____
  TUE  UP   H   0600-1159  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-0559  1200-2400  ____-____  ____-____  ____-____
  WED  UP   H   0600-1159  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-0559  1200-2400  ____-____  ____-____  ____-____
  THU  UP   H   0600-1159  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-0559  1200-2400  ____-____  ____-____  ____-____
  FRI  UP   H   0600-1159  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-0559  1200-2400  ____-____  ____-____  ____-____
  SAT  UP   L   ____-____  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-2400  ____-____  ____-____  ____-____  ____-____
  SUN  UP   L   ____-____  ____-____  ____-____  ____-____  ____-____
       DN   H   0000-2400  ____-____  ____-____  ____-____  ____-____

Command ===>
   PF1=Help      PF2=End       PF3=Return                  PF6=Roll
                               PF9=Refresh                 PF12=Retrieve
```

Figure 94. INGSCHED Command Dialog Panel Showing Schedule Details

- The **Schedule** field shows the name of the schedule as defined in the sysplex.
- The **Day** field shows the day of the week.
- The **Pri** field shows the priority associated with the day of the week. It can have the following values:

  H

  High priority. The resource must be down or up.

  L

  Low priority. The resource should be down or up.

- The **Strt/Stop** field shows the begin and end times of the service window.

Showing Schedule Overrides

To display detailed information for a particular schedule, specify command code B in front of the schedule. The panel displayed, as shown in , shows the start and stop times

starting from the requested date. The default starts from the current day. For each day, two rows are displayed:

- The first row (UP) shows the time slots when the associated resources should be up (available).
- The second row (DN) shows the time slots when the associated resources should be down (unavailable).

To modify the start and stop times for the various days, overtype them. Start and stop times that have been overwritten are shown in yellow. The overrides for a particular day can be removed with command code D, except for time slots that are affected by the current time. The time slots will then be restored to the original values.

```
INGKYSP2                  SA z/OS  - Command Dialogs
Domain ID   = IPSFO      ---------- INGSCHED ----------    Date = 08/25/03
Operator ID = AFRANCK         Sysplex = KEY1PLEX           Time = 14:53:15

Schedule. . : SHIFT1          Weekday A.M. (06:00 - 11:59)
 Starting date =>  08 / 25 / 2003     (mm/dd/yyyy)

C Date          Pri  Strt/Stop   Strt/Stop   Strt/Stop   Strt/Stop   Strt/Stop
- ------------ -- ---  ---------   ---------   ---------   ---------   ---------
  08/25/03 Mon UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  08/26/03 Tue UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  08/27/03 Wed UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  08/28/03 Thu UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  08/29/03 Fri UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  08/30/03 Sat UP  L_     ____-____   ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 2400   ____-____   ____-____   ____-____   ____-____
  08/31/03 Sun UP  L_     ____-____   ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 2400   ____-____   ____-____   ____-____   ____-____
  09/01/03 Mon UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____
  09/02/03 Tue UP  H_   0600 1159     ____-____   ____-____   ____-____   ____-____
           DN  H_   0000 0559   1200 2400   ____-____   ____-____   ____-____

Command ===>
 PF1=Help      PF2=End       PF3=Return                       PF6=Roll
 PF7=Backward  PF8=Forward   PF9=Refresh                      PF12=Retrieve
```

Figure 95. INGSCHED Command Dialog Panel Showing Schedule Overrides

To delete individual overrides, blank out the appropriate time slot.

Showing Resources Related to a Schedule

A list of resources that use the selected schedule is displayed when specifying command code C in front of the schedule. A panel similar to is displayed.

```
INGKYSP3                 SA z/OS  - Command Dialogs      Line  1    of 6
Domain ID   = IPSFO      ---------- INGSCHED ----------   Date = 08/25/03
Operator ID = NETOP1           Sysplex = KEY1PLEX         Time = 14:57:29

Schedule. . : SHIFT1         Weekday A.M. (06:00 - 11:59)

Cmd:  S Show Overrides
Cmd Resource     Type  System    Description
--- ---------    ----  --------  ----------------------------------------
 _  MSCSUBSYS    APL   KEY3      test application
 _  MSCSUBSYS    APL   KEY4      test application
 _  STDT001AA00  APL   KEY1      A. M. shift (6:00 - 11:59)
 _  STDT001AA00  APL   KEY2      A. M. shift (6:00 - 11:59)
 _  STDT001AA00  APL   KEY3      A. M. shift (6:00 - 11:59)
 _  STDT001AA00  APL   KEY4      A. M. shift (6:00 - 11:59)




Command ===>
   PF1=Help      PF2=End          PF3=Return                   PF6=Roll
                                  PF9=Refresh                  PF12=Retrieve
```

Figure 96. INGSCHED Command Dialog Panel Showing Resources Related to a Schedule

- The **Cmd** field allows you to display specific information for each system. The following command code is available:

  S
     Shows overrides. Changes service periods for the resource group.

- The **Resource** field shows the name of the resource that uses the specified schedule.

- The **Type** field shows the type of the resource.

- The **System** field shows the name of the system that the resource resides on.

- The **Description** field shows the description specified for the resource.

The FIND/RFIND subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

Showing Resource Overrides

A panel similar to Figure 97 on page 225 shows schedule overrides for the selected resource.

```
INGKYSP2                 SA z/OS  - Command Dialogs
Domain ID   = IPUFA      ---------- INGSCHED ----------   Date = 08/26/03
Operator ID = NETOP1           Sysplex = AOCPLEX          Time = 14:56:08

 Resource . . . : STDT005AA00/APL/AOCA        Schedule . . :  SHIFT5
 Starting date => 07 / 04 / 2000     (mm/dd/yyyy)

C Date          Pri  Strt/Stop  Strt/Stop  Strt/Stop  Strt/Stop  Strt/Stop
- -----------  -- ---  --------   --------   --------   --------   --------
  08/26/03 Tue UP  L_  ____ ____  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  0000 1900  ____ ____  ____ ____  ____ ____  ____ ____
  08/27/03 Wed UP  L_  1600 1800  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  1800 1900  ____ ____  ____ ____  ____ ____  ____ ____
  08/28/03 Thu UP  L_  ____ ____  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  0000 1900  ____ ____  ____ ____  ____ ____  ____ ____
  08/29/03 Fri UP  L_  ____ ____  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  0000 1900  ____ ____  ____ ____  ____ ____  ____ ____
  08/30/03 Sat UP  L_  ____ ____  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  0000 1900  ____ ____  ____ ____  ____ ____  ____ ____
  08/31/03 Sun UP  L_  ____ ____  ____ ____  ____ ____  ____ ____  ____ ____
           DN  H_  0000 1900  ____ ____  ____ ____  ____ ____  ____ ____

Command ===>
 PF1=Help      PF2=End        PF3=Return                      PF6=Roll
 PF7=Backward  PF8=Forward    PF9=Refresh                     PF12=Retrieve
```

Figure 97. INGSCHED Command Dialog Panel Showing Resource Overrides

The panel shows the service windows currently defined for the resource. The service windows are determined as follows:

- Base service periods from the associated schedule, if any are defined.
- Override service periods from the associated schedule, if any are defined.
- Override service periods associated with the resource.
- The **Day** field shows the day of the week.
- The **Pri** field shows the priority associated with the day of the week. It can have the following values:

  H

  High priority.

  L

  Low priority.

- The **Strt/Stop** fields show the beginning and end times of the service window. For each day, two rows are displayed.

  - The first row (UP) shows the time slots when the associated resources must be up (available).
  - The second row (DN) shows the time slots where the associated resources must be down (unavailable).

Time slots that are overrides for the resource are shown in pink. Time slots defined for the base schedule are shown in green, while its overrides are shown in yellow. Time slots that are already passed cannot be deleted or overridden. To set an override, type over the appropriate time field.
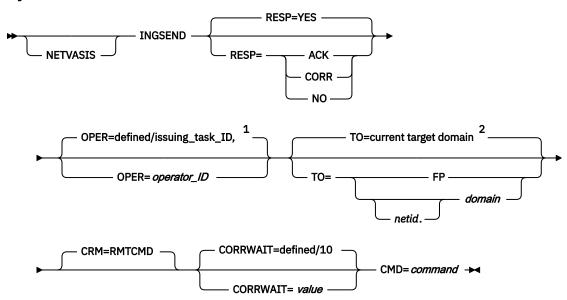
INGSEND

Purpose

INGSEND routes commands to other domains using NetView RMTCMD.

You should use the TARGET parameter with system operations commands if possible.

Syntax

Notes:

 [1] The default value can be defined using the SA z/OS customization dialog. If it has not been defined, SA z/OS provides the default.

[2] This value is set by the command routing process. That is, the last target domain that you sent a command to is remembered and used as the default.

Parameters

NETVASIS

Prefix the INGSEND command with NETVASIS if you want to pass the command text in lower or mixed case.

RESP

Specifies whether you want to receive an asynchronous response or acknowledgement when you issue the command. Valid options are:

ACK

If you use this option:

- A message is displayed on the operator's NCCF console stating whether or not the command executed successfully.
- If the command executed successfully, message AOF672I will be displayed.
- If the command executed but failed, message AOF671I will be displayed.
- If the command could not be delivered to the target domain or RMTCMD autotask, or was delivered and failed to begin execution, the appropriate NetView RMTCMD message will be displayed to explain the failure.

NO

Specifies that you do not want to receive any output from the command.

YES

Specifies that you want the output from the command displayed on your NCCF console.

CORR

Specifies that you want the output from the command to be displayed by the NetView WINDOW command. See "Restrictions and Limitations" on page 228 on correlating command output.

OPER

Specifies the operator to use to issue the command.

operator_ID can be defined using the customization dialog for each domain. If not defined, it will default to the issuing task ID.

Notes:

1. If the operator alias GATOPER or BASEOPER is specified, the operator ID will default to the issuing task ID.
2. If orig.operid = target.operid in the OPER keyword, the command *will* be issued.

TO

Specifies the domain that the command is being issued to.

[netid].domain

Specifies the domain that the command is being issued to. It can be defined using the customization dialog. Netid is optional.

FP

Specifies that the command is to be routed to the current focal point.

Notes:

1. When INGSEND is issued on the current focal point, and TO=FP is specified, the command *will* be issued.
2. If this parameter (TO=) is omitted, the current target domain (that is, the last domain you sent a command to) is used, if one is set. If none is set, error message AOF102I will be issued.

CRM

Specifies that the command routing mechanism to be used is the NetView RMTCMD command. Only CRM=RMTCMD is valid. The parameter is for compatibility only.

CORRWAIT

Specifies the CORRWAIT value (in seconds) to be used when INGSEND uses NetView PIPES. The Corrwait PIPE stage is necessary to trap asynchronous command output. A default for this value can be predefined for each target system, using the customization dialog. If not predefined, the default is 10 seconds. For more information on the use of this value, see the discussion of the PIPE command in *NetView Operation*.

CMD

Specifies the command to be executed. The length of the command can be up to 280 characters.

Restrictions and Limitations

- The INGSEND command will not execute under the primary POI task (PPT).
- INGSEND uses the NetView PIPE command to trap the message output from the routed command. Not all commands are PIPE-enabled, which means that the command may not be treated as requested in the RESP keyword. Some examples of commands that are not PIPE-enabled are:
  - MVS commands on a NetView not exploiting EMCS.
  - Commands that produce fullscreen output.
  - A NetView command that is not PIPE-enabled.

For more information on RMTCMD and PIPE commands, see *Tivoli NetView for z/OS User's Guide*.

Usage

If the command you are issuing contains either a space, a comma, or a delimiter, you should delimit the command.

You can delimit the command you are sending with either single quotation marks, double quotation marks, or '/'. If you want to include an occurrence of the delimiter character within the delimited string, the character must be preceded by another delimiter character. The delimiter character must appear as the first character of the string after the 'CMD='. INGSEND sends the command defined by the start and end delimiter. Examples of INGSEND with commands that use delimiters are shown in .

Examples

The following examples show how INGSEND is used and correctly delimited:

1. Consider the following example:

```
"INGSEND RESP=ACK,TO=CNM01,CMD=START TASK=DSILOG"
```

Command START TASK=DSILOG will be routed with the following:

Keyword	Value	Reason
TO	CNM01	Specified
RESP	ACK	Specified
OPER	OPER4	Predefined
CRM	RMTCMD	Default

The following message will be issued to OPER2's NCCF console:

```
"AOF672I COMMAND (START TASK=DSILOG) WAS EXECUTED IN DOMAIN CNM01
 BY A RMTCMD COMMAND FROM OPERATOR OPER2"
```

OPER4 is defined using the customization dialog. The above example does not use delimiters.

2. The following example does not use delimiters as far as INGSEND is concerned even though there are delimiter characters in it:

```
INGSEND RESP=ACK,TO=CNM01,CMD=MVS $D'RMF'
```

3. The following is correctly delimited:

```
INGSEND RESP=ACK,TO=CNM01,CMD='ACT CHP123'
```

4. The following example is also correctly delimited and contains the delimiter character within the delimiters. This command is equivalent to the second example:

```
INGSEND RESP=ACK,TO=CNM01,CMD='MVS $D'RMF'
```

5. The following example is also correctly delimited and is an alternative way to type the previous example:

```
INGSEND RESP=ACK,TO=CNM01,CMD=/MVS $D'RMF'/
```

6. The following example will be passed as correctly delimited but only `'MVS  $D` will be sent because the end delimiter follows the D thus defining the command:

```
INGSEND RESP=ACK,TO=CNM01,CMD='MVS $D'RMF' "
```

If you enter INGSEND without specifying any parameters, a panel similar to will be displayed.

```
INGKYSND                    SA z/OS  - Command Dialogs
Domain ID   = IPUN8    ---------- INGSEND  ----------    Date = 11/04/03
Operator ID = NETOPER                                    Time = 16:58:22

 Specify or revise the following parameters:

     Response      =>  YES            Enter ACK, YES, NO or CORR
     Operator id   =>  _____       Leave blank for default
     Target  (TO)  =>  _____ format: [netid.]domain
     Corrwait      =>  _____
     Command ...
     _____
     _____
     _____
     _____
     _____



Command ===>
     PF1=Help    PF2=End    PF3=Return    PF6=Roll           PF12=Retrieve
```

Figure 98. INGSEND Command Dialog Panel
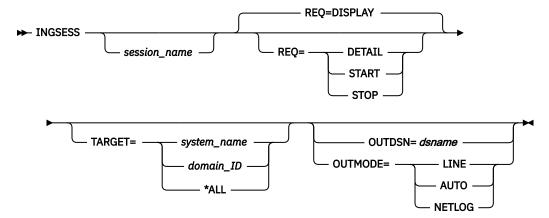
The available fields correspond to the parameters of the INGSEND command (see for details).

INGSESS

Purpose

INGSESS displays OMEGAMON® session definitions, the session status and statistical information about the session.

Syntax

Parameters

session_name
The name of the OMEGAMON session that an action is requested for. This parameter is only useful in line mode.

More than one name can be specified for the REQ=DISPLAY function. Wildcards are supported. The session name is mandatory for the Start, Stop, and Detail request.

REQ=action
The action that you want to perform for *session_name*. It can be one of the following:

DISPLAY
Returns the list of sessions that match the specified filter criteria. This is the default.

DETAIL
Returns details for the named session.

START
Creates a new session using the session attributes for *session_name*.

STOP
Destroys the named session.

This parameter is only useful in line mode.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Examples

is displayed when you enter the INGSESS command at the NetView command line.

```
INGKYSS0                  SA z/OS  - Command Dialogs      Line  1     of 8
Domain ID   = IPSFM       -------- INGSESS   ---------    Date = 04/22/05
Operator ID = NETOP1          System  = KEYA             Time = 14:18:55

CMD:  B Start session   C Stop session   D Details

CMD Session       System   Type     Status      Appl-id  User id  SessOper
--- -----------   --------  --------  ----------  --------  --------  --------
 _   CICSKY41      KEYA     OMIICICS ACTIVE      IPSP0C0  SAOM     AOFSES01
 _   DB2SGG4       KEYA     OMIIDB2  ACTIVE      IPSPD2C  SAOM     AOFSES02
 _   DB2SG14       KEYA     OMIIDB2  SESSFAIL    IPSPD2C  SAOM     AOFSES01
 _   IMS742CR      KEYA     OMIIIMS  ACTIVE      IPSP0I0  SAOM     AOFSES02
 _   IMS743CR      KEYA     OMIIIMS  MAINT       IPSP0I0  SAOM     AOFSES01
 _   JHSY4MVS      KEYA     OMIIMVS  ACTIVE      IPSPM2RC SAOM     AOFSES02
 _   JHSY4MV2      KEYA     OMIIMVS  INACTIVE    IPSPM2RC SAOM     AOFSES01
 _   OMSY4MVS      KEYA     OMIIMVS  ACTIVE      IPSPM2RC SAOM     AOFSES01




Command ===>
   PF1=Help      PF2=End         PF3=Return                  PF6=Roll
                                 PF9=Refresh                 PF12=Retrieve
```

Figure 99. INGSESS Command Dialog Panel

- The **Cmd** field allows you to display specific information for each system. The following command code is available:

  B

    Creates a new session with the appropriate OMEGAMON, if it does not already exist, that is, the session status is INACTIVE or MAINT. After successful session creation, the session status is ACTIVE. The session remains active until it is stopped, either explicitly (using command code C), or implicitly by NetView on behalf of OMEGAMON or session task termination.

  C

    Destroys the session with the appropriate OMEGAMON. The session status will be changed to MAINT. The session is disabled so as to prevent it from being created implicitly again.

  D

    Displays details for the selected session, such as the session attributes from the session definition, the current status, and statistical information.

- The **Session** column shows the name of the session that represents an OMEGAMON monitor.
- The **System** column shows the system that established the connection to OMEGAMON.
- The **Type** column shows the type of session, that is, the OS or middleware that the OMEGAMON monitor is monitoring.
- The **Status** column shows the status of the session. It can be ACTIVE, INACTIVE, MAINT, SESSFAIL, or AUTHFAIL.
- The **Appl-id** column shows the name of the OMEGAMON VTAM application as defined by the installation during customization of the OMEGAMON product.
- The **User id** column shows the user that is defined to log on to the OMEGAMON application. The user ID is needed to control access to the OMEGAMON application. It may be blank if product level security is not implemented for this OMEGAMON application.
- The **SessOper** column shows the automated function name that was assigned to the session by SA z/OS during initialization.

If command code D is selected, the detail screen as shown in is displayed.

```
INGKYSS1                  SA z/OS  - Command Dialogs      Line  1     of 22
Domain ID   = IPXNG       ---------- INGSESS  ----------  Date = 04/22/05
Operator ID = NETOP1          System  = KEYA              Time = 14:43:23

 Session          : OMSY4MVS
 System           : KEYA            in Sysplex   : KEYAPLEX
 Type             : OMIIMVS
 Description       : OMEGAMON for MVS on KEY4

 Status           : ACTIVE
 Session Operator : AOFSES01
 Logical Unit     : TFNG#000

 Application id   : IPSPM2RC
 User id          : SAOM
 Password         : SAFPW
 Timeout          : 29
 Logon data       :

 Users...
                    NETOP1

 Statistics...
    Total # Commands          : _____13
    Total # exception analysis : _____14
    Total # exceptions tripped : _____630


Command ===>
 PF1=Help    PF2=End      PF3=Return                      PF6=Roll
                          PF9=Refresh                     PF12=Retrieve
```

Figure 100. INGSESS Command Dialog Detail Panel

- The **Session** field shows the name of the session that represents an OMEGAMON monitor
- The **System** field shows the system that established the connection to OMEGAMON.
- The **Description** field shows descriptive information for this session as specified in the automation policy.
- The **Status** field shows the status of the session. It can be ACTIVE, INACTIVE, MAINT, SESSFAIL, or AUTHFAIL.
- The **Session Operator** field shows the automated function name that was assigned to the session by SA z/OS during initialization.
- The **Logical Unit** field shows the name of the source LU that was assigned by NetView upon establishing a Terminal Access Facility (TAF) fullscreen session.
- The **Application id** field shows the name of the OMEGAMON VTAM application as defined by the installation during customization of the OMEGAMON product.
- The **User id** field shows the user that is defined to log on to the OMEGAMON application. The user ID is needed to control access to the OMEGAMON application. It may be blank if product level security is not implemented for this OMEGAMON application.
- The **Password** field shows the password in the form of a string of asterisks or 'SAFPW'. This is the password used to logon to the OMEGAMON application.
- The **Timeout** field shows the maximum time to wait for a response from OMEGAMON before the request is terminated.
- The **Logon data** field shows the data that is sent to the OMEGAMON session during logon.
- The **Users** field shows a list of operators or *AUTO that have interacted with the session since it became ACTIVE.
- The **Statistics** section shows:
  - The **Total # Commands** field shows the number of commands that have been issued on this session since the session became ACTIVE. The counter is reset each time the session becomes ACTIVE.

    – The **Total # exception analysis** field shows the number of exception trap analysis commands that have been issued since the session became ACTIVE. The counter is reset each time the session becomes ACTIVE.

    – The **Total # exceptions tripped** field shows the number of exceptions that actually tripped as reported by the session since it became ACTIVE. The counter is reset each time the session becomes ACTIVE.

INGSET
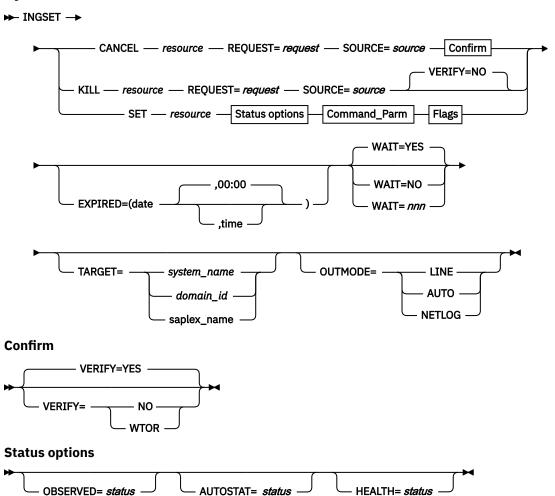
Purpose
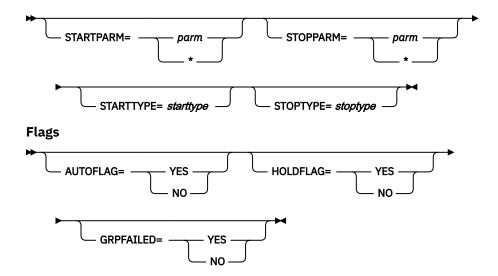
INGSET is a line-mode command that is primarily used in automation REXX scripts. With the INGSET command you can:

- Remove an operator's request
- Set a status attribute or automation flag for a resource or application group
- Clear or set the hold flag for a resource or application group
- Set the start or stop type for a resource

Syntax

►►— INGSET —►

Confirm

Status options

Command_Parm

Flags

Parameters

CANCEL

Removes a request.

resource

Specifies the resource that the request is to be canceled for. The format is *name/type/system*. Wildcard is supported.

KILL

Removes a request without verifying. To perform verification, specify the VERIFY parameter.

resource

Specifies the resource that the request is to be killed for. The format is *name/type/system*. Wildcard is supported.

SET

Sets one or more resource attributes. The following settings can be made:

- Observed status
- The health status
- Automation status
- Automation flags
- Hold flag
- Start type for next startup
- Stop type for next shutdown

Wildcard is supported for the SET parameter.

resource

Specifies the resource that an attribute is to be set for. The format is *name/type/system*. Wildcard is supported.

REQUEST

Causes the request to be canceled. You can specify one of the following:

- MAKEAVAILABLE/MakeAvailable
- MAKEAVAILABLESO/MakeAvailable_Only
- MAKEUNAVAILABLE/MakeUnAvailable
- MAKEUNAVAILABLESC/MakeUnAvailable_Children
- MAKEUNAVAILABLESO/MakeUnAvailable_Only

- SUSPENDSO/Suspend_Only
- SUSPENDSA/Suspend_All

Wildcard is supported, for example, REQUEST=MAKEUN*

A MAKEAVAILABLE/MakeAvailable vote on a resource reflects an INGREQ *resource*,REQ=UP,SCOPE=ALL. That is, the vote is inherited from the resource that it was issued against by all of its dependent resources.

A MAKEAVAILABLESO/MakeAvailable_Only vote on a resource reflects an INGREQ *resource*,REQ=UP,SCOPE=ONLY. That is, the vote is *not* inherited from the resource that it was issued against by all of its dependent resources, but only by that resource.

A MAKEUNAVAILABLE/MakeUnAvailable vote on a resource reflects an INGREQ *resource*,REQ=DOWN,SCOPE=ALL. That is, the vote is inherited from the resource that it was issued against by the resource and all of its dependent resources.

A MAKEUNAVAILABLESC/MakeUnAvailable_Children vote on a resource reflects an INGREQ *resource*,REQ=DOWN,SCOPE=CHILDREN. That is, the vote is inherited from the resource that it was issued against by all of its dependent resources, but it does not affect the resource itself.

A MAKEUNAVAILABLESO/MakeUnAvailable_Only vote on a resource reflects an INGREQ *resource*,REQ=DOWN,SCOPE=ONLY. That is, the vote is *not* inherited from the resource that it was issued against by all of its dependent resources, but affects only that resource.

A SUSPENDSO/Suspend_Only vote on a resource reflects an INGSUSPD resource,REQ=SUSPEND,SCOPE=ONLY. That is, the vote is not inherited from the resource that it was issued against by all of its dependent resources, but affects only that resource.

A SUSPENDSA/Suspend_All vote on a resource reflects an INGSUSPD resource,REQ=SUSPEND,SCOPE=ALL. That is, the vote is inherited from the resource that it was issued against by the resource and all of its dependent resources.

SOURCE
Specifies the source of the request, for example OPERATOR, or AUTOOPS. Wildcard is supported, for example, SOURCE=*

OBSERVED
Specifies the observed status to be assigned to the resource. The status can be abbreviated, for example, to AV for available. Here is a list of possible Observed Status values and their shortest possible abbreviations: AVAILABLE (A), UNKNOWN (U), SYSGONE (SY), SOFTDOWN (SO), HARDDOWN (H), STARTING (STAR), DEGRADED (D), STOPPING (STO), PROBLEM (P), WASAVAILABLE (W), and STANDBY (STAN).

AUTOSTAT
Specifies the automation status to be assigned to the resource. The status can be abbreviated, for example, to ID for idle. Here is a list of possible Autostat Status values and their shortest possible abbreviations: UNKNOWN (U), IDLE (ID), ORDERED (O), BUSY (B), DENIED (D), PROBLEM (P), and INTERNAL (IN).

HEALTH
Specifies the health status to be assigned to the resource. The status can be abbreviated, for example, to NO for normal. Here is a list of possible Health Status values and their shortest possible abbreviations: SYSGONE (S), UNKNOWN (U), NORMAL (N), WARNING (W), MINOR (M), CRITICAL (C), and FATAL (F).

EXPIRED
Specifies the expiry date and time of the request. Any request older than or equal to the specified timestamp is deleted when the other filter criteria are matched. The date format is yyyy-mm-dd and the time format is hh:mm. The time specification is optional.

> ⚠️ **CAUTION:** Care must be taken when using the EXPIRED parameter for a remote sysplex that runs in a different time zone. The local time of the system where INGSET CANCEL/KILL command is issued determines whether or not the request is expired.

WAIT

Specifies whether or not to wait until the request is complete. The default is YES.

nnn is the number of seconds to wait before giving up and reporting that a timeout has occurred. The maximum time interval is 999 seconds.

VERIFY

Specifies whether canceling the request is to be verified. The following specifications are valid:

YES

Depending on the NetView task type that the INGREQ or INGSUSPD command is running on, the verification is either displayed on a fullscreen panel or, in line mode, shown on the console. The latter is also done when OUTMODE=LINE is coded.

NO

No verification is performed. VERIFY is set to NO for AUTOTASKs. Otherwise, it is set to YES.

WTOR

The list of affected resources is displayed before the request is removed. The operator is prompted to verify the list via WTOR.

The default depends on the type of task that the INGREQ or INGSUSPD command runs on.

TARGET

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE

For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

STARTPARM

Is the START parameter that is passed to the next START command. The value that is specified here is used only once and takes precedence over the PARM value that is specified on the next INGREQ (REQ=START) command. Use * to reset its value.

STOPPARM

Is the STOP parameter that is passed to the next STOP command. The value that is specified here is used only once and takes precedence over the PARM value that is specified on the next INGREQ (REQ=STOP) command. Use * to reset its value.

STARTTYPE

Specifies the type of command to be issued for the resource's next startup. The value specified here is used only once and takes precedence over the TYPE value specified on the next INGREQ (REQ=START) command.

STOPTYPE

Specifies the type of command to be issued for the resource's next shutdown. The value specified here is used only once and takes precedence over the TYPE value specified on the next INGREQ (REQ=STOP) command. However, a stop type of FORCE, wherever specified, will always be honored.

AUTOFLAG

Specifies the automation flag. It can be either YES or NO. It can be abbreviated.

HOLDFLAG

Specifies whether the resource is to be started. It can be either YES or NO. The HOLD flag can only be set if the resource is down, that is if its observed status is either HardDown, SoftDown, SysGone, or Unknown.

GRPFAILED

Specifies the group failed flag. It can be either YES or NO.

Security Considerations

The INGSET command supports resource level security. If turned on, the following profiles in SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	When function is CANCEL or KILL
	CONTROL	When function option is SET

If multiple resources are affected, multiple profiles are checked. For SET requests, the request is carried out or rejected as a whole. CANCEL and KILL requests are processed for each profile.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Return Codes

The following return codes can occur:

0
> The request was processed successfully.

1
> An error occurred while processing the request or exit requested.

Usage

Note that if you cancel the verification process of a list of affected resources, SA z/OS may issue a slightly misleading message. Although the verification has been canceled, message AOF099I FUNCTION COMPLETED may be returned.

Examples

To cancel a previously issued request to make a resource available, enter the following:

```
INGSET CANCEL TSO/APL/KEY1 REQUEST=MAKEAVAILABLE SOURCE=OPERATOR
```

To set the start type for the next startup of a JES2 resource to COLD, enter the following:

```
INGSET SET JES2/APL/KEY1 STARTTYPE=COLD
```

INGSTR

Purpose

The INGSTR command allows you to display and manipulate all the structures that are defined in your active policy and all allocated structures in the sysplex. You can rebuild or delete a selected structure or start and stop the duplexing of a structure, if applicable.

The command supports full mode and line mode but in line mode only the display function is available. Therefore, you cannot start an action when you issue INGSTR from an NCCF console.

Authorizations

The actions that you can initiate with INGSTR depend on your authorizations. You can see your authorization type on the panel. Note that the authorization types see the current function, and that your authorization type can be different for different functions.

The following authorization types exist:
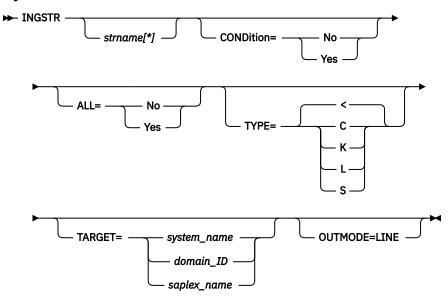
DISPLAY
> You cannot initiate any action that affects the sysplex configuration.

ALL
You can initiate all actions from the corresponding panel.

Note: The codes or PF keys that you can initiate one of these actions with are only displayed if you are authorized to perform the action.

Syntax

Parameters

strname[*]
Specifies a name pattern that limits the display. The default is to show all structures that match the 'ALL' condition.

CONDition
Defines whether or not the rebuild condition of each structure is to be determined and displayed.

ALL
Defines whether allocated and unallocated structures or just allocated structures are displayed.

TYPE
Defines what type of structures are to be displayed:

C
cache

K
lock

L
list

S
serialized list

(Default: all)

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Structure Conditions

The condition of an allocated structure can be:

Rebuild is not supported.
 The structure can neither be rebuilt, nor can its deletion be forced.

 The structure has at least one active connector that does not support user-managed rebuild, and at least one active connector that does not support system-managed rebuild.

System-managed processes not supported.
 The structure cannot be rebuilt, nor can its deletion be forced.

 System-managed rebuild, which is a system-managed process, is not possible for the following reason:

 • The CFRM couple data sets have not been formatted to support system-managed processes (ITEM NAME(SMREBLD) NUMBER(1) was not specified).

 Note: In certain rare cases system-managed processes are not supported although the condition that is displayed on the DRAIN panel seems to indicate the contrary. Then, the rebuild will be initiated, but will fail with message IXC367I indicating that system-managed processes are not supported for the structure.

No alternate coupling facility defined or available.
 The structure can neither be rebuilt, nor can its deletion be forced.

 The structure has an active connector and supports rebuild but does not have an alternate coupling facility defined in its preference list, or the alternate coupling facilities that are defined in the preference list are currently unavailable.

Insufficient space detected for rebuild.
 The structure cannot or could not be rebuilt. Its deletion cannot be forced.

 No alternate coupling facility has enough space to rebuild the structure.

Preference list is empty.
 The structure cannot be rebuilt because its preference list is currently empty. A possible reason for this is a pending policy change; for pending policy changes, see P column.

Structure is pending deallocation.
 XES accepted a forced deletion of the structure but does the real deallocation later.

 Note: This status can only occur when MVS APAR OW39404 has not been installed.

Structure is being rebuilt.
 The structure is being rebuilt to another coupling facility.

Duplex rebuild is being stopped.
 Two instances of the structure were maintained on different coupling facilities. The application is being disconnected from that instance that is allocated on the target coupling facility. After disconnecting, the instance is deleted.

No connection exists.
 The structure cannot be rebuilt, but you can force its deletion.

 The structure does not have any connections and cannot be rebuilt with system-managed rebuild.

No alternate coupling facility for structure with no connections.
 The structure cannot be rebuilt, but you can force its deletion.

 The structure does not have any connections. It could be rebuilt with system-managed rebuild, but no alternate coupling facility is defined in its preference list or available.

No alternate coupling facility for structure with no active connections.
 The structure cannot be rebuilt, but you can force its deletion.

The structure has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections. It could be rebuilt with system-managed rebuild, but no alternate coupling facility is defined in its preference list or available.

The structure's initial size is less than its actual size.
The SIZE value is greater than twice the INITSIZE value. The structure can be rebuilt, but a SIZE value that is greater than twice the INITSIZE might cause the following:

- It might be impossible to allocate a structure at a size of INITSIZE, because the amount of control storage that is required to support the SIZE value might actually be larger than INITSIZE.

- If the allocation succeeds, it might result in a structure with a proportionally large amount of its storage allotted to structure controls, leaving too few structure objects to be exploited usefully by the associated application.

For example, if you have requested a maximum size that is very much larger than the initial size, the system will attempt to use a proportionally large amount of the allocated storage for its controls. The result could be that the allocated storage contains control structures for the future maximum size of the structure and insufficient storage might remain for the application's initial use.

No active connection exists.
The structure cannot be rebuilt, but you can force its deletion.

The structure has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections and cannot be rebuilt with system-managed rebuild.

Note: INGCF STRUCTURE accepts a rebuild request for structures with this condition, but deallocates them.

No connections. System-managed rebuild supported.
The structure can be rebuilt.

The structure does not have any connections, but can be rebuilt with system-managed rebuild.

No active connections. System-managed rebuild supported.
The structure can be rebuilt with system-managed rebuild.

User-managed rebuild is not possible for the structure because it has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections.

System-managed rebuild is supported
The structure can be rebuilt.

The structure has active connectors. At least one active connector does not support user-managed rebuild, but all active connectors support system-managed rebuild.

Duplex rebuild is active.
The application is connected to two instances of the same structure on different coupling facilities.

[No condition]
When no condition is displayed, the structure can be rebuilt.

The structure has at least one active connection, and all its active connectors support user-managed rebuild.

Structure is awaiting rebuild.
The structure has been selected for rebuild but has not been processed yet.

Structure is currently allocated on *cf_name*.
The structure can be rebuilt on the target coupling facility with the POPULATE action of the ENABLE function. It is currently allocated on the *cf_name* coupling facility, but the target coupling facility precedes *cf_name* in the structure's preference list. This condition is displayed only in the ENABLE command dialog.

Structure allocated in *cf_name* cannot be rebuilt to this CF.
The structure can probably not be rebuilt on the target CF with the POPULATE action of the ENABLE function. It is currently allocated in the *cf_name* CF, but the target CF precedes *cf_name* in the

structure's preference list. And, the actual size of the structure is greater than the free space of the target CF. This condition is displayed only in the ENABLE command dialog.

Examples

If you enter `ingstr` without any parameters, a panel with all coupling facilities of the sysplex is displayed, as shown in Figure 101 on page 241.

```
INGLX906              SA z/OS  - Command Dialogs     Line  6    of 52
Domain ID   = IPXFI    --------- INGSTR ----------    Date = 11/23/04
Operator ID = NETOPER1                                Time = 11:17:27

Structure names . . ==> _____  Status . . . . . . : NORMAL
Sysplex . . . . . . ==> KEYAPLEX          Permission . . . . : ALL
Include condition . ==> NO_ (Yes/No - Condition retrieval takes longer)
Include unallocated ==> NO_ (Yes/No)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D display details / F force / P stop duplex / R rebuild / S start duplex

  Structure        P D  Old      New       Pref. Location(s)
  ---------------  - -  -------- --------   -----------------
_ DSNA_GBP0          U  CFA      CFB
_ DSNA_GBP1          S                      CFA       CFB
_ DSNA_GBP2          U  CFA                           CFB
_ DSNA_GBP32K                               CFA
_ DSNA_LOCK1         S  CFA      CFA        CFA       CFB
_ DSNA_SCA           S  CFB                 CFB       CFA
_ GRPXCSQ_ADMIN         CFB


Command ===>
F1=Help      F2=End       F3=Return                        F6=Roll
             F8=Forward   F9=Refresh    F10=ReAlloc         F12=Retrieve
```

Figure 101. The INGSTR Panel without Structure Conditions.

The structure display shows all structures regardless of their allocation status or the coupling facility. You can limit the display by specifying a structure name pattern.

- The **P** column indicates whether a policy change is pending for the structure. Rebuilding the structure, if possible, will remove the pending status.

- The **D** column shows what type of duplexing is supported:

  U

  Indicates that user-managed duplexing is supported.

  S

  System-managed duplexing.

  B

  Both, where user-managed is preferred when possible.

  Note that, for performance reasons, this status does not include a check of the SMDUPLEX flag in the CFRM couple data set. However, this flag is checked when you use command code S.

- The **Old** column shows where the structure is allocated or where it was first allocated when it is being duplexed.

- The **New** column shows where the duplexed structure is allocated.

- The **Pref. Location(s)** column shows the locations where the structure should preferably be allocated. When the structure is allocated to the preferred coupling facility this column is blank. A '*' in front of the coupling facility name (or names) indicates that the structure does not allow XCF to perform a reallocation.

- The following command codes are available:

  D

  Display details of the selected structure.

  F

  Force the deletion of the selected structure.

P

Stop duplexing of the selected structure.

R

Rebuild the selected structure.

S

Start duplexing of the selected structure.

When the **Include unallocated** option is set to YES, all structures that are defined in the policy are shown. When the **Include condition** option is set to YES, the structure's current condition is also shown. Specifying this option increases the response time required to build the display. A panel similar to that shown in Figure 102 on page 242 is displayed.

```
INGLX906                 SA z/OS  - Command Dialogs      Line  11   of 104
Domain ID   = IPXFI      --------- INGSTR ----------     Date = 11/23/04
Operator ID = NETOPER1                                   Time = 11:18:28

Structure names . . ==> _____  Status . . . . . : NORMAL
Sysplex . . . . . . ==> KEYAPLEX          Permission . . . . : ALL
Include condition . ==> YES (Yes/No - Condition retrieval takes longer)
Include unallocated ==> YES (Yes/No)
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
Cmds: D display details / F force / P stop duplex / R rebuild / S start duplex

  Structure        P D  Old      New       Pref. Location(s)
  ---------------  - -  -------- --------   -----------------
_ DSNA_GBP0            U  CFA      CFB
   Condition ...:  Duplex rebuild is active.
_ DSNA_GBP1           S                    CFA       CFB
   Condition ...: *Structure is not allocated.
_ DSNA_GBP2           U  CFA                CFB
   Condition ...:
_ DSNA_GBP32K                              CFA
   Condition ...: *Structure is not allocated.
_ DSNA_LOCK1          S  CFB      CFA      CFA       CFB
   Condition ...:  Duplex rebuild is active.
_ DSNA_SCA            S  CFA                CFB       CFA
   Condition ...:  System-managed rebuild is supported.
_ GRPXCSQ_ADMIN          CFB
   Condition ...:  System-managed rebuild is supported.
_ GRPXHSAQUEUE           CFB
   Condition ...:  System-managed rebuild is supported.
_ HSA_LOG                CFB                CFA
   Condition ...:
_ IEFAUTOS                                 CFA
   Condition ...: *Structure is not allocated.
_ IMSOSAMCACHE                            *CFB
   Condition ...: *Structure is not allocated.
_ IMSVSAMCACHE                            *CFB
   Condition ...: *Structure is not allocated.
_ ING_HEALTHCHKLOG       CFA                CFB
   Condition ...:

Command ===>
F1=Help      F2=End      F3=Return                       F6=Roll
             F8=Forward  F9=Refresh   F10=ReAlloc         F12=Retrieve
```

Figure 102. The INGSTR Panel with Structure Conditions

Depending on the status of the CFs and the systems in the sysplex you can use the PF10 key to perform the XCF REALLOCATE command to move the allocated structures to their preferred location. When you press PF10 to move the structures, a panel asking you to confirm the action is displayed, as shown in Figure 103 on page 243. Press PF10 to confirm the action, or PF11 to cancel the reallocation.

Note: You must be authorized to perform the FORCE, REBUILD, START, STOP, or REALLOC action.

```
INGLX92X                   SA z/OS  - Command Dialogs
Domain Id   = IPXFI        --------- INGSTR ----------        Date = 11/23/04
Operator Id = NETOP1                                          Time = 12:32:58

Sysplex . . . . . . : KEYAPLEX

                      R E A L L O C A T E   Confirmation

The XCF REALLOCATE process runs asynchronously on the next system in the
sysplex that has access to the CFRM couple data set. XCF processes all
structures in sequence. Once started use the refresh PF key for getting the
current status of the process. When the process has completed but not all
structures have been moved to their preferred location look for IXC544I
messages in the netlog. This message provides an explanation of the reason why
a structure wasn't adjusted.




 Command ===>
          F2=End        F3=Return                          F6=Roll
                                  F10=Go       F11=Cancel   F12=Retrieve
```

Figure 103. REALLOCATE Confirmation Panel

If you enter, for example, the command INGSTR D* COND=Y ALL=Y OUTMODE=LINE, this produces line command output, as shown in .

```
Structures: D*
Sysplex...: KEYAPLEX

Structure  P D  Old       New       Pref. Location(s)  Condition
---------- -  -------- --------  -----------------  ----------------------------
DSNA_GBP0    U  CFA       CFB                          Duplex rebuild is active.
DSNA_GBP1    S                     CFA       CFB       *Structure is not allocated.
DSNA_GBP2    U  CFA                           CFB
DSNA_GBP32K                        CFA                 *Structure is not allocated.
DSNA_LOCK1   S  CFB       CFA      CFA       CFB       Duplex rebuild is active.
DSNA_SCA     S  CFA       CFB      CFB       CFA       Duplex rebuild is active.
*** End of Display ***
```

Figure 104. INGSTR Line Command Output

INGSUSPD
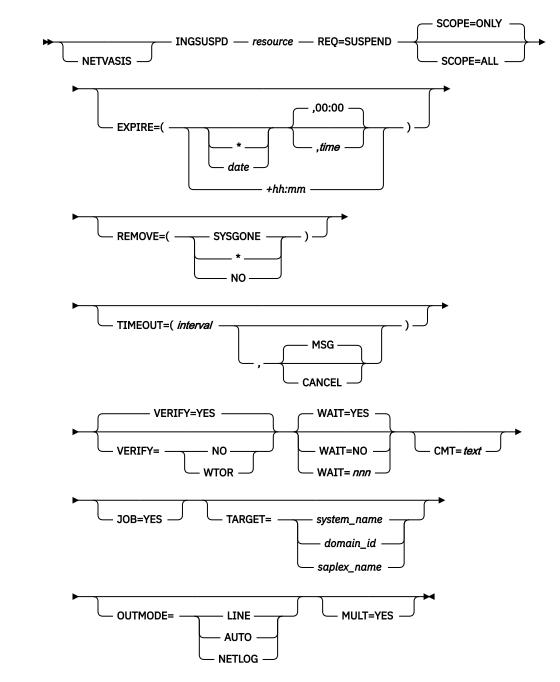
Purpose

The INGSUSPD command suspends and resumes automation for one or more resources. With RESUME, a previously made SUSPEND request from the same source can be canceled.
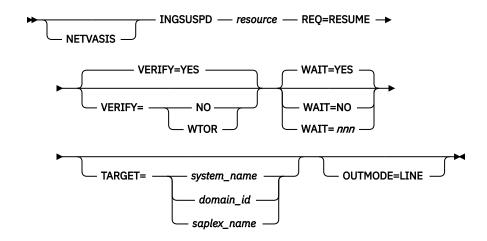
Note: The source of a SUSPEND request is always INGSUSPD. Therefore, it is possible to RESUME every SUSPEND request that has been injected for a resource.

Syntax

To suspend automation for resources:

INGSUSPD

►►─┬─────────────┬─── INGSUSPD ── *resource* ── REQ=SUSPEND ─┬─ SCOPE=ONLY ─┬─►
   └─ NETVASIS ──┘   └─ SCOPE=ALL ──┘

►─┬──┬─►
  └─ EXPIRE=(─┬──────────┬─┬─ ,00:00 ─┬─) ─┘
               ├─── * ────┤ └─ ,time ──┘
               └─ date ───┤
               └──── +hh:mm ─────┘

►─┬─────────────────────────────┬─►
  └─ REMOVE=(─┬─ SYSGONE ─┬─) ─┘
               ├──── * ────┤
               └─── NO ────┘

►─┬──┬─►
  └─ TIMEOUT=(*interval* ─┬───────────────┬─) ─┘
                           └─ , ─┬─ MSG ────┬─┘
                                 └─ CANCEL ─┘

►─┬─ VERIFY=YES ─┬─┬─ WAIT=YES ──┬──────────────────►
  └─ VERIFY= ─┬─ NO ───┬─┘ ├─ WAIT=NO ───┤ └─ CMT=*text* ─┘
              └─ WTOR ─┘   └─ WAIT=*nnn* ─┘

►─┬─ JOB=YES ─┬─┬─ TARGET= ─┬─ *system_name* ─┬─┬─►
  └───────────┘ └───────────┤ ├─ *domain_id* ───┤
                            └─ *saplex_name* ─┘

►─┬─ OUTMODE= ─┬─ LINE ───┬─┬─ MULT=YES ─┬─►◄
             ├─ AUTO ───┤
             └─ NETLOG ─┘

To resume automation for resources:

Parameters

NETVASIS
Prefix the INGSUSPD command with NETVASIS if you want to pass the description text in lower or mixed case.

resource
Specifies the name of the resource to be processed. The format is *name[/type[/system]]*. Only resources of type APL, APG, and MTR are supported.

Wildcards are supported as well. In full-screen mode, if more than one resource matches the wildcard specification, a selection panel is displayed. In line mode, if more than one resource matches the wildcard specification and MULT=YES is specified, all selected resources are processed. Multiple resource specification in line mode without MULT=YES causes an error message to be displayed.

Note: You need not specify the full name of the resource. This applies to the system as well as to the type. If the resource name is unique within the name space of the automation manager, the system name need not be specified. If the resource name is unique within the appropriate types, the type need not be specified. A valid resource name could be, for example, CICSPROD.

REQ
Specifies the request to be carried out. It can be either SUSPEND or RESUME. With RESUME, a previously made SUSPEND request can be removed from the same resource.

EXPIRE
Specifies the expiry date and time of the request. The request is automatically removed when it expires. The date format is yyyy-mm-dd; an asterisk (*) is used as today's date. The time format is hh:mm.

Alternatively, you can specify a relative time, for example, +04:00. The relative time is automatically converted into the absolute date and time. The maximum relative time interval is 24:00 hours.

REMOVE
Indicates the condition when the request is automatically removed, regardless of whether the request is satisfied or not. If the specified condition matches the observed status of the resource, the request is deleted.

SYSGONE
If the system, where the automation agent runs, leaves the sysplex, the observed statuses of all resources running on that system become SYSGONE.

*|NO
Alternatively, you can specify an asterisk (*) or NO to reset the installation-defined default.

TIMEOUT
> Specifies the interval that is used to check whether the request completes successfully. Either a message is issued or the request is canceled, if the request is not satisfied after that time. The format is mm.

> **MSG**
>> Specifies that a message should be issued telling the notify operator that the request was not satisfied within the expected time interval. The default is to issue a message.

> **CANCEL**
>> Specifies that the request should be canceled.

VERIFY
> Specifies whether the SUSPEND or RESUME process should be verified. The following specifications are valid:

> **YES**
>> Depending on the NetView task type that the INGSUSPD command is running on, the verification is either displayed on a full-screen panel, or shown on the console in line mode. The latter is also done when OUTMODE=LINE is coded.

> **WTOR**
>> The list of affected resources is displayed before the SUSPEND or RESUME begins. The operator is prompted to verify the list via WTOR.

> **NO**
>> No verification is performed. VERIFY is set to NO for unattended tasks. Otherwise, it is set to YES.

> The default depends on the type of task that the INGSUSPD command runs on.

WAIT
> Specifies whether or not to wait until the request is complete. The default is YES.

> The variable *nnn* is the number of seconds to wait before giving up and reporting that a timeout occurs. The maximum time interval is 999 seconds.

CMT
> Specifies descriptive information about the request. The maximum length is 120 characters. If the text contains embedded blanks, it must be enclosed in quotation marks or parentheses.

JOB
> Indicates that the specified resource is a job name. The job name can contain a wildcard.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

MULT
> Specifies that more than one resource will be accepted when running in line mode, if the resource wildcard specification results in multiple resources.

SCOPE
> Specifies whether the SUSPEND affects only the resource or both the resource and its descendants. Valid options are:

> **ONLY**
>> Specifies that only the specified resource is suspended. This is the default.

> **ALL**
>> Specifies that the resource and its descendants are suspended.

Restrictions and Limitations

To use the INGSUSPD command, system operations must be initialized.

Security Considerations

The INGSUSPD command supports resource level security. If turned on, the following profiles in class SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	Unless authority is CONTROL
	CONTROL	When SCOPE is used with a value other than the default (IBM supplied or installation default)

If multiple resources are affected, multiple profiles are checked. SUSPEND requests are carried out or rejected as a whole. RESUME requests are processed individually.

For more information, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

The INGSUSPD command operates sysplexwide. For an overview, see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter INGSUSPD, a panel similar to Figure 105 on page 247 is displayed.

```
 INGKYPS0                 SA z/OS  - Command Dialogs     Page  1 of 1
 Domain ID   = IPXFI     ---------- INGSUSPD  ----------   Date = 10/25/16
 Operator ID = NETOP1                                      Time = 18:52:41

   Resource    =>  CICS/APL/KEYC_____     format: name/type/system
   Target      =>  _____      System name, domain ID or sysplex name

   Request     =>  SUSPEND_      Requested action (SUSPEND or RESUME)
   Scope       =>  ONLY___       Request scope (ONLY/ALL)
   Expire      =>  _____ , _____   Expiration date(yyyy-mm-dd), time(hh:mm)
   AutoRemove  =>  _____      Remove condition (SYSGONE/NO/*)
   Verify      =>  YES_          List affected resources(YES/NO/WTOR)
   Comment     =>  _____
                   _____
   Timeout     =>  0__ / MSG___  Interval in minutes / Option (MSG/CANCEL)




 Command ===>
    PF1=Help     PF2=End     PF3=Return                    PF6=Roll
                 PF8=NextPnl                               PF12=Retrieve
```

Figure 105. INGSUSPD Command Dialog Panel

- The **Resource** field shows the name of the resource to be processed. The format is *name/type[/system]*. Only resources of type APL, APG, and MTR are supported. Wildcard is supported as well.
- The **Target** field shows the name of the system (system name, domain ID, or sysplex name) that the command should be routed to. Specifying this field is only necessary if the resources are not part of the local sysplex.
- The **Request** field shows the request to be carried out. This field is either SUSPEND or RESUME. With RESUME, a previously made SUSPEND request can be removed from the same resource.
- The **Scope** field shows whether the SUSPEND or RESUME affects only this resource or both this resource and its descendants.
- The **Expire** field shows the expiry date and time when the request is removed.
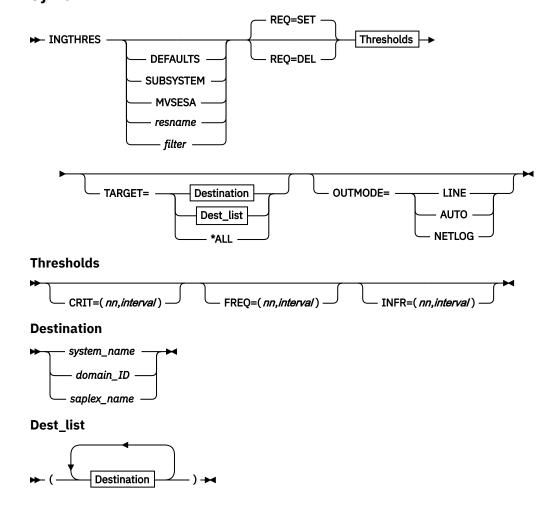
- The **AutoRemove** shows the condition when the request is automatically removed, regardless of whether the request is satisfied or not. If the specified condition matches the observed status of the resource, the request is deleted.
- The **Verify** field shows whether the SUSPEND or RESUME process should be verified. If YES or WTOR is entered, the list of affected resources is displayed before the request begins. You are prompted to verify the list. If WTOR is specified, you are prompted via a WTOR. If NO is entered, the request processing begins immediately. The default is YES.
- The **Comment** field specifies descriptive information, for example, why the request was made.
- The **Timeout** field shows the time period that the request must complete in. After this time interval, either a message is issued or the request is canceled.

INGTHRES

Purpose

The INGTHRES command displays all thresholds that are defined for a resource. INGTHRES lists the thresholds that were set using the INGTHRES command or that are defined in your automation control file. INGTHRES also lets you set, change or delete the threshold settings for a particular resource. INGTHRES also sets the defaults for all MVS subcomponents, for all subsystems, or for MVSESA components.

Syntax

Thresholds

Destination

Dest_list

Parameters

If you do not specify a subsystem, the INGTHRES panel is displayed.

DEFAULTS
> Sets the default settings for all automated resources that: do not have their own threshold settings OR do not belong to a group that has its own threshold settings.

SUBSYSTEM
> Sets defaults for all subsystems.

MVSESA
> Sets defaults for all MVS subcomponents.

resname
> Specifies a particular resource, for example, WTOBUF. You can specify any automated resource.

filter
> Is the filter used for the output. Only resource names that match the filter criteria are displayed. Wildcard is supported. The filter consists of the major resource name and, optionally, of a minor resource name separated by a period, for example, CICS*.TRANS*, or .*CEMT. To view major resources specify *. To view minor resources specify $xyz.*$

REQ
> Specifies the request type which can be:
>
> **SET**
> > Adds or updates the thresholds for the given resource. This is the default setting.
>
> **DEL**
> > Deletes the thresholds for the given resource.

CRIT
> Specifies values for the critical threshold.

FREQ
> Specifies values for the frequent threshold.

INFR
> Specifies values for the infrequent threshold.

nn
> Specifies the number of errors before the threshold is reached. You can specify a maximum of 50.

interval
> Specifies the time period before the threshold is reached in the form hh:mm[:ss], where:
>
> **hh**
> > Hours
>
> **mm**
> > Minutes
>
> **ss**
> > Seconds

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The changes you make are active only until the next time the automation control file is loaded.

The INGTHRES command can only be used when SA z/OS is initialized.

Usage

SA z/OS uses threshold settings to determine when to stop trying to recover a component or restart a subsystem. The primary use of thresholds is to track subsystem abends and to make sure that the abend-and-recovery cycle does not become a loop.

When a threshold is crossed, SA z/OS performs the action specified for that threshold in the automation control file. For components, this action is customer-defined: contact your SA z/OS administrator for more information. For subsystems, SA z/OS performs the following actions:

Threshold exceeded	Action
Infrequent	Issues warning message
Frequent	Issues warning message
Critical	Stops Restart automation and issues a message to that effect

All three threshold values (CRIT, FREQ, and INFR) can be set with one invocation of the command.

The Critical threshold should specify more errors or a shorter time period than the Frequent and Infrequent thresholds.

Examples

To set defaults for all automated resources, enter:

```
ingthres defaults crit=(2,00:14) freq=(2,01:00) infr=(4,04:00)
```

To add or replace the critical threshold for the resource JES2, enter:

```
ingthres jes2 crit=(2,02:00)
```

If you enter `ingthres jes2`, you will see the command dialog shown in Figure 106 on page 250.

```
INGKYTH0                    SA z/OS  - Command Dialogs      Line  1    of 4
Domain ID   = IPSFM      ---------- INGTHRES ----------     Date = 11/23/09
Operator ID = NETOP1                                        Time = 12:52:57

Cmd:  A Add thresholds    C Change thresholds    D Delete thresholds

Cmd System     Resource              Critical       Frequent       Infrequent
--- --------   ----------------   --------------  --------------  --------------
 _     KEY1      DEFAULTS            4 in 01:00:00   4 in 02:00:00   6 in 12:00:00
 _     KEY1      MVSESA              1 in 01:00:00   1 in 02:00:00   1 in 04:00:00
 _     KEY1      SUBSYSTEM           1 in 00:05:00   1 in 00:30:00   1 in 01:00:00
 _     KEY1      JES2                1 in 01:00:00   1 in 04:00:00   1 in 08:00:00




Command ===>
   PF1=Help     PF2=End        PF3=Return                   PF6=Roll
                               PF9=Refresh                  PF12=Retrieve
```

Figure 106. Display of Threshold Settings for JES (INGTHRES JES)

If JES reaches the Critical threshold, Restart automation does not continue. If JES exceeds the Frequent or Infrequent threshold, a message is sent to notification operators to inform them.

- The **Cmd** field lets you modify the thresholds of a resource. The following command codes are supported:

A

Add new thresholds for a resource with the same values as the one selected.

C

Change existing thresholds for a selected resource.

D

Delete threshold settings for a selected resource.

To define thresholds for a resource you can either type the ADD command at the command line or specify command code A in front of the resource whose thresholds should be used as the default. You can then modify the settings as needed.

- The **System** field shows the name of the system where the resource resides.
- The **Resource** field shows the name of the resource that the thresholds are defined for. The entries are sorted alphabetically.
- The **Critical** field shows the critical threshold defined for the resource.
- The **Frequent** field shows the frequent threshold defined for the resource.
- The **Infrequent** field shows the infrequent threshold defined for the resource.

If you specify command code A, a panel similar to Figure 107 on page 251 is displayed.

```
AOFKAASR                   SA z/OS  - Command Dialogs
Domain ID   = IPSFM       ---------- INGTHRES ----------      Date = 12/07/01
Operator ID = NETOP1                                          Time = 16:30:54


Specify thresholds and resource changes:

 Resource   =>  _____        resource name, MVSESA, SUBSYSTEM or DEFAULTS
 Minor name =>  _____      minor resource name
 Target     =>  KEY4_____        System name, domain ID, sysplex name or *all

 Critical   =>  04   errors in  01:00:00   Time (hh:mm:ss)
 Frequent   =>  04   errors in  02:00:00   Time (hh:mm:ss)
 Infrequent =>  06   errors in  12:00:00   Time (hh:mm:ss)



  Pressing ENTER will set the THRESHOLD values




 Command ===>
   PF1=Help     PF2=End      PF3=Return                      PF6=Roll
                                                             PF12=Retrieve
```
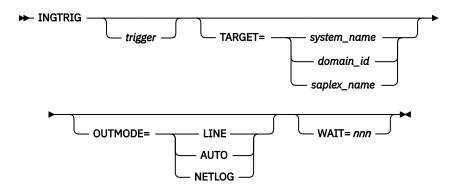
Figure 107. INGTHRES Command Dialog Panel to Add Thresholds

INGTRIG

Purpose

INGTRIG shows all triggers that are defined and used by resources within the sysplex.

Syntax

```
►►── INGTRIG ─────────────────────────────────────────────────────►
              └─ trigger ─┘   └─ TARGET= ──┬── system_name ──┬─┘
                                           ├── domain_id ─────┤
                                           └── saplex_name ───┘

►──────────────────────────────────────────────────────────────►◄
      └─ OUTMODE= ──┬── LINE ────┬─┘   └─ WAIT= nnn ─┘
                    ├── AUTO ─────┤
                    └── NETLOG ───┘
```

Parameters

trigger
Specifies the name of a trigger so that all the resources that use the trigger are displayed.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

Restrictions and Limitations

Triggers for previous releases of SA z/OS cannot be shown.

Usage

The INGTRIG command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter `ingtrig` a panel similar to Figure 108 on page 253 is displayed.

```
INGKYTR0                 SA z/OS  - Command Dialogs       Line  1    of 10
Domain ID   = IPSFP      ---------- INGTRIG  ----------   Date = 10/26/99
Operator ID = NETOP1          Sysplex = KEY1PLEX          Time = 10:55:16

Cmd:  S show associated resources

Cmd Trigger    Description
--- --------   -------------------------------------
 _  BATCHSTP   Batch jobs B000P100,P200,P300
 _  BATCHSTR   Batch jobs B000S100,S200,S300
 _  MDOTRGI3   Trigger3
 _  MDOTRIG1   Trigger1
 _  MDOTRIG2   Trigger2
 _  MSCTRG1    scheduling test trigger 1
 _  MSCTRG2    scheduling test trigger 2
 _  TRIGGER6   Hourly window + batch controlled events
 _  TRIGGER7   Command controlled events, No UNSET
 _  TRIGGER8   Command controlled events, diff. unsets




Command ===>
   PF1=Help     PF2=End       PF3=Return                PF6=Roll
                              PF9=Refresh               PF12=Retrieve
```

Figure 108. INGTRIG Initial Command Dialog Panel

This panel shows all triggers that are defined within the scope of the automation manager.

- The **Cmd** field allows you to display specific information for each system. The following command code is available:

  S
  Show associated resources. Displays all resources that use the trigger.

- The **Trigger** field shows the name of the trigger.

- The **Description** field shows the description of the trigger.

The FIND/RFIND and SORT subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

Showing Resources

Specify command code S in front of a trigger, or `ingtrig triggername` to display all resources that are associated with that selected trigger, as shown in Figure 109 on page 253.

```
INGKYTR1                 SA z/OS  - Command Dialogs       Line  1    of 4
Domain ID   = IPSFP      ---------- INGTRIG  ----------   Date = 10/26/99
Operator ID = AFRANCK         Sysplex = KEY1PLEX          Time = 11:16:54

Trigger . . : TRIGGER6       Hourly window + batch controlled events

Cmd:  S show trigger details
Cmd Resource     Type System   Description
--- -----------  ---- -------- --------------------------------------------
 _  TRGG006AA10  APL  KEY1
 _  TRGG006AA10  APL  KEY2
 _  TRGG006AA10  APL  KEY3
 _  TRGG006AA10  APL  KEY4






Command ===>
   PF1=Help     PF2=End       PF3=Return                PF6=Roll
                              PF9=Refresh               PF12=Retrieve
```

Figure 109. INGTRIG Command Dialog Panel Showing Resources Associated with a Trigger

- The **Cmd** field allows you to specify command codes to display specific information for the trigger. The following command code is available:

  S

  Show trigger details. Initiates the DISPTRG command dialog for the selected resource.
- The **Resource** field shows the name of the resource.
- The **Type** field shows the type of the resource.
- The **System** field shows the name of the system where the resource resides.
- The **Description** field shows the description specified for the resource.

The FIND/RFIND and SORT subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

INGTWS
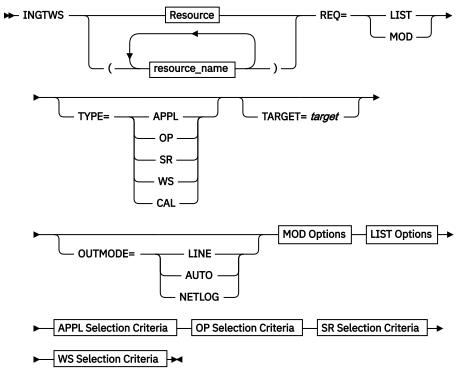
Purpose

The INGTWS command lets you:
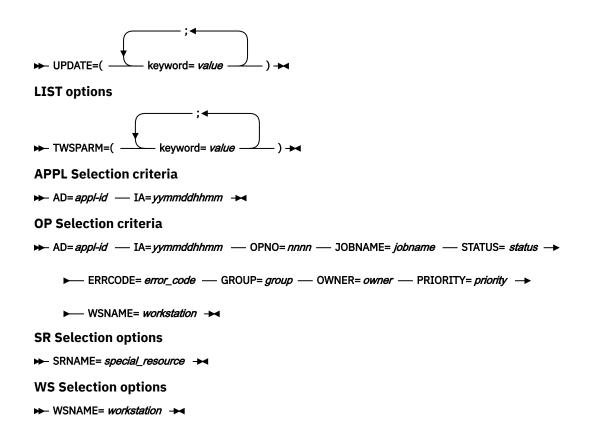
- Display Application, Operation, Special Resource, Work Station and Calendar information from the Current Plan.
- Modify Application, Operation, Special Resource, Work Station information in the Current Plan.
- Issue a request against any controller defined to SA z/OS in a sysplex.
- Issue a request against a foreign controller where the local tracker is defined to SA z/OS.
- The output of the INGTWS command is either full screen or in pipeable line mode.

Note: INGOPC is a synonym for INGTWS.

Syntax

MOD options

```
                              ; ◄
     ┌──────────────────────────────────┐
     │    ┌──────────────┐               │
►►─ UPDATE=( ─┴─ keyword= value ─┴─ ) ─►◄
```

LIST options

```
                              ; ◄
     ┌──────────────────────────────────┐
     │    ┌──────────────┐               │
►►─ TWSPARM=( ─┴─ keyword= value ─┴─ ) ─►◄
```

APPL Selection criteria

```
►►─ AD=appl-id ── IA=yymmddhhmm ─►◄
```

OP Selection criteria

```
►►─ AD=appl-id ── IA=yymmddhhmm ── OPNO=nnnn ── JOBNAME=jobname ── STATUS= status ─►

     ►── ERRCODE= error_code ── GROUP=group ── OWNER= owner ── PRIORITY= priority  ─►

     ►── WSNAME= workstation ─►◄
```

SR Selection options

```
►►─ SRNAME= special_resource ─►◄
```

WS Selection options

```
►►─ WSNAME= workstation ─►◄
```

Parameters

resource
> The resource specifies the TWS controller that is to be queried or modified. Multiple specifications are allowed as well as system and sysplex application groups. Wildcards % and * are supported.
>
> The command attempts to resolve the specification to a single appropriate target resource. In all cases the groups are resolved to their members and wildcards are resolved to specific sets of resources.
>
> The resulting list of resources is scanned to check whether there is a single active controller. If a single active controller is found then it is used. If no active controller is found then the list is scanned to check whether there is a single active tracker (only active trackers with LUNAME policy entries are checked because only these trackers can be used to communicate with TWS via the PIF interface). If a single active tracker is found then it is used.
>
> If no viable resources are found an error message is displayed. If multiple viable resources are found, and INGTWS is running in full screen mode, a selection panel is displayed; when OUTMODE=LINE is specified an error message is displayed.
>
> If an active controller could be found, a command is dispatched to the appropriate system in the sysplex to execute the TWS API on the same system as the active controller. If a tracker was found, the LUNAME parameter of the trackers OPCCNTL entry may be used to specify a remote controller. In this case the command is dispatched to the system where the tracker is running and the APPC API is used to connect to the remote controller from that system.

REQ
> Specifies the request to be issued to the TWS subsystem. It can be one of the following:
>
> **LIST**
>> Lists TWS Current Plan resources.
>
> **MOD**
>> Modifies TWS Current Plan resources.

TYPE

Specifies the type of Current Plan resource to be listed or modified. It can be one of the following:

APPL

Specifies the Current Plan Application Description resource.

OP

Specifies the Current Plan Operation resource.

SR

Specifies the Current Plan Special resource.

WS

Specifies the Current Plan Workstation resource.

CAL

Specifies the Current Plan Calendar resource.

UPDATE

Specifies the fields that are to be updated and the new contents of the field. Multiple fields can be specified separated by a semi-colon ";". The names of the fields are the same names as specified in the MODIFY command arguments in *TWS for z/OS Programming Interfaces*.

An alternative to specifying all the fields to be updated using the UPDATE= parameter is to specify the fields and their contents in the default SAFE. Specify one field per message with the format of <fieldname><blank>=<blank><contents>. The blanks between the fieldname and the = symbol and the = symbol and the contents are required.

TWSPARM

Specifies additional fields to be used to locate a resource during LIST processing. Multiple fields may be specified separated by a semi-colon ";". The names of the fields are the same names as specified in the LIST command arguments described in the *TWS for z/OS Programming Interfaces* manual. The field names must match the TWS segment being searched. For example, CPOC fields are valid for TYPE=APPL and CPOP fields are valid for TYPE=OP, and so on. A TWS EQQ* message will be issued if the field specification is incorrect.

An alternative to specifying additional LIST fields using the TWSPARM= parameter is to specify the fields and their values in the default SAFE. Specify one field per message using the format <fieldname><blanks>=<blanks><contents>. The blanks are optional.

If the same field names are specified in both the TWSPARM and the default SAFE, the TWSPARM values will be used.

Additional LIST fields can only be specified with OUTMODE=LINE.

AD

Specifies the Application Description selection criteria. For LIST requests, this may contain the trailing "*" wildcard character. For MOD requests, this must be the exact name of the application description to be updated.

IA

Specifies the input arrival date/time of the application. The format is as specified by the system programmer when installing and customizing TWS. The default format is YYYYMMDDHHMM.

OPNO

Specifies the operation number selection criteria. This is the operation number of an operation in an application description.

JOBNAME

Specifies the TWS jobname. This field is used to qualify requests of type OP and is optional for all requests.

STATUS

Specifies the TWS status. This field is used to qualify requests of type OP and is optional for all requests.

ERRCODE
Specifies the TWS error code. This field is used to qualify requests of type OP and is optional for all requests.

GROUP
Specifies the TWS group. This field is used to qualify requests of type OP and is optional for all requests.

OWNER
Specifies the TWS owner. This field is used to qualify requests of type OP and is optional for all requests.

PRIORITY
Specifies the TWS priority. This field is used to qualify requests of type OP and is optional for all requests.

SRNAME
Specifies the Special Resource selection criteria.

For LIST requests, this may contain the trailing "*" wildcard character. For MOD requests, this must be the exact name of the special resource.

If the special resource name contains special characters then it must be enclosed in single quotation marks.

WSNAME
Specifies the workstation name selection criteria. Specifies the workstation name selection criteria but may also be used to qualify TYPE=OP requests.

For LIST requests, this may contain the trailing "*" wildcard character. For MOD requests, this must be the exact name of the workstation.

TARGET
Specifies the name of the system (system, domain, or sysplex) that the command should be routed to. The TWS controller specified in the resource field must be active on this system or the command will return no data. This is only necessary when the resource is not part of the local sysplex.

For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

To use the INGTWS command system operations must be initialized.

Usage

The INGTWS command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you type INGTWS a panel similar to Figure 110 on page 258 is displayed.

```
  EVJKYRQ0                  SA z/OS  - Command Dialogs
  Domain ID   = IPSFM     ---------- INGTWS   ----------    Date = 05/08/03
  Operator ID = NETOP1                                      Time = 04:28:39

    Resource    =>  _____   format: name/type/system
    Target      =>  _____         System name, domain ID or sysplex name

    Request     =>  _____           Request type (LIST/MODIFY)
    Type        =>  _____            Type of resource (APPL/OP/SR/WS/CAL)

    Application =>  _____
    IA Date/Time=>  _____          (YYMMDDHHMM)

    Operation # =>  ____        Group     =>  _____
    Jobname     =>  _____     Owner     =>  _____
    Status      =>  _____       Priority  =>  _____
    Error Code  =>  _____
    Workstation =>  _____

    SR Name     =>  _____

  Command ===>
     PF1=Help     PF2=End      PF3=Return                    PF6=Roll
                                                             PF12=Retrieve
```

Figure 110. INGTWS Command Dialog Panel

- The **Resource** field shows the name of the TWS active controller subsystem to be used for issuing the requests. The format is *name/type[/system]*. Wildcards are supported.
- The **Target** field shows the name of the system (system name, domain, or sysplex name) that the command should be routed to. Specifying this is only necessary if the resources do not reside on the local sysplex.
- The **Request** field shows the request to be carried out. It can be LIST or MODIFY.
- The **Type** field shows the type of TWS Current Plan resource to be specified.
- The **Application** field specifies the TWS application ID, This field is used to qualify requests of type APPL or OP and is optional for LIST requests but is required for MODIFY requests.
- The **IA®(R) Date/Time** field specifies the TWS input arrival time. This field is used to qualify requests of type APPL or OP and is optional for LIST requests but is required for MODIFY requests.
- The **Operation #** field specifies the TWS operation number. This field is used to qualify requests of type APPL or OP and is optional for LIST requests but is required for MODIFY requests.
- The **Jobname** field specifies the TWS jobname associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Status** field specifies the TWS status associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Error Code** field specifies the TWS error code associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Group** field specifies the TWS group associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Owner** field specifies the TWS owner associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Priority** field specifies the TWS priority associated with an operation. This field is used to qualify requests of type OP and is optional for all requests.
- The **Workstation** field specifies the TWS workstation for the operation. This field is used to qualify requests of type OP and type WS and is optional for all LIST requests but is required for type WS MODIFY requests.
- The **SR Name** field specifies the TWS special resource name. This field is used to qualify requests of type SR and is optional for LIST requests but is required for MODIFY requests.

To set the status of the special resource 'testnnnn' to available, enter the following command:

```
ingtws req=mod type=sr srname=testnnnn outmode=line Update=(resavail=y)
```

If you specify INGTWS * REQ=LIST TYPE=APPL a panel similar to Figure 111 on page 259 is displayed.

```
INGKYSTO                SA z/OS  - Command Dialogs  Line  1    of 65
Domain ID   = IPSFM        -------- INGTWS   ---------    Date = 04/10/02
Operator ID = AFRANCK          Sysplex = KEY1PLEX         Time = 16:19:30
CMD: A Update    B Operations                                  / scroll
                        Application Occurrence List
                    Input Arrival             Error
CMD  Application Id   Date      Time  Status    Code  Description
---  --------------- -------- ----- --------- ----- ----------------------
 _    JKOPCTST1        02/01/23 00:01 Completed        Test Batch Iface
 _    JKTEST1          02/01/23 00:08 Completed        This is a test
 _    JKOPCTST1        02/01/24 00:01 Completed        Test Batch Iface
 _    JKTEST1          02/01/24 00:08 Completed        This is a test
 _    IEFBR14          02/01/24 08:01 Completed        This is a test
 _    JKOPCTST1        02/01/25 00:01 Starting         Test Batch Iface
 _    JKTEST1          02/01/25 00:08 Completed        This is a test
 _    IEFBR14          02/01/25 08:01 Completed        This is a test
 _    JKOPCTST1        02/01/26 00:01 Error            Test Batch Iface
 _    JKTEST1          02/01/26 00:08 Completed        This is a test
 _    IEFBR14          02/01/26 08:01 Completed        This is a test
 _    JKOPCTST1        02/01/27 00:01 Error            Test Batch Iface
 _    JKTEST1          02/01/27 00:08 Completed        This is a test

Command ===>
 PF1=Help    PF2=End      PF3=Return              PF5=Filters   PF6=Roll
```

Figure 111. INGTWS REQ=LIST TYPE=APPL Command Dialog Panel

If you specify INGTWS * REQ=LIST TYPE=OP a panel similar to Figure 112 on page 259 is displayed.

```
INGKYSTO                SA z/OS  - Command Dialogs  Line  1    of 3
Domain ID   = IPSFM        -------- INGTWS   ---------    Date = 04/10/02
Operator ID = NETOP1          Sysplex = KEY1PLEX         Time = 16:23:08
CMD: A Update                                                  / scroll
                           Operations List
     Op.  -------JES-------                                   Err. Work
CMD  Num. Name     Number   Status   Reason                   Code Stn.
---  ---- -------- -------- --------- ---------------------------- ---- ----
 _       1 EVJSJ001          Completed                             NV01
 _       1 JKTST1   JOB06429 Completed                             N001
 _       1 IEFBR14  JOB00325 Completed                             CPU1
 _       1 EVJSJ001 JOB07522 Completed                             N001
 _       1 JKTST1   JOB07521 Completed                             N001
 _       1 IEFBR14  JOB07523 Completed                             CPU1
 _       1 EVJSJ001 JOB00787 Interrupt                             N001
 _       1 JKTST1   JOB07524 Completed                             N001
 _       1 IEFBR14  JOB07526 Completed                             CPU1
 _       1 EVJSJ001 JOB07528 Error                            JCL  N001
 _       1 JKTST1   JOB07527 Completed                             N001
 _       1 IEFBR14  JOB07529 Completed                             CPU1
 _       1 EVJSJ001 JOB07533 Error                            JCL  N001

Command ===>
 PF1=Help    PF2=End      PF3=Return              PF5=Filters   PF6=Roll
```

Figure 112. INGTWS REQ=LIST TYPE=OP Command Dialog Panel

If you specify INGTWS * REQ=LIST TYPE=SR a panel similar to Figure 113 on page 260 is displayed.

```
 INGKYSTO               SA z/OS  - Command Dialogs  Line  1    of 26
 Domain ID   = IPSFM    -------- INGTWS    ---------    Date = 04/10/02
 Operator ID = NETOP1        Sysplex = KEY1PLEX         Time = 16:27:11
 CMD: A Update                                                 / scroll
                          Special Resources List
                                              --Actual-- -Default--
 CMD   Name                                   Av. Quant. Av. Quant.
 ---   ---------------------------------------- --- ------ --- ------
 _     ING.KEY1.APL.CICSK1G.DOWN                No     1 Yes     1
 _     ING.KEY1.APL.CICSK1G.UP                  No     1 Yes     1
 _     ING.KEY1.APL.RMF.DOWN                    No     1 Yes     1
 _     ING.KEY1.APL.RMF.UP                      Yes    1 Yes     1
 _     ING.KEY1.APL.RMFIII.DOWN                 No     1 Yes     1
 _     ING.KEY1.APL.RMFIII.UP                   Yes    1 Yes     1
 _     ING.KEY2.APL.CICSK1G.DOWN                Yes    1 Yes     1
 _     ING.KEY2.APL.CICSK1G.UP                  No     1 Yes     1
 _     ING.KEY2.APL.RMF.DOWN                    No     1 Yes     1
 _     ING.KEY2.APL.RMF.UP                      Yes    1 Yes     1
 _     ING.KEY2.APL.RMFIII.DOWN                 No     1 Yes     1
 _     ING.KEY2.APL.RMFIII.UP                   Yes    1 Yes     1
 _     ING.KEY3.APL.CICSK1G.DOWN                Yes    1 Yes     1

 Command ===>
  PF1=Help    PF2=End       PF3=Return              PF5=Filters   PF6=Roll
```

Figure 113. INGTWS REQ=LIST TYPE=SR Command Dialog Panel

If you specify INGTWS * REQ=LIST TYPE=WS a panel similar to Figure 114 on page 260 is displayed.

```
 INGKYSTO               SA z/OS  - Command Dialogs  Line  1    of 7
 Domain ID   = IPSFM    -------- INGTWS    ---------    Date = 04/10/02
 Operator ID = NETOP1        Sysplex = KEY1PLEX         Time = 16:29:02
 CMD: A Update                                                 / scroll
                           Work Stations List
                          Reporting  JCL               Alt. Para.
 CMD   Name Status  Type  Attribute  Prep STC WTO ReRoute WS   Server
 ---   ---- ------- ----------- ---------- ---- --- --- ------- ---- ------
 _     NV02 Unknown General     Automatic  No   No  No  No        No
 _     NV03 Unknown General     Automatic  No   No  No  No        No
 _     OPR1 Unknown General     Completion No   No  No  No        No
 _     WTO1 Active  General     Automatic  No   No  Yes No        No
 _     NV01 Unknown General     Automatic  No   No  No  No        No
 _     CPU1 Active  Computer    Automatic  No   No  No  No        No
 _     N001 Active  Computer    Automatic  No   No  No  No        No




 Command ===>
  PF1=Help    PF2=End       PF3=Return              PF5=Filters   PF6=Roll
```

Figure 114. INGTWS REQ=LIST TYPE=WS Command Dialog Panel

If you specify INGTWS * REQ=LIST TYPE=CAL a panel similar to Figure 115 on page 261 is displayed.

```
INGKYSTO              SA z/OS  - Command Dialogs  Line  1    of 2
Domain ID   = IPSFM       -------- INGTWS    ---------   Date = 04/10/02
Operator ID = NETOP1         Sysplex = KEY1PLEX         Time = 16:31:46
CMD:                                                        / scroll
                           Calendar List

CMD  Name             Days Shift Description
---  ---------------- ---- ----- -------------------------------
 _     APC              7 0000  general APC calendar
 _     DEFAULT          8 0000  general APC calendar








 Command ===>
  PF1=Help    PF2=End       PF3=Return                PF5=Filters   PF6=Roll
```

Figure 115. INGTWS REQ=LIST TYPE=CAL Command Dialog Panel

Press PF10 and PF11 to display more information for each resource type. Issuing the command code A
Update command against a resource in the CMD field displays a panel that lets you modify the resource.
The Application Description list supports the B Operations command code. Issuing this command
code against an application resource displays a list of operations for that resource. SORT/FIND/RFIND
commands are supported. See "Varying the Format of the Command Output" on page 17 for further
information.

Pressing PF5 displays a filter selection panel similar to Figure 116 on page 261 is displayed.

```
EVJKFLT                 SA z/OS  - Command Dialogs
Domain ID   = IPSFM      ---------- EVJFILT  ----------    Date = 04/10/02
Operator ID = NETOP1                                       Time = 16:36:48

 Specify or revise the filter criteria:

   Active Controller ==>  OPCF/APL/KEY1
   OPC/TWS resource  ==>  CAL            APPL, OP, SR, WS or CAL

   Generic Filter strings in the format NAME = value
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____
   ==>  _____   ==>  _____


 Command ===>
  PF1=Help    PF2=End    PF3=Return    PF4=Clear    PF5=Reset     PF6=Roll
```

Figure 116. INGTWS Filter Command Dialog Panel

Specify filter strings in the format *field-name op contents* where:

• *field-name* is a valid field name as specified by the MODIFY command arguments in *TWS for z/OS
  Programming Interfaces*.

• *op* can have the following values:

    =

    ^=

    <

```
<=
>
>=
```

- *contents* are the desired values to be matched by the *op*. The trailing wildcard character '*' may be used for *op*.

The operands must be separated by a blank.
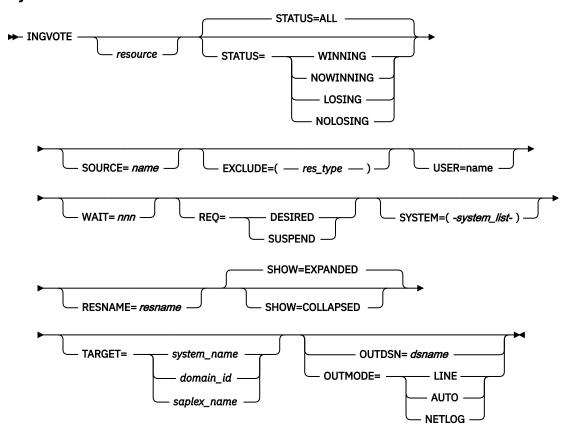
INGVOTE

Purpose

The INGVOTE command displays:

- All pending requests that were entered from the automation manager.
- All pending votes of a specified resource.

Syntax

Parameters

resource
    Specifies the resource to be displayed. The format is *name/type[/system]*. Wildcard is supported.

STATUS
    Specifies whether to display the winning or losing requests or votes only. The default is ALL. The STATUS parameter can have the following values:

    WINNING
        Displays the winning requests or votes.

NOWINNING
Displays the losing requests or votes.

LOSING
Displays the losing requests or votes.

NOLOSING
Displays the winning requests or votes only.

ALL
Displays all winning and losing requests or votes. This is the default.

The values can be abbreviated. Note that if you specify a resource name the vote status is examined, otherwise the request status is examined.

SOURCE
This is used as a filter. Only those requests that originate from the named source are shown. Wildcards are supported, for example, OP*. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

EXCLUDE
Specifies the resource type to be excluded from the display. More than one value can be specified. For example, INGVOTE EXCLUDE=SVP causes all service period resources to be filtered out from the display. Specify NO or * to reset the installation-provided default.

USER
This is used as a filter. Only those requests that originate from the specified user id are shown. Wildcard is supported. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character.

WAIT

Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds.

If omitted, the time interval is 30 seconds.

REQ
This is used as a filter. Only those requests that have the specified request type are shown. The default is that all type of requests are displayed. It can be:

DESIRED
This shows just the desired status requests, which can be issued via INGREQ.

SUSPEND
This shows just the suspend requests, which can be issued via INGSUSPD.

SYSTEM
This is used as a filter. Only resources are shown that reside on one of the given systems. You can use system names or domain ids to identify those systems. An asterisk (*) also includes sysplexwide resources. The parentheses can be omitted when only one system is specified. Note that this parameter is ignored when a resource name is specified.

RESNAME
This is used as a filter for resource names in the format *name/type[/system]*. Only resources that match the specified resource name are shown. Wildcards are supported. An asterisk (*) matches a string of arbitrary length and a percentage sign (%) matches a single character. Note that this parameter is ignored when a resource name is specified.

SHOW
>   Specifies whether or not to show just the request types or also the request details. It can be:
>   **EXPANDED**
>>   This shows request types and the request details. This is the default.
>   **COLLAPSED**
>>   This shows just the request types.

Restrictions and Limitations

None.

Security Considerations

The INGVOTE command supports resource level security. If turned on, the following profiles in SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp* .RES.*resname.restype[.ressys]*	UPDATE	When issuing CANCEL or KILL against requests from full screen

Usage other than listed in the table does not cause a resource level security check. Multiple requests entered on the panel are processed individually.

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

The INGVOTE command operates sysplexwide. For an overview see "Overview of Commands that Operate Sysplexwide" on page 13.

Examples

If you enter `ingvote` a panel similar to Figure 117 on page 264 is displayed.

```
INGKYRQ2                   SA z/OS  - Command Dialogs      Line  1    of 25
Domain ID   = IPUFA        ---------- INGVOTE  ----------  Date = 09/08/08
Operator ID = NETOP1          Sysplex = AOCPLEX            Time = 19:05:50

Cmd:  C Cancel request    K Kill request     S Show details    V Show votes
Cmd Name          Type System    Request Data
--- ----------- ---- -------- ------ -------------------------------------------
 _   BNKNACHT     SVP          Req : MakeUnAvailable
                               At  : 2008-09-08  09:39:58
                               Org : SCHEDULE
                               Pri : 01120000  Should Be Down - Schedule
                               Stat: Winning/Unsatisfied
 _   BZOMSCMV     SVP          Req : MakeAvailable_Only
                               At  : 2008-09-08  09:39:58
                               Org : SCHEDULE
                               Pri : 02140000  Must Be Up - Schedule
                               Stat: Winning/Unsatisfied
 _   HOURLY       SVP          Req : MakeAvailable_Only
                               At  : 2008-09-08  10:00:01
                               Org : SCHEDULE

Command ===>
  PF1=Help      PF2=End       PF3=Return                     PF6=Roll
              PF8=Forward    PF9=Refresh                    PF12=Retrieve
```

Figure 117. INGVOTE Command Dialog Panel

- The **Cmd** field allows you to specify command codes. To use one of the command codes shown, type the appropriate letter next to the resource name and press Enter. The following command codes are available:

  C

  Cancels the request.

  K

  Cancels the request without showing the verification panel.

  S

  Shows details about the request.

  V

  Shows all the votes or requests that have been entered for that resource.

- The **Type** field shows the type of the resource.

- The **Name** field shows the name of the resource that the request was made against.

- The **Request Data** field shows details about the request. See the online help for further information.

The subcommands FIND/RFIND are supported. See "Varying the Format of the Command Output" on page 17 for more information.

Line-mode Output

The line-mode output of the INGVOTE command shows additional information about the request:

- Timeout option
- Application parameters
- Request options (command type, Restart option, Override option, Autoremove option)

Figure 118 on page 265 shows an example.

```
INGKYRQ0                SA z/OS  - Command Dialogs     Line  1    of 5
Domain ID   = IPUNA    ---------- INGVOTE  ----------    Date = 12/14/11
Operator ID = NETOPER1       Sysplex = AOCAPLEX          Time = 17:03:16

 Resource   ==>  SVPHDOWN/SVP
 System     ==>                  System name, domain id or sysplex name

Cmd:  C cancel request   K  Kill request    S show request details
Cmd Action WIN Request/Vote Data
--- ------ --- -------------------------------------------------------------
    STOP    Y  Request    : MakeUnAvailable
               Created    : 2011-12-14  16:23:19
               Originator : SCHEDULE
               Priority   : 02120000     Must Be Down - Schedule
               Status     : Winning
```

Figure 118. INGVOTE Command Output

INGWHY

Purpose

The INGWHY command queries the automation manager and the various agents for the reasons why a resource is in the displayed status or why it cannot be brought into the desired status.

Syntax

```
►►── INGWHY ── resource ──────────────────────────────────────────►
                      └─ TARGET= ─┬─ system_name ─┬─┘

►─────────────────────────────────────────────────────────────────►
        └─ OUTDSN= dsname ─┘             └─ TIMEOUT= nnn ─┘
        └─ OUTMODE= ─┬─ LINE ──┬─┘
                     ├─ AUTO ──┤
                     └─ NETLOG ─┘

►──────────────────────────────►◄
        └─ WAIT= nnn ─┘
```

Parameters

resource
Specifies the name of the resource to be analyzed. The format is *name/type[/system]*. Supported resource types are APL, APG, MTR, and REF.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTDSN
For information on the OUTDSN parameter, see "OUTDSN Parameter" on page 17. The record length must be at least 80 bytes.

TIMEOUT
Specifies the maximum number of seconds the INGWHY command waits for responses from the remote system that the command was sent to. The maximum value is 999 seconds. The default is 30 seconds.

WAIT
Specifies the number of seconds to wait before reporting that a timeout occurred if the automation manager does not provide the requested data. The maximum time interval is 999 seconds. If omitted, the time interval is 30 seconds.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

INGWHY is an analysis support function. There are situations where no reason can be found. If that situation appears, it is recommended to use the existing product commands to analyze manually.

Example cases when no reason is found:

• Transient situations that change during the analysis process.
• Status changes manually done by a user.

Examples

```
 INGKYAN2                SA z/OS  - Command Dialogs      Line  1   of 16
 Domain Id  : IPXXG    ------------ INGWHY   ------------  Date    : 02/07/17
 Operator Id : OPER1             Sysplex = PROD03_X        Time    : 19:05:50

 Analyzed Resource:  IMS1DBRC/APL/SYSA                Job Name: IMSCA1RC
 Status   Compound:  AWAITING     Desired: AVAILABLE   Observed:
SOFTDOWN

--------------------------------------------------------------------------------

                                                       More: F10/F11
  SITUATION:
 IMS1DBRC/APL/SYSA is waiting to be started.

  REASON 2 OF 2:
 IMS1DBRC/APL/SYSA has a dependency on IMSRS/APL/SYSA.
 IMSRS/APL/SYSA got a SUSPEND request
 The SUSPEND request was issued by OPERID=OPER1.
 Request Comment: IMSRS is being serviced till 2pm

  ACTION 2 OF 2:                                       INGWHYSA(A0100150)
 Refer to your company's rules in order to take the appropriate
 action.
 Consider the following commands to investigate IMSRS/APL/SYSA:
 - INGVOTE
 - INGSUSPD

 Command
===>_____

 F1=Help     F2=End     F3=Return                        F6=Roll
                        F9=Refresh    F10=Previous   F11=Next   F12=Retrieve
```

Figure 119. INGWHY Command Dialog Panel
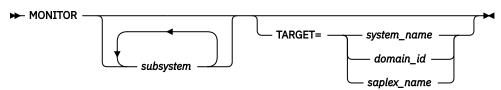
For each situation, there might be more than one reason with a corresponding action. If this is the case, you can press F10 or F11 to roll through the reasons and actions.

MONITOR

Purpose

The MONITOR command causes the SA z/OS monitoring routine to be run.

Syntax

```
►►─ MONITOR ─┬──────────────────┬─┬────────────────────────────────┬─►◄
             │    ◄────────      │ │                                │
             └─┬──────────────┬──┘ └─ TARGET= ─┬─ system_name ─┬────┘
               └─ subsystem ──┘                ├─ domain_id ───┤
                                               └─ saplex_name ─┘
```

Parameters

subsystem
Is the name of the subsystem you want monitored. It can be a list of subsystems. The default is that all subsystems will be monitored.

You can also specify wildcards. This applies a filter for monitoring. Only resource names that match the filter criteria are monitored. Wildcard is supported. Valid specifications are, for example, *abc, abc*, or *abc*.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

Restrictions and Limitations

The MONITOR command can only be used when SA z/OS is initialized.

The output of the MONITOR command is always in line mode.

Usage

MONITOR can be used whenever you want to validate your current automation agent status information.

Examples

To monitor TSO, VTAM and all subsystems that start with CICS, enter the following:
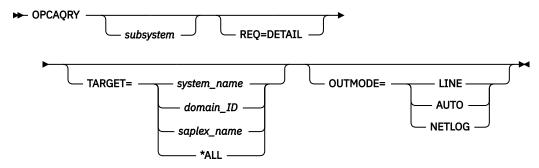
```
monitor TSO VTAM CICS*
```

OPCAQRY

Purpose

The OPCAQRY command displays the status of TWS Automation operations, including all commands that are received via the request interface. It displays all command requests processed within the defined time limit.

Syntax

Parameters

subsystem
> The name of the subsystem. Unless you specify REQ=DETAIL, more than one subsystem name as well as a wildcard can be specified. The wildcard can be, for example, SAP*, *SAP or *SAP*

> **Note:** This parameter has no effect for requests with a type of 'COMMAND'.

REQ=DETAIL
> Displays TWS-related information for the specified subsystem. The resource name is mandatory when REQ=DETAIL is specified.

> **Note:** This parameter is not applicable for requests with a type of 'COMMAND'.

TARGET
> For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
> For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The OPCAQRY command can only be used when SA z/OS is initialized.

Examples

If you enter the OPCAQRY command without the REQ=DETAIL parameter, a panel similar to Figure 120 on page 269 is displayed. The panel shows information about TWS-controlled subsystems that match the filter criteria.

```
EVJKYQRY               SA z/OS  - Command Dialogs     Line  1     of 3
Domain ID   = IPSFP     -------- OPCAQRY   ---------    Date = 04/29/06
Operator ID = NETOP1        System  = KEY4              Time = 18:08:27

CMD:  D Details    R Reset

CMD Subsystem    System   Application       Request  Date      Time  Status
--- ----------- -------- ---------------- -------- -------- ----- ------------
 _    OPCAO1      KEY4     OPCAO#TESTAD     STOP     04/28/06 17:00 Complete
 _    OPCAO2      KEY4     OPCAO#TESTAD     RECYCLE  04/28/06 17:14 Complete
 _    RMF         KEY4     OPCAO#TESTAD     STOP     04/29/06 18:05 In progress
 _                KEY4     OPCAO#TESTAD     COMMAND  04/29/06 18:07 In progress




Command ===>
 PF1=Help    PF2=End      PF3=Return                        PF6=Roll
                          PF9=Refresh                       PF12=Retrieve
```

Figure 120. OPCAQRY Command Dialog Panel

- The **Cmd** field allows you to specify command codes to invoke another command dialog. The following command codes are available:

  D
  > Shows the TWS operation details for the subsystem.

  R
  > Resets the timer and completion flags to a null value, and unlocks a specific subsystem after a user error has been detected and corrected. By resetting the timer and completion flags, SA z/OS again accepts requests from TWS.

- The **Status** field shows the status of the request or command in SA z/OS.

  For a request this is either complete, incomplete, timeout, in progress, or no request.

  A status of timeout indicates that the operation is marked in error because it did not complete within the time limit set by the system programmer in the OPCA code entry.

  A status of incomplete indicates that the operation did not achieve the expected status set by the system programmer in the OPCA code entry.

  Complete and no request are considered normal statuses.

  For a command, the statuses are:

  In progress
  > The command has been received

  In error
  > The command completed but failed

  Complete
  > The command completed successfully

  Timeout
  > The command did not finish in time

  Waiting
  > The command finished processing but is now waiting for completion

The FIND/RFIND and SORT subcommands are supported. See "Varying the Format of the Command Output" on page 17 for information.

If you enter command code D for a subsystem or specify the REQ=DETAIL option, a panel similar to Figure 121 on page 270 is displayed.

```
EVJKYQR1                  SA z/OS  - Command Dialogs     Line  1     of 17
Domain ID   = IPSFP       -------- OPCAQRY    ---------   Date = 04/29/06
Operator ID = NETOP1           System  = KEY4            Time = 18:10:48


 Application           : OPCAO#TESTAD
 Workstation           : NV04
 Operation number      : 10
 IA Time               : 04/28/06 17:00
 Job Name              : OPCAO01
 Owner                 : NETOP1

 Arrived in SA z/OS    : 04/28/06 17:00
 Command               : INGREQ CICS2/APl/SYS1 REQ=START OUTMODE=LINE VERIFY=NO
 Status                : In progress
 Task                  : CMD1

 Checking Routine      : CMD1$CHCK
 Maximum wait time     : 00:30
 Maximum return code   : 0


Command ===>
 PF1=Help     PF2=End      PF3=Return                        PF6=Roll
                           PF9=Refresh                       PF12=Retrieve
```

Figure 121. OPCAQRY Command Dialog Panel Showing Details for a Command

If the command is in an error condition, the details that are displayed are similar to those in Figure 122 on page 270.

```
EVJKYQR1                  SA z/OS  - Command Dialogs     Line  1     of 17
Domain ID   = IPSFP       -------- OPCAQRY    ---------   Date = 04/29/06
Operator ID = NETOP1           System  = KEY4            Time = 18:10:48


 Application           : OPCAO#TESTAD
 Workstation           : NV04
 Operation number      : 10
 IA Time               : 04/28/06 17:00
 Job Name              : OPCAO01
 Owner                 : NETOP1

 Arrived in SA z/OS    : 04/28/06 17:00
 Command               : INGLIST * OUTMODE=LINE
 Status                : In error
 Task                  : Task

 Error code            : U007
 Error message         : AOF227I UNABLE TO PROCESS INGLIST - COMMAND NOT
                         PERFORMED DUE TO USER EXIT

 Checking Routine      : CMD1$CHCK
 Maximum wait time     : 00:30
 Maximum return code   : 0

Command ===>
 PF1=Help     PF2=End      PF3=Return                        PF6=Roll
                           PF9=Refresh                       PF12=Retrieve
```
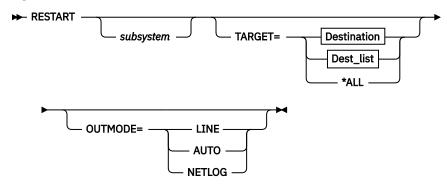
Figure 122. OPCAQRY Command Dialog Panel Showing Details for a Command in Error

RESTART

Purpose
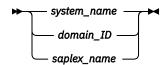
The RESTART command checks a specified subsystem or all subsystems that are defined to SA z/OS on a particular system, and sets the HOLD flag to No.

Syntax

Destination

Dest_list

Parameters

subsystem
Specifies the name of the subsystem to be allowed to start. If you do not specify a subsystem name, SA z/OS attempts to restart all subsystems.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations
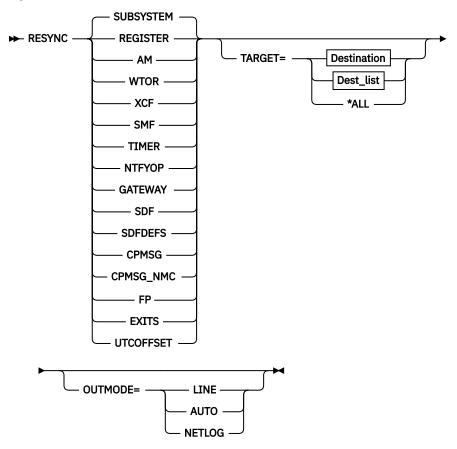
You can only use the RESTART command when SA z/OS is initialized.

RESYNC
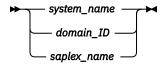
Purpose

This command causes SA z/OS to rerun selected parts of its initial status determination routines or to reinitialize parts of its environment setup.

Syntax

Destination

Dest_list

Parameters

SUBSYSTEM

Reinitializes the status of all subsystems on the local agent and clears the status file from deleted subsystems.

REGISTER

Registers all subsystem resources and monitor resources on the local agent and cross system to all agents in the sysplex.

AM

Status synchronization of all subsystem resources and monitor resources with the automation manager.

WTOR

Retrieves the list of outstanding WTORs from the system, and updates the stored WTOR data in SA z/OS to refresh their display in SDF.

XCF
Retrieves information from MVS and updates the stored data in SA z/OS about:

- The status of the sysplex timer and the IDs of each active side
- The coupling facilities that are known to MVS
- The status of the couple data sets that are in use by the sysplex

SMF
Checks the SMF data sets and, if any of the SMF data sets are found in the DUMP status, issues the commands that are defined to SMFDUMP in the MESSAGES/USER DATA automation policy for the MVSESA entry.

TIMER
The timers for the general subsystem monitor and the gateway monitor are reset.

NTFYOP
Resets the hold settings at all notify operators via SETHOLD AUTO and subscribes the receivers of class 8x and 9x messages to the automation manager.

GATEWAY
The gateway connections to remote systems that are controlled by SA z/OS are restarted.

SDF
Reinitializes the status information for the local SDF and forwards it to the SDF focal point.

SDFDEFS
Generates the SDF panels using the advanced automation option (AAO) AOF_AAO_SDFROOT.*n* for the SDF root names that are to be applied.

CPMSG
Forwards the captured exceptional messages to SDF. An exceptional message is a message with a severity of Unusual, Important or Critical.

CPMSG_NMC (deprecated)
Forwards the captured exceptional messages to NMC. An exceptional message is a message with a severity of Unusual, Important or Critical.

FP
Resends the status information for the local SDF to the SDF focal point.

EXITS
Reregisters SA z/OS exit routines if applicable. This includes dropping or loading the SA z/OS USS process exit and the SA z/OS ARM exit. In addition, the existence of user exits AOFEXSTA, AOFEXX02, AOFEXX03, and AOFEXX04 are verified and the exits are enabled or disabled as appropriate.

UTCOFFSET
Reevaluates the time zone offset relating to the Coordinated Universal Time (UTC), formerly known as Greenwich Mean Time (GMT).

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The RESYNC command can only be used when SA z/OS is initialized.

Usage
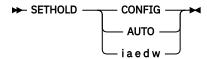
This command should only be used when your statuses have gone out of synchronization with actual statuses. Possible causes of this are SSI task failure, problems with your NetView automation table, or communication problems with the automation manager.

SETHOLD

Purpose

SETHOLD lets you select which AOF messages are held for your operator ID. This command is used by the INGNTFY command but can be invoked separately.

Syntax

```
►►─ SETHOLD ─┬─ CONFIG ─┬─►◄
             ├─ AUTO ───┤
             └─ i a e d w ─┘
```

Parameters

CONFIG
Specifying this option changes your hold settings to match the settings specified for your operator ID in the automation control file. If your operator ID is not defined as a notification operator, no messages will be held.

AUTO
Specifying this option changes your hold settings to match the settings INGNTFY has currently defined for your operator ID. If your operator ID is not a notification operator, or its definition as a notification operator has been deleted, no messages will be held.

i a e d w
Each character specifies the hold setting for the corresponding type of message. If a Y is specified, messages of that type will be held, if any other character is specified, messages of that type will not be held. A character must be specified for each type.

Restrictions and Limitations

The SETHOLD command is only useful on an OST task. If issued on an NNT or RMT task, the message-holding flags in the remote domain will be ignored, because the automation table on the OST task will override whatever message attributes may have been specified in the remote domain.

SETHOLD does not update the INGNTFY globals, so if you use it with anything other than the AUTO parameter, the hold settings shown by INGNTFY QUERY may not reflect reality.

Usage

SA z/OS issues SETHOLD at SA z/OS initialization, when you log on to NetView interface, and when INGNTFY is used.

When you log on, an entry in the sample automation table (in member AOFMSGMS) will invoke SETHOLD AUTO for your operator ID. When INGNTFY is used to change an operator's HOLD settings, SETHOLD AUTO will be issued on the appropriate OST task after the global information has been updated.

A more efficient usage would be to modify your initial REXX scripts to issue SETHOLD with specific settings and to not have any hold settings specified in the automation control file or through INGNTFY. If you choose to do this, you will need to remove the automation table entry for the OST (in member AOFMSGMS) and set the AOFLOCALHOLD advanced automation option to 1. Doing this will stop INGNTFY from using EXCMD to issue SETHOLD AUTO, which can disrupt the hold settings specified from your profiles.

Note that the attributes for held messages are defined as automation table synonyms in the AOFMSGSY member.

It is recommended that you do not hold information messages because SA z/OS can generate quite a few of them. If you do hold them, use the CLRHELD command to remove them. You may want to modify the

attributes for held information messages (held in the AOFMSGSY ACF member) so that held information messages will not actually be held.

Examples

To hold the messages that INGNTFY says you should have held, enter SETHOLD AUTO. Messages will be held according to the task INGNTFY setting.
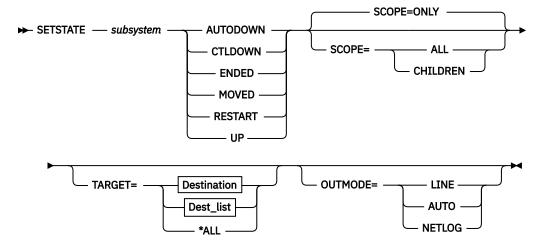
To hold all but information messages, enter SETHOLD N Y Y Y Y. All AOF messages, except informational ones, will be held.

SETSTATE
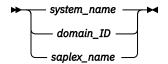
Purpose
SETSTATE changes the agent automation status of a given subsystem.

Syntax

Destination

Dest_list

Parameters

subsystem
Specifies the subsystem whose status (or whose dependent resource's status) you want to change. You can also specify the subsystem's job name.

AUTODOWN
Changes the status from CTLDOWN, STOPPED, BROKEN, MOVED or FALLBACK to AUTODOWN. It is primarily used to return the resource to automation control after the operator has fixed the problem.

CTLDOWN
Changes the status to CTLDOWN so that the subsystem cannot be started by automation.

ENDED
Changes the status to ENDED.

MOVED
The effect of this parameter depends on how the subsystem is defined:

- If the subsystem does not have any secondary system associations, the effect of the MOVED operand is the same as the effect of the CTLDOWN operand: the status of the subsystem is changed to CTLDOWN.

- If the subsystem does have secondary system associations:

  – If the command is issued on one of the subsystem's primary systems, the subsystem's status is changed to MOVED

  – If the command is issued on one of the subsystem's secondary systems, the subsystem's status is changed to FALLBACK.

RESTART
Changes the status to RESTART so that the subsystem can be restarted. Specify this if your Initstart flag is set to No. This can only be used when:

- SCOPE=ONLY or SCOPE=ALL

- The application monitor status of the subsystem is INACTIVE

UP
Changes the status to UP/RUNNING if the subsystem's UPMSG has been missed. This can only be used when:

- SCOPE=ONLY

- The application monitor status of the subsystem is ACTIVE

- If the subsystem is enabled for automatic restart management, its automatic restart management status must be AVAILABLE or AVAILABLE-TO.

Note: For transient subsystems, UP becomes RUNNING.

SCOPE
Specifies what is affected by this command:

ONLY
Changes the status of this resource only. This is the default.

ALL
Changes the status of this resource and its dependent resources.

CHILDREN
Changes the status of the dependent resources only.

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The SETSTATE command will not execute under the primary POI task (PPT).

The SETSTATE command can only be used when SA z/OS is initialized.

When the SETSTATE command is used to change the status of a subsystem to UP or AUTODOWN, then this will trigger a call to ACTIVMSG or TERMMSG. When using AUTHCHK=SOURCEID as part of your SAF product authorization checking profile, the operator/task issuing the SETSTATE command will require the authority to issue commands and replies that may subsequently be triggered by ACTIVMSG or TERMMSG. This is due to the fact that the status change process did not originate on the work operator assigned to the subsystem as usual but on the operator/task who issued the SETSTATE command.

Security Considerations

The SETSTATE command supports resource level security. If turned on, the following profiles in SYSAUTO are checked:

Profile	Authority	Condition
AGT.*sysplex.xcfgrp.* RES.*resname.restype[.ressys]*	UPDATE	Always

For further details, refer to *IBM System Automation for z/OS Planning and Installation*.

Usage

Use SETSTATE to:

- Resume handling an application after a manual operator shutdown or after any other event that causes an application to get into a non-automatable status (for example STOPPED, CTLDOWN, BROKEN, ACTIVE)
- Prevent automation from restarting an application if you specify CTLDOWN.
- Alert the automation that an application that was shut down will be moved to another system.
- The SETSTATE command issues an automation manager request with a priority of HIGH (unless overridden by the advanced automation global INGREQ_PRI). Because requests entered by the operator are persistent, it may be necessary to manually remove the associated vote before subsequent requests are activated.

Examples

If you enter `setstate TSO` a panel similar to is displayed.

```
AOFKSAST                   SA z/OS  - Command Dialogs
Domain ID   = IPSNO     ---------- SETSTATE ----------   Date = 07/19/00
Operator ID = NETOP1                                     Time = 18:53:29

Specify subsystem and new state:

  Subsystem    =>   TSO_____  Subsystem to be processed
  Target       =>   _____     System name, domain ID, sysplex name or *ALL
  State        =>   _____     Put subsystem in the following state:
                                 (RESTART / AUTODOWN / CTLDOWN / UP / ENDED /
                                  MOVED)

  Scope        =>   ONLY_____    Change state for:
                                 ONLY    - only this subsystem
                                 CHILDREN - only dependant subsystems
                                 ALL      - resource and dependants



 Command ===>
    PF1=Help    PF2=End     PF3=Return                  PF6=Roll
                                                        PF12=Retrieve
```
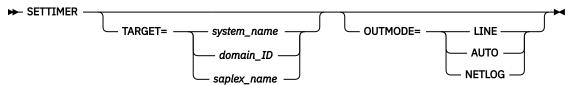
Figure 123. SETSTATE Command Dialog Panel

SETTIMER

Purpose

SETTIMER displays all scheduled timers. You can add, change, delete, suspend, and reactivate timers.

Syntax

```
►►─ SETTIMER ──────────────────────────────────────────────────────────────►◄
              └─ TARGET= ─┬─ system_name ─┬─┘  └─ OUTMODE= ─┬─ LINE ───┬─┘
                         ├─ domain_ID ───┤                 ├─ AUTO ───┤
                         └─ saplex_name ─┘                 └─ NETLOG ─┘
```

Parameters

TARGET
For information on the TARGET parameter, see "TARGET Parameter" on page 14.

OUTMODE
For information on the OUTMODE parameter, see "OUTMODE Parameter" on page 16.

Restrictions and Limitations

The SETTIMER command can only be used when SA z/OS is initialized.

Usage

For instructions on how to add, change, or delete timers, see "Setting Timers" in *IBM System Automation for z/OS User's Guide*.

Examples

If you enter `settimer` a panel similar to Figure 124 on page 278 is displayed.

```
AOFKATI                    SA z/OS  - Command Dialogs      Line  1    of 43
Domain ID   = IPSFP      ---------- SETTIMER ----------    Date = 09/09/08
Operator ID = NETOP1         System = KEY4                 Time = 09:21:21
Enter ADD on the COMMAND line to create a new timer entry
or use CMD selections A add, C change, or D delete to delete existing timers.
                    U Suspend timer, or R Resume to re-activate timer
CMD TIMER-ID SCHEDULED TIME     TYPE  TASK     INTERVAL     CLOCK SAVE CTUP
--- -------- ----------------- ----- -------- ------------ ----- ----
----
 _   MEMSTORE 09/09/08 15:42:03 EVERY AUTO2    000 00:02:00 GMT    NO
        Cmd: MEMSTORE 5% 5
 _   RGTAMCPU  ** SUSPENDED **  CHRON AUTRGTA  000 00:05:00 GMT    NO
        Cmd: CHRON  EVERY=(INTERVAL=(00.05.00)) ROUTE=AUTRGTA ID=RGTAMCPU COMMA
             ND='RGTAMCPU'
 _   AOFI000F 09/09/08 15:45:52 AFTER PPT                  GMT    NO
        Cmd: AOFRASCD AOFWRK10 AOFRSMTR MONITOR,HGDDSMTR/MTR/KEY4
 _   AOFI0010 09/09/08 15:45:52 AFTER PPT                  GMT    NO
        Cmd: AOFRASCD AOFWRK13 AOFRSMTR MONITOR,HGMTRINFORM/MTR/KEY4


Command ===>
   PF1=Help     PF2=End      PF3=Return                    PF6=Roll
                PF8=Forward  PF9=Refresh                    PF12=Retrieve
```

Figure 124. SETTIMER Command Dialog Panel: Display of Scheduled Timers

• The **CMD** field allows you to add, change, or delete a timer. Valid values are:

A
Add a new timer with the same values as the one selected.

C
Change an existing timer.

D
Delete a timer.

U

Suspend a timer. The timer is deleted from NetView but all its relevant data is kept in common global variables. Only CHRON timers can be suspended.

R

Resume (or reactivate) a suspended timer. Timers that are associated with a subsystem have a new timer ID (ITMR*xxxx*) assigned to them.

- The **TIMER-ID** field shows the name assigned to the timer. It cannot be ALL or begin with a number or the words SYS, RST, AOF, or ING. Valid characters are A–Z, 0–9, #, @, $, , !, _ and ?.

- The **SCHEDULED TIME** field shows the next scheduled day and time that this timer is set to expire.

- The **TYPE** field shows the type of timer. There are three types:

  After

  Set to occur only after the elapsed time that was specified when the timer was scheduled. For example, if at 12:00 am, you specify 2 hours, the timer will expire at 02:00 pm.

  At

  Set to occur at the specified date and time. Occurs only once.

  Every

  Set to occur at the time intervals indicated in the Interval field, or at a specific time each day or week.

- The **TASK** field shows the operator where the timer runs. This can be a primary programmed operator interface task (PPT), an automation operator, or a human operator. This task must be logged on when the timer is set and when it expires.

  It can also specify a group name. Group names must begin with a plus (+) sign. If a group name is specified, the command runs on the first task in the group that is active when the timer expires.

  Note: Not all commands can run under the PPT.

- The **INTERVAL** field is only valid for Every type timers. It indicates the time intervals that the timer is set to occur at. For example, a value of 00:30:00 means that the timer will issue the command specified every 30 minutes.

- The **CLOCK** field specifies the time format. It can be GMT, which means that a local time change does not affect the command processing, or LOCAL, so that the time is to be adjusted automatically when daylight saving time changes, or when the z/OS time is adjusted by an operator for other reasons.

- The **SAVE** field specifies whether the timer is to be saved to an external file. This allows the timer to be restored after a NetView outage. This applies to timers created using either the customization dialog or the operator interface. Valid values are YES or NO. The default is YES.

- The **CTUP** field specifies whether to activate the timer if it occurs at a time when NetView is down. Valid values are Yes or No. If CTUP is set to YES, the command specified in the timer definition is issued when NetView is restarted, if the timer expired while NetView was down.

  The field can only be set to YES if:

  – This is an At type timer (it occurs once at a specific time and date).

  – The timer was created using the customization dialog.

  – The Save field is set to YES.

- The **Cmd** field below the timer ID specifies the command to be issued when the timer expires.

Adding a new timer or changing an existing one leads to the Add/Change Timer panel, similar to .

```
AOFKATIR                 SA z/OS  - Command Dialogs
Domain ID   = IPSFP       ---------- SETTIMER ----------      Date = 11/27/06
Operator ID = NETOP1           Add/Change Timer              Time = 12:38:41

Timer ID          =>  MEMSTORE     on System :  SAT1
Type              =>  EVERY        AFTER, AT or EVERY
When?
- Interval        =>  ___    days  0-365    and   00:02:00 hh:mm:ss (AFTER EVERY)
         From     =>  _____    hh:mm:ss  To    _____ hh:mm:ss (EVERY)
- Day of Week     =>  _____              at    _____ (AT or EVERY)
- Specific date   =>  _____    mm/dd/yy  at    _____ (AT)

Task              =>  AUTO2       Operator ID, PPT or Group name
Save              =>  NO          No, Yes    Timer clock =>  GMT    GMT, LOCAL

Notify            =>  _____
Remark            =>  _____
CHRON parameters  =>  _____
                      _____
Timer command =>  MEMSTORE 5% 5 _____
                  _____


Command ===>
   PF1=Help      PF2=End       PF3=Return                   PF6=Roll
                 PF8=Forward   PF9=Refresh                  PF12=Retrieve
```

Figure 125. SETTIMER Command Dialog Panel: Adding or Changing Timers

To set the timer, fill in the fields (note that if you are changing a timer the **Timer ID** field cannot be altered).

Use the following fields on this panel to define when the different types of timers are to expire:

Timer Type	Fields
AFTER	**Interval**: The number of days (0–365) to elapse before the timer is run.
AT	**Day of Week**: Specify the day of the week (Monday through Sunday). Only the first three characters are required (for example, FRI for FRIDAY).
	Specific date: Specify the date (in mm/dd/yy notation) and time (in hh:mm:ss notation). Hours and seconds default to zero if not entered. If the time begins with an X or multiple Xs instead of a number, the command is set to begin at the next increment of time.
EVERY	**Interval**: The number of days (0–365) to elapse before the timer is run.
	From/To: You can also specify the date and time that the interval is to start and to end. If omitted, the timer runs from midnight to midnight.
	Day of Week: Specify the day of the week (Monday through Sunday). Only the first three characters are required (for example, FRI for FRIDAY). You can also specify DAILY for every day of the week, WEEKDAY, or WEEKEND.

Use the **Notify** field to specify the value for CHRON parameter NOTIFY which defines to whom a BNH549I message is sent a notification when certain events occur in the processing of the CHRON command. It supports four event types IGNORE, PURGE, REMOVE and RUN. This field is automatically enclosed in parentheses.

Use the **Remark** field to specify the value for the CHRON parameter REM which can be any string specifying informational data. The field is automatically enclosed in quotes.

Use the **CHRON Parameters** field to specify additional CHRON parameters, such as REFRESH or RECOVERY.

You can also specify suboptions of the EVERY parameter such as REMOVE, REMAFTER, DAYSMON, CALENDAR, MXREPEAT, OFF, or FOR.

Enter the command that is to be run when the timer expires in the **Timer command** field. The command can span the three input fields, which are protected if the timer command does not fit in the fields. You can use the PF4 key to clear the command fields.

Part 3. SA z/OS Processor Operations Commands

This part describes SA z/OS processor operations commands in detail — their purpose, their format, and specifics of how to use them.

For general information about the SA z/OS commands, see *IBM System Automation for z/OS User's Guide*.

Chapter 5. Using Processor Operations Commands

The following Processor Operations commands are available:

General Information

Processor operations commands consist of the following basic types:

- Host-based commands
- Common commands

You generally issue processor operations commands at a NetView console from the focal-point system.

Commands that start with ISQ are issued as shown in the syntax diagrams, starting with the command name.

Except for the common commands, processor operations commands whose names do not start with ISQ are preceded by the ISQSEND command.

Host-based Commands

The ISQSEND command sends the command to a target operating system for processing, using the processor operations connection to the processor hardware. Processor operations connections from the focal-point to the target hardware use either the support element of the addressed target hardware or can be customized to use an HMC, connected to the target hardware or can be customized to use an HMC, connected to the target hardware LAN for communication. Because the connection to a target hardware and the operating systems running on that hardware is available at target system initialization time or system shutdown time, the ISQSEND command can be used to respond to IPL prompt messages or to answer outstanding replies at system shutdown time.

The ISQSEND command addresses the operating system running on a processor hardware. The command ISQCCMD addresses the processor hardware or a processor hardware (logical partition). The processor hardware that can be monitored and controlled by processor operations provide the OCF (operations command facility). This system management interface is called by ISQCCMD to perform hardware commands, for example, ACTIVATE or SYSRESET.

Other host-based processor operations commands control the start and the stop of the processor operations component of SA z/OS, invoke the status display system, control the monitoring of messages from the target systems, and allow the display and modification of processor operations configuration information.

Common Commands

Common commands are preceded by the ISQCCMD command (described in detail on page "ISQCCMD" on page 287). Use common commands in APIs whenever possible because they provide a single product image across various hardware and software implementations. Regardless of the processor type or the operating system running at your target system, the common command is the same. This can potentially minimize the need for future modifications to your automation routines should you modify or upgrade your processor hardware or operating system type.

Ensemble Commands

Ensemble commands are preceded by the ISQECMD command (described in detail in Chapter 8, "Ensemble Commands," on page 447). They provide a single operator interface and API for the zEnterprise BladeCenter Extension (zBX) and its resources, like blades or virtual servers.

In a zEnterprise mainframe environment, up to 8 zEnterprise CPCs, with or without a zBX attachment can be defined as zEnterprise ensemble nodes. You can use the ISQECMD to monitor, control, and automate the zBX resources in this environment.

For the zEnterprise CPC itself, its logical partitions, and the operating systems running in the LPARs, use the ISQCCMD common command and ISQSEND commands for monitoring, control and automation.

PSM Commands

A special VM service machine, the ProcOps Service Machine (PSM) is required to monitor and control VM guest systems, which are defined as ProcOps target systems. For problem determination and maintenance purposes a set of PSM commands is provided.

If a VM user is logged on as PSM, these commands can be entered from the PSM's terminal. Because a PSM normally runs in VM disconnected mode, a subset of the PSM commands can be routed from a ProcOps focal point NetView to the PSM, using command ISQXPSM. See for more information about the ISQXPSM command.
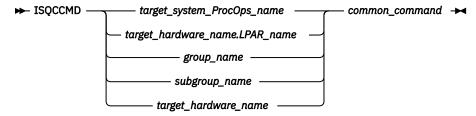
Chapter 6. Host-based Commands

ISQCCMD

Purpose

The ISQCCMD command issues a processor operations common command (connection types 'SNMP' and 'TCPIP') or an SA z/OS LPAR management command (connection type 'INTERNAL').

Syntax

▶▶─── ISQCCMD ──┬─── *target_system_ProcOps_name* ───┬─── *common_command* ─▶◀

──────────────┬─── *target_hardware_name.LPAR_name* ───┬──────────────

──────────────────────── *group_name* ────────────────────────

──────────────────────── *subgroup_name* ────────────────────────

──────────────────────── *target_hardware_name* ────────────────────────

Requirements

ProcOps command environment

- Processor operations must be active.
- The addressed target system must be initialized unless the specified common command is ACTIVATE (see "ACTIVATE" on page 447).

LPAR management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

target_system_ProcOps_name
    Is the name of a target system in the ProcOps or LPAR management environment.

target_hardware_name.LPAR_name
    Is the identifier of the target system using its LPAR location on the specified target hardware. The period is used to separate the hardware from the LPAR name.

group_name
    Is the name of a valid group for ProcOps. The group must contain subgroup names or target system names or both.

subgroup_name
    Is the name of a valid subgroup for ProcOps. The subgroup must contain target system names.

target_hardware_name
    Is the name of the target hardware definition that is associated with the target system.

common_command
    Represents the common command and any associated parameters to be processed. Multiple parameters are separated from each other by a blank space.

Defaults

None.

Usage

Use the ISQCCMD command to issue a HW common command to the specified target object of a ProcOps or LPAR management environment.

Restrictions and Limitations

ProcOps environment

- *Target_hardware_name* is valid for the common commands CBU, CCNTL, CONDATA, CPCDATA, CTRLCONS, DEACTIVATE, GETCLUSTER, GETSDGR, GETSINFO, GETSSTAT, OOCOD, PROFILE, TCDATA, TCM, STPDATA, STP, and POWERMOD.
- *Group_name* or *subgroup_name* must be processor operations-enabled as defined in the SA z/OS customization dialogs to be a valid parameter.

LPAR management environment

- *Target_hardware_name* is valid for the common commands CCNTL, CONDATA, CPCDATA, CTRLCONS, GETCLUSTER, GETSDGR, GETSINFO, GETSSTAT, PROFILE, TCDATA and STPDATA.

If a ISQCCMD common command parameter value is defined in mixed case on the target environment, you must use the 'NetVasis ISQCCMD' form to make sure that the data is passed without uppercase translation. Failure to do so may result in ISQCCMD command errors.

ISQCCMD cannot be called from Command Revision Table (CRT).

Return Codes

0

Command completed execution.

8

Command processing has been rejected.

12

Command processing has failed.

32

The required environment for processor operations or LPAR Management does not exist. The ISQCCMD command was not processed.

Using LPAR management and ProcOps for processors defined with multiple connection protocols

With the SA configuration dialogs you can specify ProcOps SNMP and INTERNAL(BCPii) connections in a single processor entry. If both connections are configured as active, you can no longer use the ISQCCMD target_system_name form for LPAR Management commands; instead you must use the ISQCCMD target_hardware_name.LPAR_name form.

Failure to do so will result in always executing the LPAR Management request over the SNMP connection. If the system name is not defined to SA, message ISQ400I will be issued, informing you that the target system name is not known.

The dual protocol selection allows only using the target hardware names that have to be specified for each protocol, as the differentiator between the protocols, but not the target system name.

If you still want to use the target system name to differentiate between the LPAR management and ProcOps common commands for a single processor, you must define separate processor entries and

associate system entries to them through the SA dialogs. Define one processor-system set for the ProcOps SNMP connection, and the other set for the INTERNAL connection protocol.

Specifying an SNMP Timeout Value

The default timeout value can be modified by setting the NetView task global variable ISQ.SNMP.WAIT to another value. The timeout format is hh:mm:ss, where 'hh' represents the hours of the timeout, 'mm' the minutes and 'ss' of the period to wait for hardware command completion before terminating ISQCCMD. The value of the variable is checked each time before a ISQCCMD request is performed. If the timeout variable is not set, or it has an invalid format, the default value of the corresponding command is used.

In the following REXX example a timeout value of 8 minutes and 30 seconds is set prior calling ISQCCMD to perform an EXTERNAL interrupt hardware command:

```
tme = 'ISQ.SNMP.WAIT'                       // SNMP timout varname //
mytgt = 'KEY6'                              // our TGT system name //
Interpret tme"= '00:08:30'"                 // Set timeout to use  //
'GLOBALV PUTT 'tme                          // Update task variable//
Say 'SNMP Timeout value set to 'Tglobal(tme)  // Send info msg     //
'ISQCCMD 'mytgt' EXTINT'                     // External irpt to Sys//
If RC > 0 Then Do                           // Error occured       //
End                                         // ...more to add      //
Else Do                                     // All went well       //
End                                         // ...more to add      //
```

Using Immediate ISQCCMD Common Command Responses

The immediate command responses cannot be captured with TRAP and WAIT in programs that issue the ISQCCMD command. You can retrieve the immediate HW responses by using a PIPE KEEP stage in your programs. Use 'ISQ.SNMP' as the KEEP name. Note that this command set is also the LPAR management command set and that the KEEP ISQ.SNMP is valid for the LPAR management commands:

- "CCNTL" on page 368
- "CONDATA" on page 451
- "CPCDATA" on page 374
- "ICNTL" on page 395
- "GETCLUSTER" on page 380
- "GETIBOOST" on page 381
- "GETIINFO" on page 383
- "GETIPSW" on page 385
- "GETITKN" on page 387
- "GETILDI" on page 384
- "GETISTAT" on page 386
- "GETSDGR" on page 391
- "GETSINFO" on page 393
- "GETSSTAT" on page 394
- "PROFILE" on page 412
- "STPDATA" on page 439
- "TCDATA" on page 443

In the following REXX example, the maximum weight that is allowed for a system's LPAR is retrieved and the HW response report containing this information is displayed:

```
mytgt = 'KEY4'                              // our TGT system name //
'ISQCCMD 'mytgt' ICNTL CMD(READ) VAR(PWMX)'  // Max weight         //
If RC > 0 Then Do                           // Error occurred      //
End                                         // ...more to add      //
Else Do                                     // All went well       //
```

```
   'PIPE KEEP ISQ.SNMP | CONS ONLY'          // ...display HW report//
End                                          // ...more to add       //
```

ISQCHK

Purpose

The ISQCHK command checks whether processor operations is active.

Syntax

Requirements

None.

Parameters

command_name
    Is the name of an automation procedure.

Defaults

None.

Usage

This command is intended for use in automation procedures to determine whether processor operations is active. It provides a method of exiting from the automation procedure cleanly when processor operations is not active. If you issue ISQCHK from an operator station and processor operations is running, you will receive no response.

The optional *command_name* parameter is placed in the text of the error message generated when processor operations is not active. This identifies the automation procedure that cannot run because processor operations is not active.

For example, place the following statements near the beginning of a processor operations automation procedure that is written in REXX:

```
'ISQCHK STARTALL'
If RC<>0 then; Exit;
```

If you issue the STARTALL command when processor operations is not active, the error message will inform you that "the STARTALL command" cannot be run until processor operations is active, rather than simply informing you "the command" cannot be run until processor operations is active.

You can issue ISQCHK from an operator station task (OST) or from automation.

Restrictions and Limitations

None.

Return Codes

0
    Processor operations is active.

32
>   Processor operations is not active.
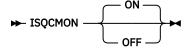
ISQCMON

Purpose

The ISQCMON command causes the current NetView task to be added to or removed from the list of tasks to receive processor operations communications management messages.

Syntax

```
>>— ISQCMON ——┬— ON —┬—><
              └— OFF —┘
```

Requirements

None.

Parameters

ON
>   Adds the current NetView task to the list of tasks to receive processor operations communications management messages. This is the default.

OFF
>   Removes the current NetView task from the list of tasks to receive processor operations communications management messages.

Defaults

ISQCMON defaults to ON, adding you to the list.

Usage

You can issue ISQCMON when processor operations is not running to add or delete yourself from the interested operators list for messages relating to the control of processor operations-managed resources. These messages are not associated with a specific target system.

Messages not associated with a specific target system are sent only to operators who used ISQCMON to place themselves on the interested operators list for such messages. These messages are not sent to the ISQXMON interested operator list. You are automatically added to the ISQCMON interested operator list when you issue the ISQSTART command (see "ISQSTART" on page 305).

See *IBM System Automation for z/OS User's Guide* for further information about these two types of messages and interested operator lists.

Restrictions and Limitations

Do not issue this command with ISQEXEC.

Return Codes

0
>   The ISQCMON command completed successfully.

8
>   You used incorrect command syntax.
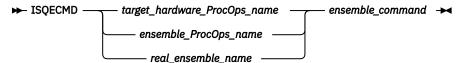
ISQECMD

Purpose

The ISQECMD command shell issues a Processor operations ensemble command to manage zEnterprise Ensemble and zBX (zEnterprise BladeCenter Extension) resources.

Syntax

▶▶── ISQECMD ─────┬─── *target_hardware_ProcOps_name* ───┬─── *ensemble_command* ──▶◀
               ├─── *ensemble_ProcOps_name* ───┤
               └─── *real_ensemble_name* ───┘

Requirements

- Processor operations must be active.
- Processor operations must be in session with the ensemble HMC that has the targeted resource in its scope. Session initialization to a ensemble HMC can be configured to happen at ISQSTART time automatically, or can be done when processor operations is already active, using the ISQXIII command.

Parameters

target_hardware_ProcOps_name
>   Is the name of a defined target hardware. It must be selected as member in an ensemble definition. For a target hardware only membership to a single ensemble is supported.

ensemble_ProcOps_name
>   Is the entry name of an ensemble definition in the SA z/OS policy data base. The configuration dialogs enforce that the name is unique and in uppercase.

real_ensemble_name
>   Ensemble name as defined using an ensemble HMC. See "Restrictions and Limitations" on page 293 for additional information.

ensemble_command
>   Represents the actual ensemble command and any associated parameter to be processed. Multiple parameters are separated from each other by a blank space.

Defaults

None.

Usage

Use the ISQECMD command to issue an ensemble command to the specified target ensemble. The individual ensemble command may address additional zBX resources that can be managed over the ensemble HMC connection used.

Ensemble commands can be grouped in the following categories:

- zBX resource notification subscription
- zBX resource discovery
- zBX resource query and list and
- zBX resource management

For Online Help information about the available ensemble commands you can use the ISQHELP interface and select: **E Access Help panels for ProcOps Ensemble Commands**

Restrictions and Limitations

- If a ISQECMD command target or ensemble command parameter value is defined in mixed case on the ensemble zBX environment, you must use the 'NetVasis ISQECMD' form to make sure that the data is passed without uppercase translation to the case-sensitive ensemble zBX environment. Failure to do so may result in ISQECMD command or ensemble command errors.

- In the ensemble definitions of the System Automation policy, you must define the real ensemble name exactly as it is defined on the HMC. You cannot use the real ensemble name as ISQECMD target parameter if this name contains any blanks.

- If you have multiple sessions to different ensemble HMCs active on a processor operations FP domain and these HMCs are located in different HW LAN environments, duplicate real ensemble names may be present. The ISQECMD does not recognize this. Always the first occurrence of the real ensemble name satisfies the internal name search.

Return Codes

0

Command completed execution successfully.

8

The command syntax is not correct.

12

Command failed.

32

The processor operations environment does not exist. The ISQECMD command was not processed.

Specifying a Timeout Value

The default timeout value can be modified by setting the NetView task global variable ISQ.ZBX.WAIT to another value. The timeout format is hh:mm:ss, where 'hh' represents the hours of the timeout, 'mm' the minutes and 'ss' the seconds of the period to wait for hardware command completion before terminating ISQECMD. The value of the variable is checked each time before a ISQECMD command request is performed. If the timeout variable is not set, or it has an invalid format, the default value of the corresponding command is used.

In the following REXX example a timeout value of 4 minutes and 30 seconds is set prior calling ISQECMD to perform a DISCOVERY of all virtual servers in this ensemble domain.

```
tme = 'ISQ.ZBX.WAIT'                     // zBX  timout varname //
myens = 'R35ZBX'                         // our ENS name        //
'PIPE LIT /00:04:30/ | VAR (TASK) 'tme   // Our Tgbl timeout    //
Say 'zBX Timeout value set to 'Tglobal(tme)  // Send info msg   //
'ISQECMD 'myens' DISCOVERY VS'           // Do the discovery    //
If RC > 0 Then Do                        // Error occured       //
End                                      // ...more to add      //
Else Do                                  // All went well       //
End                                      // ...more to add      //
```

Using ISQECMD Ensemble Command Responses

Immediate command responses cannot be captured with TRAP and WAIT in programs that issue the ISQECMD. You can retrieve the immediate responses by using a PIPE KEEP stage in your programs. Use 'ISQ.ZBX' as the KEEP name. All ensemble commands support this PIPE KEEP. In the following REXX example, a zBX summary is requested from the addressed ensemble. If the information is available, it is displayed using the 'ISQ.ZBX' data KEEP.

```
myens = 'R35ZBX'                         // our ensemble        //
'ISQECMD 'myens' ZBXDATA'                // Get a ZBX Summary   //
```

```
If RC > 0 Then Do                          // Error occurred     //
End                                        // ..more to add      //
Else Do                                    // All went well      //
  'PIPE KEEP ISQ.ZBX  | CONS ONLY'         // ..display ZBX report//
End                                        // ..more to add      //
```

If you issue a ISQECMD from the NetView console, the immediate command responses are returned as ISQ800I messages in the netlog. If you used the ISQXMON command to add yourself to the interested operator list for messages and notifications from the targeted ensemble, you will receive copies of these messages as ISQ801I messages on the screen.

Asynchronous ensemble command responses (for example, ACTIVATE) will not provide the complete response in the 'ISQ.ZBX' PIPE KEEP. In order to see the asynchronous parts of an ensemble command response you must have subscribed your operator/task to receive at least JOB and STATUS notifications from the ensemble object (for example, VS, BL). At ensemble connection initialization time, the processor operations ISQXIII command subscribes the ensemble target control task (ISQET*) assigned to the targeted ensemble to receive JOB and STATUS notifications automatically. Use the SUBSCRIBE/UNSUBSCRIBE ensemble commands to modify the processor operations standard subscriptions for the ensemble notifications.

You can find notifications as ISQ800I messages in the netlog. If you want to see copies of the notification messages on your NetView screen, use the ISQXMON command to add your operator/task as an interested operator for messages and notifications from the ensemble.

The following ensemble commands are implemented as asynchronous commands: ACTIVATE, DEACTIVATE.
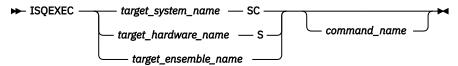
Note, that the ISQECMD command shell issues message ISQ856I as its final message. There may be notification messages outstanding, related to a just executed asynchronous command, arriving after the ISQECMD command completed.

ISQEXEC

Purpose

The ISQEXEC command sends a command to a target control task to be processed. Commands sent by ISQEXEC are processed by the target control task in the order in which they are presented.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The target entity specified with *target_system_name* or *target_ensemble_name* must be initialized. If *target_ensemble_name* was specified, at least one target system running on that hardware must be initialized.

Parameters

target_system_name
    Specifies the name of the target system.

SC
Specifies the active system console connection.

target_hardware_name
Specifies the name of the target hardware (processor).

S
Specifies the active system console connection.

target_ensemble_name
Specifies the name of the target ensemble. (zEnterprise ensemble for zBX management)

command
Is the name of the user automation command to be processed.

Defaults

None.

Usage

The main advantage of the ISQEXEC command is that it frees the operator station task (OST) for other work because commands issued by ISQEXEC are processed by a target control task rather than in the OST.

You may require that a set of commands to a target connection are processed in the order in which the commands are presented (that is, serially). ISQEXEC is processed by a target control task, which ensures that the commands are processed in the correct order. A set of commands to be processed serially can be packaged in an automation procedure and be called by the ISQEXEC command, for example:

```
ISQEXEC target_system_name console_connection exec_name exec_operands
```

You can write automation procedures that issue ISQSEND commands. ISQSEND sends commands to a target system. You can enter the ISQEXEC command in the NCCF command line to cause an automation procedure to be processed.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- Do not issue ISQXDST, ISQHELP, or ISQXOPT with ISQEXEC.
- Do not issue any user automation with ISQEXEC that results in a full-screen panel.
- ISQEXEC does not lock a target console connection; the serialized commands can be interrupted by commands from other tasks. See "Usage" on page 295.

Return Codes

0
The ISQEXEC command completed successfully and it caused the command to be queued to a target control task.

8
The command syntax is not correct.

10
The specified target system was not initialized.

12
An internal error occurred.
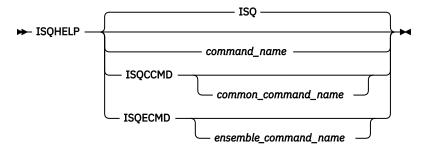
32
The processor operations environment does not exist. The ISQEXEC command was not processed.

ISQHELP

Purpose

The ISQHELP command provides help on using processor operations commands.

Syntax

Requirements

The NetView program must be running for this command to complete successfully.

Parameters

ISQ
Indicates the processor operations Main Help Panel is being requested. Not specifying any parameters with the ISQHELP command also presents the processor operations Main Help Panel.

command_name
Is the name of any parameter with which you need help. This can be a processor operations host-based or any parameter valid to the NetView help processor.

ISQCCMD
Indicates that the variable following it is the name of a common command.

common_command_name
Is the name of the common command for which you want help; only the first 3 characters of the common command need to be specified.

ISQECMD
Indicates that the variable following it is the name of an ensemble command.

ensemble_command_name
Is the name of the ensemble command for which you want help.

Defaults

The processor operations Main Help Panel.

Usage

The ISQHELP command does not require the processor operations environment.

Issue the ISQHELP command to obtain high-level information about processor operations, to obtain help about the syntax of a processor operations command, to obtain help with the output generated by the command, or to see examples of using the command.

See *IBM System Automation for z/OS User's Guide* for further information on the ISQHELP command and for a description of other help functions.

Restrictions and Limitations

The ISQHELP command cannot be issued from a program.

Return Codes

Return codes are not applicable because the ISQHELP command cannot be issued from a program.

ISQIPSWT

Purpose

The ISQIPSWT command is used to switch IP addresses stored in the processor operations variables:

SEADDR
> The IP address or host name of the SE (or HMC) that the target hardware is connected to. This value is used by processor operations as the primary information to connect to the target hardware.

HMCADDR
> The IP address or host name that is used by processor operations as alternate information to connect to the target hardware.

This command can be used, for example, to switch to the secondary SE network adapter card if the connection to the primary adapter card of the SE fails.

Syntax

```
►►─ ISQIPSWT ── target-hardware-name ──┬─ FORCE(NO) ──┬──►◄
                                       └─ FORCE(YES) ─┘
```

Requirements

Processor operations must be active.

For the target hardware, both variables SEADDR and HMCADDR must be set (that is, not be blank).

Parameters

target-hardware-name
> Is the name of the target hardware.

FORCE

> **FORCE(NO)**
> > Check the connection to SEADDR; switch IP addresses only if the connection to SEADDR fails.

> **FORCE(YES)**
> > Switch IP addresses even if the current SEADDR can still be connected.

Defaults

If no FORCE parameter is specified, FORCE(NO) is assumed by the command.

Usage

It is assumed that the processor operations variable HMCADDR contains the IP address or host name of the secondary network adapter card of the SE.

ISQIPSWT

Use the ISQIPSWT command to switch the connection address that is used to connect to the target hardware. By default, processor operations will use the value that is stored in the variable SEADDR to connect to the target hardware. Upon execution, the command will:

1. Close active systems running on the target hardware.
2. If the target hardware was using a connection to a HMC: check if other target hardware entities use the same connection (that is, the same IP address); close all active systems for these target hardware entities, as well.
3. Check that the target hardware has a connection status of 'NOT_CONNECTED'.
4. Switch values between processor operations variables SEADDR and HMCADDR.
5. Re-start the previously closed systems using the alternate IP address.
6. If the target hardware was using a connection to a HMC: for all target hardware entities that used the same IP address, switch values between processor operations variables SEADDR and HMCADDR for each target hardware entity and try to restart all previously closed target systems.

In order to restore the original settings, simply execute ISQIPSWT command again.

Restrictions and Limitations

The command can be executed only for target hardware connected using SNMP.

The specified target hardware name must be defined for processor operations.

If HMCADDR contains the IP address of a HMC, ISQIPSWT will be executed only if no active connection to that IP address exists for another target hardware using the same IP address.

If the ICMP PING is disabled (by setting the common global variable *AOF_AAO_ISQ_DISABLE_ICMP_PING* to Y), the connections to the SEADDR and HMCADDR IP addresses are not checked. To switch IP addresses in this case, use the FORCE(YES) parameter. The switch is done, even if the alternate IP address cannot be reached.

Return Codes

0
   Command executed successfully.

4
   Target hardware name blank or invalid.

5
   Invalid FORCE option specified.

6
   Processor operations variable SEADDR or HMCADDR is (or both are) blank.

7
   Alternate IP address cannot use an already active HMC connection of one or more Target Hardware using the same HMC IP address.

8
   Error occurred retrieving a processor operations variable.

9
   Connection to SEADDR still active and FORCE(YES) not specified.

10
   Connection test to alternate address (HMCADDR) failed.

11
   IP address mismatch: this happens if after a connection start, the value of processor operations variable SEADDR was changed using ISQVARS common command.

12
   Target hardware name is not SNMP connected.

13
>   Target hardware still has the status 'CONNECTED' after closure of all active target systems.

14
>   Reactivate of systems failed.

16
>   Initialize pending for some target systems of the target hardware.

32
>   Processor operations not started or active.
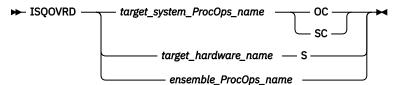
ISQOVRD

Purpose

The ISQOVRD command unconditionally removes an entity lock. Entities can be either target system names together with a console designator or ensemble names.

Syntax

Requirements

The requirements for this command to complete successfully are:

- The use of this command usually requires special authorization.
- Processor operations must be active.
- The *target_system_ProcOps_name* syntax requires that the addressed target system be initialized.

Parameters

target_system_ProcOps_name
>   Is the name of the target system.

>   **OC**
>   >   Specifies the active operator console (not valid for the coupling facility).

>   **SC**
>   >   Specifies the active system console

target_hardware_name
>   Is the name of the target hardware.

>   **S**
>   >   Specifies the active system console.

ensemble_ProcOps_name
>   Is the ProcOps name of a zBX ensemble.

Defaults

None.

Usage

The ISQOVRD command removes the entity lock established by any command or automation procedure.

This command is intended to be used for emergencies only. Overriding a reserve can cause processing to fail, with unpredictable results.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- This command does not establish an entity lock for the issuing operator, it simply removes the lock on the entity.
- This command does not interrupt or cancel any command or automation procedure currently running.

Return Codes

0
> The ISQOVRD command completed successfully; the lock has been removed.

4
> You used syntax that is not valid, specified an entity name that is not valid, or specified a target system that is not initialized.

8
> A NetView CNMLOCK service problem occurred.

32
> The processor operations environment does not exist; the ISQOVRD command was not processed.

ISQROUTE

Purpose

The ISQROUTE command sends a command to a control task to be processed. Commands sent by ISQROUTE are processed by the control task in the order in which they are presented.

Syntax

▶▶── ISQROUTE ── *entity_name* ── *command_name* ──▶◀

System environment

The requirements for this command to complete successfully are:

- Processor operations must be active.

Parameters

entity_name

> **Target hardware name:**
> > Specifies the name of the target hardware.
>
> **Target system name:**
> > Specifies the name of the target system.
>
> **Ensemble name:**
> > Specifies the name of the ensemble.

command

> Is the name of the user automation command to be processed.

Defaults

None.

Usage

The main advantage of the ISQROUTE command is that it frees the operator station task (OST) for other work because commands issued by ISQROUTE are processed by a processor operations control task rather than in the OST.

This is similar to the ISQEXEC command, however ISQROUTE accepts target system, target hardware, or ensemble names for control task selection. In addition, the entity needs not to be in a required status as this is the case for ISQEXEC, where target systems must have a status of INITIALIZED.

You can require that a set of commands to a target entity are processed in the order in which the commands are presented (that is, serially). ISQROUTE is processed by a control task, which ensures that the commands are processed in the correct order. A set of commands to be processed serially can be packaged in an automation procedure and be called by the ISQROUTE command, for example:

```
ISQROUTE target_system_name exec_name exec_operands
```

You can write automation procedures that issue ISQSEND commands. ISQSEND sends commands to a target system. You can enter the ISQROUTE command in the NCCF command line to cause an automation procedure to be processed.

If the *entity_name* of the ISQROUTE command is a target system name, the command assigned to ISQROUTE is executed using the processor operations control task assigned to the target hardware. The target system is running on to ensure command serialization.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- Do not issue ISQXDST, ISQHELP, or ISQXOPT with ISQROUTE
- Do not issue any user automation with ISQROUTE that results in a full-screen panel.
- ISQROUTE does not lock a target console connection; the serialized commands can be interrupted by commands from other tasks. See .

Return Codes

0

The ISQROUTE command completed successfully and it caused the command to be queued to a control task.

8

The command syntax is not correct or entity name is not defined.

12

An internal error occurred.

32

The processor operations environment does not exist. The ISQROUTE command was not processed.
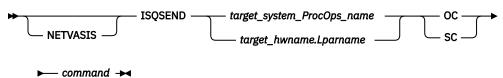
ISQSEND

Purpose

The ISQSEND command sends a command to a target system for execution, using the processor operations target hardware connection and the console integration facility.

Note: This is an Application Programming Interface.

ISQSEND

Syntax

```
►►──┬──────────────┬──── ISQSEND ──┬── target_system_ProcOps_name ──┬──┬── OC ──┬──►
    └── NETVASIS ──┘               └── target_hwname.Lparname ──────┘  └── SC ──┘
```

```
►── command ──►◄
```

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed target system connection must have been initialized.

Parameters

NETVASIS
Prefix the ISQSEND command with NETVASIS if you want to pass the command text in lower or mixed case.

target_system_ProcOps_name
The name of the target system.

target_hwname.Lparname
The target hardware name and logical partition name, separated by a period. This is an alternative to the target system name notation, for all operating systems running on a target hardware activated in LPAR mode.

OC
Specifies the active operator console function as the target for an operating system command.

SC
Specifies the active system console function as the target for an operating management command.

command
The command that is to be processed and any parameters that are associated with that command. Use the ISQSEND command to send operating system commands or operations management commands. If you want to pass the command text in lower or mixed case, prefix the ISQSEND command with NETVASIS.

Note that if you omit the command parameter, a nullstring is sent to the hardware, which is received and may be acknowledged by the target operating system or hardware. See your hardware or operating system documentation for more information.

Operating System Commands
This ISQSEND command type is valid for all ProcOps connections. The following operating systems are supported: MVS (z/OS), VM (z/VM), VSE (z/VSE®), LINUX (Linux® on System z), KVMIBM (a special Linux on z Systems distribution from IBM), ZAPP (System z appliances, like zAware), and CF (Coupling Facility Control Code). In addition, Standalone Utility programs running on System z hardware, such as SADump (Standalone Dump).

Operations Management Commands
This type of ISQSEND commands is valid only for ProcOps TCPIP connections. For ProcOps SNMP connections, ISQCCMD must be used to perform Operations Management functions.

Operations management commands using TCPIP means that VM/CP commands can be sent to the virtual machine of a ProcOps target system, which is running as a VM guest. Only CP Query commands are supported. For all other operations management functions, use the ISQCCMD command.

Defaults

None.

Usage

For target systems running on processors supported by processor operations, operating system commands can be entered through ISQSEND. The commands are transmitted to the operating system through console integration, an interface provided by the operating system and the processor hardware support element (SE) or hardware management console (HMC).

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- With SA z/OS, the ISQSEND command is the only way to send data to the operating system of a target through the console integration connection. The information that is passed to the target system is not interpreted by SA z/OS.

- Successful ISQSEND completion does not indicate successful completion of the command itself. It only indicates that the command was successfully delivered to the receiver. Your automation routines should interpret the asynchronous message responses of the command to determine the command execution results.

- Note that the operating systems supporting console integration may have commands to activate or deactivate this function, or may provide facilities and commands to prevent response messages from being routed to console integration. For MVS operating systems, the VARY CN(*),DEACTIVATE and VARY CN(*),ACTIVATE commands are available for the deactivation and reactivation of console integration.

Return Codes

0

The ISQSEND command completed successfully and the message was sent.

8

Either the message was not sent, the message was sent with errors, or the specified target system was not initialized.

32

The processor operations environment does not exist. The ISQSEND command was not processed.

Specifying an SNMP Timeout Value

For target hardware connections of type SNMP, the default timeout value of one minute can be modified by setting the NetView task global variable ISQ.SNMP.WAIT to another value. The timeout format is hh:mm:ss, where 'hh' represents the hours of the timeout, 'mm' the minutes and 'ss' the seconds of the period to wait for HW command completion before terminating ISQSEND. The value of the variable is checked each time a ISQSEND request for an SNMP connected target system is performed. If the timeout variable is not set, or it has an invalid format, the default value of one minute is used.

In the following REXX example a timeout value of 8 minutes and 30 seconds is set prior calling ISQSEND:

```
tme = 'ISQ.SNMP.WAIT'                         // SNMP timout varname //
mytgt = 'KEY6'                                // our TGT system name //
Interpret tme"= '00:08:30'"                   // Set timeout to use  //
'GLOBALV PUTT 'tme                            // Update task variable//
Say 'SNMP Timeout value set to 'Tglobal(tme)  // Send msg            //
'ISQSEND 'mytgt' D T'                         // External irpt to Sys//
If RC > 0 Then Do                             // Error occured       //
End                                           // ...more to add      //
Else Do                                       // All went well       //
End                                           // ...more to add      //
```
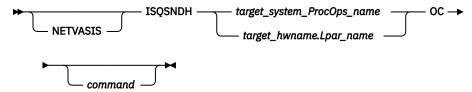
ISQSNDH

Purpose

The ISQSNDH command sends a high priority command to a target system for execution, using the processor operations target hardware connection and console integration facility.

Note: This is an Application Programming Interface.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed target system connection must have been initialized.

Parameters

NETVASIS
Prefix the ISQSEND command with NETVASIS if you want to pass the command text in lower or mixed case.

target_system_ProcOps_name
The name of the target system.

target_hwname.Lpar_name
The target hardware name and logical partition name, separated by a period. This is an alternative to the target system name notation, for all operating systems running on a target hardware activated in LPAR mode.

OC
Specifies the active operator console as the target for an operating system command.

command
Is the command to be processed and any parameters that are associated with that command. Use the ISQSNDH command to send operating system commands or operations management commands with priority flag set.

If you want to pass the command text in lower or mixed case, prefix the ISQSNDH command with NETVASIS.

Note that if you omit the command parameter, a nullstring is sent to the hardware, which is received and may be acknowledged by the target operating system or hardware. See your hardware or operating system documentation for more information.

Defaults

None.

Usage

For target systems running on processors supported by processor operations, operating system commands can be entered through ISQSNDH. The commands are transmitted to the operating system through console integration, an interface provided by the operating system and the processor hardware support element (SE) or hardware management console (HMC).

Note: This command is supposed to be used to reply to critical Operating System messages (reply ID of Zero). In order to help to detect such messages, the corresponding ISQ900I message contains console identifier 'OCP' instead of 'OC', for example,

```
ISQ900I CPC1.LPAR1 OCP *00 IEAxxxx <message text>
```

Specifying an SNMP Timeout Value:

The default timeout value of one minute can be modified by setting the NetView global task variable ISQ.SNMP.WAIT to another value. The timeout format is hh:mm:ss, where 'hh' represents the hours of the timeout, 'mm' the minutes and 'ss' the seconds of the period to wait for HW command completion before terminating ISQSNDH. The value of the variable is checked each time a ISQSNDH request for an SNMP connected target system is performed. If the timeout variable is not set, or it has an invalid format, the default value of one minute is used.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- The ISQSNDH command is supported for connection type SNMP only.

- Successful ISQSNDH completion does not indicate successful completion of the command itself. It only indicates that the command was successfully delivered to the receiver. Your automation routines should interpret the asynchronous message responses of the command to determine the command execution results.

- Note that the operating systems supporting console integration may have commands to activate or deactivate this function, or may provide facilities and commands to prevent response messages from being routed to console integration. For MVS operating systems, the "VARY CN(*),DEACTIVATE" and "VARY CN(*),ACTIVATE" commands are available for the deactivation and reactivation of console integration.

Return Codes

0

The ISQSNDH command completed successfully and the message was sent.

8

Either the message was not sent, the message was sent with errors, or the specified target system was not initialized or has a THW connection path status of SUSPENDED.

32
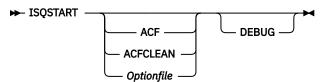
The processor operations environment does not exist. The ISQSNDH command was not processed.

ISQSTART

Purpose

The ISQSTART command starts processor operations. It establishes the processor operations environment with the NetView program and permits the control of target resources with processor operations commands. Such resources are: Target systems or virtual systems, mainframe processors or virtual machines, and zEnterprise BladeCenter Extensions. This command can be issued from an automation routine.

Syntax

```
>>- ISQSTART --+--------------+--+---------+--><
               |              |  |         |
               +--- ACF ------+  +- DEBUG -+
               |              |
               +- ACFCLEAN ---+
               |              |
               +- Optionfile -+
```

Requirements

If you specify:

- With parameter ACF or ACFCLEAN, SA z/OS initialization must be complete before ISQSTART can be used
- With the *Optionfile* parameter, the NetView program must have at least read authority to the dataset

You may need special authorization to use this command.

Parameters

ACF
> If specified, processor operations is started, taking the required configuration information from the current active automation control file (ACF).

ACFCLEAN
> If specified, the INGCLEAN command is called to perform a clean up of the in-storage data model on the processor operations focal point NetView domain, before the ISQSTART ACF processing starts.
>
> The processor operations configuration information is stored in ACF entry types like: PROCESSOR, SYSTEM, AOF?ENS, and GROUP. Since none of these entry types is associated with type SUBSYSTEM, a delete or rename of a processor operations related ACF entry will not result in an automatic cleanup of the no longer valid associated global variables during a System Automation refresh.
>
> This can cause problems or ISQSTART time for processor operations runtime, especially when no longer available HW resources are still present in the processor operations data model.
>
> Using the INGCLEAN before starting processor operations is one way to avoid such problems.

Optionfile
> An additional debug or configuration source. This parameter is for IBM Service support only.

DEBUG
> Provides additional diagnostics that are written to the NetView log.

Defaults

There are no defaults for this command when processor operations is first started: you must specify the ACF, ACFCLEAN or *Optionfile* parameter. When restarting, the command defaults to the parameter used for the previous initial start.

Usage

To perform an initial start, use the ACF or ACFCLEAN parameter. For a restart (warmstart), this parameter is not needed.

An initial start loads the processor operations configuration data from the active ACF and starts all processor operations tasks to establish the processor operations task environment. The configuration data also indicates which, if any, target system or ensemble connection should be initialized (not the IPL process).

The initial start with the ACF parameter takes the available configuration data for processor operations from the loaded ACF to build the processor operations runtime environment. In case processor

operations configuration data was changed using the configuration dialogs and a new ACF file was built, you first refresh the ACF on the processor operations FP system with the new user configuration, before this new configuration data is available for processor operations. Use the ISQSTOP command to processor operations before issuing the ISQSTART ACF or ISQSTART ACFCLEAN command to activate the changes in the ProcOps runtime environment.

You usually perform a restart after a processor operations task has failed to restart all processor operations tasks to reestablish the processor operations tasking environment. If the processor operations environment has not already been established by a previous ISQSTART command that specified ACF/ACFCLEAN or Optionfile, the restart will fail.

When you issue ISQSTART, it adds you to the interested operators list that is accessed by the ISQCMON command. This list is for messages that are not associated with a specific target system. The messages relate to the control of processor operations-managed resources.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- If the ACF or ACFCLEAN start parameters are used, SA z/OS on the processor operations focal point system must be fully initialized, otherwise ISQSTART processing will fail.

  Note that this restriction also applies if ISQSTART is issued while an ACF REFRESH is in progress on the processor operations focal point system.

- A restart re-establishes the previous configuration. The processor operations environment must exist (an initial start must have already been performed) before a restart can be performed.

- Processor operations must be stopped before an initial start can be performed.

- The XML_config_file name cannot be DEBUG.

- The specified XML_config_file must be a sequential data set.

Return Codes

0
    Command accepted.

4
    You used incorrect syntax.

8
    An internal command error occurred.

ISQSTOP

Purpose

The ISQSTOP command stops processor operations. It can be issued in an automation routine.

Syntax

```
►►─ ISQSTOP ─┬─────────┬─►◄
             └─ DEBUG ─┘
```

Requirements

You may require special authorization to use this command.

Processor operations must be active.

Parameters

DEBUG
>   Provides additional diagnostics, which are written to the NetView log.

Defaults

None.

Usage

The ISQSTOP command immediately stops the processor operations environment and all processor operations tasks. If you do not have the shutdown of processor operations automated via SA z/OS, issue ISQSTOP and ISQSTART as part of normal shutdown procedures to restart failed processor operations tasks or to establish a new operating environment (see the command).

Restrictions and Limitations

The ISQSTOP command does not shut down target systems.

All current processor operations status information is lost when you issue ISQSTOP. You should exit any displays presented by the ISQXDST, or ISQXOPT commands or ProcOps SDF Interface panels showing LPARs, before stopping processor operations.

Return Codes

0
>   The ISQSTOP command completed successfully.

4
>   You used incorrect syntax.

8
>   An internal command error occurred.

32
>   The processor operations environment does not exist; the ISQSTOP command was not processed.
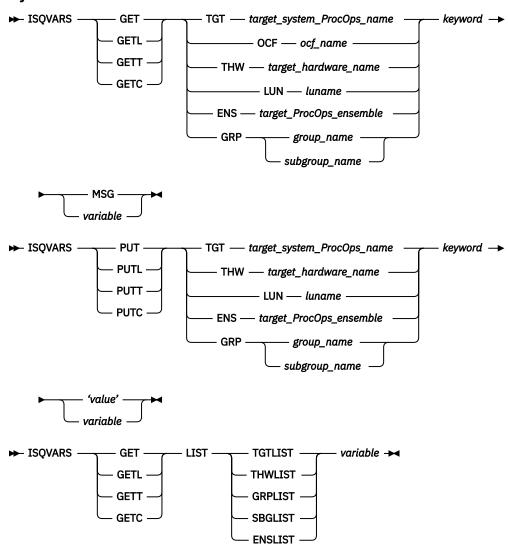
ISQVARS

Purpose

The ISQVARS command lets you view and change certain SA z/OS values. identifies the keywords for the values you can view or change with the ISQVARS command.

Syntax

```
►►─ ISQVARS ─┬─ GET ──┬─┬─ TGT ── target_system_ProcOps_name ──┬─ keyword ─→
             ├─ GETL ─┤ ├─ OCF ── ocf_name ────────────────────┤
             ├─ GETT ─┤ ├─ THW ── target_hardware_name ────────┤
             └─ GETC ─┘ ├─ LUN ── luname ─────────────────────┤
                        ├─ ENS ── target_ProcOps_ensemble ─────┤
                        └─ GRP ──┬─ group_name ────┬───────────┘
                                 └─ subgroup_name ─┘

►─┬─ MSG ──────┬─►◄
  └─ variable ─┘


►►─ ISQVARS ─┬─ PUT ──┬─┬─ TGT ── target_system_ProcOps_name ──┬─ keyword ─→
             ├─ PUTL ─┤ ├─ THW ── target_hardware_name ────────┤
             ├─ PUTT ─┤ ├─ LUN ── luname ─────────────────────┤
             └─ PUTC ─┘ ├─ ENS ── target_ProcOps_ensemble ─────┤
                        └─ GRP ──┬─ group_name ────┬───────────┘
                                 └─ subgroup_name ─┘

►─┬─ 'value' ──┬─►◄
  └─ variable ─┘


►►─ ISQVARS ─┬─ GET ──┬─ LIST ─┬─ TGTLIST ─┬─ variable ─►◄
             ├─ GETL ─┤        ├─ THWLIST ─┤
             ├─ GETT ─┤        ├─ GRPLIST ─┤
             └─ GETC ─┘        ├─ SBGLIST ─┤
                               └─ ENSLIST ─┘
```

Requirements

Processor operations must be active.

Parameters

GET
Specifies that you want to retrieve the value of a SA z/OS keyword to be displayed or to be placed into a specified NetView local variable.

GETL
Specifies that you want to retrieve the value of a SA z/OS keyword to be displayed or to be placed into a specified NetView local variable. This keyword is the same as the GET keyword. This is the default if you specify GET.

GETT
Specifies that you want to retrieve the value of a SA z/OS keyword to be displayed or to be placed into a specified NetView task variable.

GETC
Specifies that you want to retrieve the value of a SA z/OS keyword to be displayed or to be placed into a specified NetView common variable.

TGT
Indicates that the variable following it is the name of the target system.

target_system_ProcOps_name
Is the name of the target system.

OCF
Indicates that the variable following it is the name of the target system's secondary operations command facility (OCF). A secondary OCF is used on an OCF-based processor in LPAR mode to represent a logical partition and to process commands for that CPC image (logical partition). The name of the secondary OCF is specified on the "Target System Description" panel for OCF-based processors in the configuration dialogs. On a System/390® microprocessor cluster, the name of the secondary OCF is the same as the name of the logical partition and of the Image profile used to activate the partition.

ocf_name
Is the name of the target system's secondary OCF.

THW
Indicates that the variable following it is the name of the target hardware.

target_hardware_name
Is the name of the target hardware.

LUN
Indicates that the variable following it is the logical unit name.

luname
Is the logical unit name.

GRP
Indicates that the variable following is a group or subgroup name.

group_name
Is the name of the group of which the subgroup is a member.

subgroup_name
Is the name of the subgroup of which the target system is a member.

ENS
Indicates that the variable following it is the name of an ensemble.

target_ProcOps_ensemble
Is the name of the ensemble.

keyword
Is the name of the SA z/OS value to be retrieved or set. Table 3 on page 316 identifies the SA z/OS values that can be read or changed by the ISQVARS command.

MSG
Indicates the SA z/OS value is to be displayed on the console as line-mode output.

variable
Is the name of the NetView variable whose value is to be set to that of the specified SA z/OS keyword. Local variable names are most commonly used when values are being read and written from within automation procedures. The names of the SA z/OS values are defined in Table 3 on page 316.

PUT
Specifies that you want to set the value of a SA z/OS keyword to either the current value of a specified NetView local variable or to a value specified in the command string.

PUTL
Specifies that you want to set the value of a SA z/OS keyword to either the current value of a specified NetView local variable or to a value specified in the command string. This keyword is the same as the PUT keyword. This is the default if you specify PUT.

PUTT
Specifies that you want to set the value of a SA z/OS keyword to either the current value of a specified NetView task variable or to a value specified in the command string.

PUTC
Specifies that you want to set the value of a SA z/OS keyword to either the current value of a specified NetView common variable or to a value specified in the command string.

TGT
Indicates that the variable following it is the name of the target system.

target_system_ProcOps_name
Is the name of the target system.

THW
Indicates that the variable following it is the name of the target hardware.

target_hardware_name
Is the name of the target hardware.

LUN
Indicates that the variable following it is the logical unit name.

luname
Is the logical unit name.

GRP
Indicates that the variable following is a group or subgroup name.

group_name
Is the name of the group of which the subgroup is a member.

subgroup_name
Is the name of the subgroup of which the target system is a member.

ENS
Indicates that the variable following it is the name of an ensemble.

target_ProcOps_ensemble
Is the name of the ensemble.

keyword
Is the name of the SA z/OS keyword whose value is to be retrieved or set. Table 3 on page 316 identifies the values that can be read or changed by the ISQVARS command.

'value'
Is the value to be assigned to the SA z/OS keyword. The straight single quotation marks are required.

variable
Is the name of the NetView variable which contains the value to which the SA z/OS keyword is to be set (PUT). Local variable names are most commonly used when SA z/OS values are being read and written from within automation procedures. The keywords used for SA z/OS values are defined in Table 3 on page 316.

LIST
Indicates the keyword following it identifies which list is being referenced. This keyword is valid from automation programming only.

TGTLIST
Refers to the list of defined target system names.

THWLIST
Refers to the list of defined target hardware names.

GRPLIST
Refers to the list of defined target group names.

SBGLIST
Refers to the list of defined target subgroup names.

ENSLIST
Refers to the list of defined target ensemble names.

variable
Is the name of the NetView variable whose value is to be set to that of the specified SA z/OS keyword. Local variable names are most commonly used when values are being read and written from within automation procedures. The names of the SA z/OS values are defined in Table 3 on page 316.

Defaults

None.

Usage

There are several ways to specify the desired information:

Target system name
```
get|put TGT target_system_ProcOps_name keyword...
```

Target hardware name
```
get|put THW target_hardware_name keyword...
```

Group name
```
get|put GRP group_name keyword...
```

Subgroup name
```
get|put GRP subgroup_name keyword...
```

LU name
```
get|put LUN luname keyword...
```

Ensemble name
```
get|put ENS ensemble_name keyword...
```

OCF name
```
get OCF ocf_name keyword...
```

Return a list
```
get LIST keyword...
```

You can display (on the NetView console) the value of a NetView variable by using the MSG keyword.

The ISQVARS command allows access to SA z/OS values. Values relating to target systems or ports require the name of the component (target system processor operations name or port name). The *keyword* is a processor operations-defined character string identifying the name of the processor operations value.

If issued from a program, a NetView variable is specified to contain the SA z/OS value.

• In the GET case, the specified NetView variable (*variable*) is set to the specified SA z/OS value (*keyword*).

• In the PUT case, the specified SA z/OS value is set to the current value of the specified NetView variable, or to the value specified within straight single quotation marks.

For example, assume target system names *system1*, *system2*, and *system3* have been defined. The following command:

```
ISQVARS GET LIST TGTLIST TARGETS
```

will place the following character string into the NetView local variable *targets*:

```
system1 system2 system3
```

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- SA z/OS values are defined through the use of configuration panels during installation. Not all of these values can be changed by the ISQVARS command. Table 3 on page 316 identifies the SA z/OS values that can be changed by the ISQVARS command.
- Any changes you make to a SA z/OS value with the ISQVARS command remain in effect only for the current session of SA z/OS. Stopping and then starting SA z/OS resets the variables.
- GET LIST is valid only from within automation programming. You cannot issue GET LIST from an OST.
- GET LIST has the following length restrictions:

  - The NetView variable is restricted to 32767 bytes when a REXX command processor calls the ISQVARS command using the NetView *local* variable form (GET|GETL LIST). The ISQVARS command truncates the data to this length if necessary.

  - The NetView variable is restricted to 255 bytes when a REXX command processor, high-level language, or NetView command list calls the ISQVARS command using the NetView *task* variable form or NetView *common* variable form (GETT|GETC LIST). The ISQVARS command truncates the data to this length if necessary.

- Updates for 'Path Poll Frequency' (pollfreq) or 'Path Poll Retries' (pollrtry) have no impact on the polling task itself; to effectively change these values, the update must be performed in the SA z/OS Customization Dialog Processor Information panel (AOFGCPD0); afterwards, rebuild and reload the automation control file and restart processor operations.

Caution: Use ISQVARS with care. Value changes are made immediately and may seriously affect the running of SA z/OS.

Return Codes

0
> Processed without errors.

30
> The processor operations environment does not exist; the ISQVARS command was not processed.

32
> The processor operations environment does not exist; the ISQVARS command was not processed.

131
> You did not enter enough parameters.

132
> The second argument you specified is unknown.

133
> You specified a form of the command that is not valid with the *list* option.

134
> *msg* and *list* options are mutually exclusive.

135
> Neither `get` nor `put` were specified.

136
> You used an uneven number of single straight quotation marks.

137
> You used single straight quotation marks other than for the last argument.

138
> Unable to write to the specified variable.

139
> Unable to read the specified variable.

141
> *msg* is a keyword and cannot be used as a variable name.

142
> Variable answer could not contain all of the data, variable truncated to 255 bytes.

143

Variable answer could not contain all of the data, variable truncated to 32767 bytes.

144

Addressed port not initialized to a target system.

145

System console not defined for addressed target system.

161

You specified a target hardware name that is not valid.

162

You specified an unknown keyword.

163

You specified a target system name that is not valid.

166

You specified a keyword restricted to LPAR systems.

167

The specified port is not connected to an operator console.

168

The specified port is not connected to a system console.

169

IOCDS cannot be located, system is in LPAR mode.

170

The port definition and the target hardware definition in the SA z/OS configuration panels conflict with one another — the system console cannot be found.

171

The port definition and the target hardware definition in the SA z/OS configuration panels conflict with one another — the operator console cannot be found.

172

You specified a keyword that is not valid for the PUT function.

173

NetView CNMLOCK failure.

174

Internal locking sequence error.

175

Unable to obtain lock for PUT function.

176

You specified a PUT function with non-hexadecimal characters for a keyword field that can contain only hexadecimal characters; the command is ignored.

177

You specified a PUT function with non-integer characters for a keyword field that can contain only integer characters; the command is ignored.

178

Unknown operating system type for specified target system.

179

The specified keyword only valid if the addressed target system is running the MVS or VM operating systems.

182

You tried to write (PUT) values to a keyword field that are not valid values for that field.

183

You tried to write (PUT) a value that is too large for the keyword field to which it is being written.

184

You tried to write (PUT) a time offset value that is not valid.

185

You specified a parameter that cannot be used with the keyword you specified (the parameter values that can be specified are *list*, *tgt*, *ens* or *thw*).

186

It is not valid to change the internal variable you specified from its current status value to the status value you specified.

188

It indicates that the status of the target system or logical partition cannot be identified.

189

You specified a logical partition name that is not valid.

191

You specified a variable that requires a qualified name (such as *target.lpar*), but the qualified name you provided is not valid.

192

Logical partition name missing. You specified a target hardware name, but it was not followed by a logical partition name (such as *target.lpar*).

193

The memory requested is larger than the maximum that can be installed.

194

The system name entered is not a valid target system name, but it is a valid target hardware name.

195

You specified a target ensemble name that is not valid.

ISQVARS Keywords

SA z/OS provides keywords you can use to define your configuration and to determine the status of the elements in your configuration.

When you develop automation routines, you need to read these keyword values and perhaps write to them as well. For example, a routine may change the primary IPL address used by automation. Assuming the old address was 03FE, the following command changes the address to 0123:

```
ISQVARS PUT TGT SILVER pipla '0123'
```

This section explains the keywords and the valid values each keyword accepts. It also identifies the SA z/OS messages that trigger SA z/OS automation to update the keyword values. You may want to use these status messages to begin your own automation routines.

Variable Value Lengths: In addition to using the correct form of ISQVARS for the variable type, you must be aware of the length limits of variables for your particular programming environment. This is a particular concern when you are retrieving long data strings such as lists of defined target systems. If you are programming in REXX, the variable value length limit is 32 KB. For other programming environments supported by NetView, the variable value length limit is 256 bytes.

Keyword Valid Values: This column shows the values of SA z/OS keywords. You can retrieve or change these values with the ISQVARS command if they are valid values.

In , the SA z/OS values are sorted according to the contents of the Name column, which identifies the keyword name of the value. The Access column indicates the type of access allowed for the keyword through the ISQVARS command. A keyword may have either read-only access, designated by *read* (GET), or read/write access, designated by *write* (PUT).

The ISQVARS column indicates which command keyword you should use after the GET or PUT keyword of the ISQVARS command to access the SA z/OS value.

SA z/OS Keywords and Status Messages: Table 3 on page 316 lists the ISQVARS keywords sorted by keyword name.

Table 3. ISQVARS Keywords Sorted by Keyword Name

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
ACTHW	Last activated THWNAME	write	LUN	Allows the obtaining or setting of the last target hardware (THWNAME) to be activated for a specified LUNAME corresponding to a NetView Connection Path. The setting of the THWNAME needs to be done before the THWNAME can be obtained. If PUT specified, input must be equal to a valid THWNAME.
ATSNAME	THW: active target system name	read	OCF or THW	When OCF, the name of the active target system that is associated with OCF. When THW, the name of the active target system that initialized on the specified target hardware; one name for XA, ESA, and 370, multiple names for LPAR-mode target hardware.
BACKFP	Backup focal point	read	THW	Backup focal point NetView domain ID.
CMDRETRY	Number of retry steps for calling the Hardware Interface	write	THW	Processor Operations commands will call the Hardware Interface; this call may fail at first, and, for some return codes Processor Operations tries to re-execute the call. This variable defines how often a retry should be executed. The value is set to 10 at Processor Operations start time (ISQSTART). Valid number range is 00 to 99. **Note:** This variable is only used for SNMP connections.
CMDRETRY	Number of retry steps when calling the Ensemble to execute a command or function	write	ENS	Processor Operations commands will call the Ensemble Interface; this call may fail in the first place, and for some return codes Processor Operations tries to re-execute the call. This variable defines how often a retry should be executed. Valid number range is 00 to 99.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
CMDWAIT	Wait time between retry steps for the Hardware Interface	write	THW	Processor Operations commands will call the Hardware Interface; this call may fail at first, and, for some return codes Processor Operations tries to re-execute the call. This variable defines the wait time in seconds between 2 retries. The value is set to 01 at Processor Operations start time (ISQSTART). Valid number range is 00 to 99. **Note:** This variable is only used for SNMP connections.
CMDWAIT	Wait time between retry steps for calling the Ensemble Interface function	write	ENS	Processor Operations commands will call the Ensemble Interface; this call may fail in the first place, and for some return codes Processor Operations tries to re-execute the call. This variable defines the wait time in seconds between 2 retries. Valid number range is 1 to 600.
CTYPE	Target hardware connection type	read	THW	Type of processor operations SNMP to focal-point NetView.
DVOL	IPL message: response to duplicate volume IEA213A, IEA214A IPL operator action message	write	TGT	A list of zero to 12 four-digit hexadecimal control unit addresses, separated from each other by one or more blanks. These addresses identify the devices to be left online (MVS only).
DVOLAR	Controls DVOL automation	write	TGT	A value of Y causes DVOL automation to continue. N or any other value prevents DVOL automation from being executed.
ENSADDR	Alternate Ensemble Hardware Management Console Address	read	ENS	IP address or hostname of the Ensemble HMC, defined as the alternate one.
ENSANCH	Ensemble anchor address information	read	ENS	Returns the address of shared memory used to store internal data model and connection information in hexadecimal characters.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
ENSBCL	Blade center list	read	THW	For target THW, a list of the discovered zBX blade centers is returned in the form: *bcname/serial*. Multiple *bcname/serial* pairs are separated by one or more blanks. This list is filled at ISQXIII time for the ensemble where the target member is a member. If the Ensemble Management Flag for the THW is set to NO or blank, or no Blade Center information could be discovered, a blank is returned.
ENSCS	Target ensemble connection status	write	ENS	Connection status to the ensemble HMC, used as the SPOC for the targeted ensemble. Valid values are: `ACTIVE`, `ENS SESSION PROBLEM` or blank. For read, you may also get the following values in addition to the values you can write: `CLOSED`, `DORMANT`, `SUSPENDED`, `CONNECTING`.
ENSEMSG	Status panel error message	write	ENS	Status panel error message line.
ENSLIST	Ensemble list	read	GET LIST	List of the defined ensemble entry names in the current ProcOps configuration. The names are separated by one or more blanks.
ENSLOCKN	Ensemble lock	read	ENS	Name of operator who issued the lock; blank if not set.
ENSMFLAG	Ensemble management flag	write	THW	This flag controls the management of the Ensemble zEnterprise BladeCenter Extension (zBX) for the specified THW. Allowed values are 'YES', 'NO' or blank. If the value is 'YES', ProcOps will try to discover zBX resources like Blade Centers and Blades of the specified THW and allow commands to manage the discovered resources. If the value is 'NO' or blank, no resource discovery is done for the zBX resources of the specified THW at ISQXIII time and subsequent ProcOps cmds to manage the zBX resources for this THW will fail.
ENSNAME	Ensemble entry name	read	THW	Returns the ensemble entry name if the specified THW is defined as a member node of an ensemble. If no ensemble membership is defined, a blank value is returned.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
ENSNODES	List ensemble node information	read	ENS	Returns a list of all Processors (THW) that are part of the ensemble. List entries that are separated by one or more blanks.
ENSPADDR	Primary ensemble hardware management console address	read	ENS	IP address or hostname of the Ensemble HMC, defined as the primary one.
ENSPW	Password to be used for automatic logon	read	ENS	Password for Ensemble HMC user id to be used for automatic logon. Note that the ISQVARS response message may not contain a password in readable format. If the ISQVARS calling application specifies a target variable for the PW query result, it is this application's responsibility to ensure that the security guidelines that may be in place, are met.
ENSRNAME	Real ensemble name	write	ENS	Name of the zEnterprise Ensemble as defined in the zManager environment. This name may contain mixed case characters and can be up to 16 characters long. This variable is filled if the ISQXIII processing was successful.
ENSUSER	Userid used for automatic logon to Ensemble HMC	read	ENS	This userid automatically logs on at the Ensemble HMC at ISQXIII time and logs off again when an ISQXCLS is performed for the ensemble.
GRPLIST	Group name list	read	GET LIST	A list of group names. The names are separated by one or more blanks.

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
\multicolumn{5}{				

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
HMCADDR	Hardware Management Console (HMC) address	write	THW	IP address or hostname of an HMC where the THW is defined.
				Before changing the value of this variable, make sure that all target systems that share this address as their target hardware connection have been closed using the ISQXCLS command. The modified address value will be used only if no more connections are active from the ProcOps focal point to the HMC. Issue ISQXIII command to restart the connections with the changed address.
				Hostname ISQET32 will change the connection type from TCP/IP to BCPii.
				If message ISQ186I is displayed, the current connection status does not allow to change HMCADDR, because it is still in use. The connection must be closed first.
				Note that at runtime ISQET32 cannot be set as HMCADDR and SEADDR at the same time. Otherwise, message ISQ186I will be displayed and the second setting will not be done.
HTYPE	Target hardware processor type	read	TGT or THW	IBM Z system machine type number.
ILPARS	LPAR: partition initial state	read	TGT	ACTIVE or INACTIVE (LPAR target systems only).
IPLMSGMC	IPL message: response to master catalog action IEA347A IPL message	write	TGT	75 characters (MVS only).
IPLMSGSP	IPL message: response to IEA101A IPL message	write	TGT	75 characters (MVS only).
IPLMSGVM	IPL message: VM IPL start message	write	TGT	75 characters (VM only).

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)				
Keyword	**Keyword Description**	**Access**	**ISQVARS**	**Valid Values and Comments**
IPSTACK	Name of the IP stack for the SNMP connection	write	THW	The name of the IP stack on the ProcOps FP system that is to be used for this SNMP connection. If defined, the ProcOps FP TCP/IP must be configured for multiple IP stacks. If blank, the default IP stack is used, regardless of the TCP/IP stack configuration. Note that with SNMP connect over a HMC, the IPSTACK definition of the first CPC that is connected is used for all other CPCs of this HMC connection, regardless of the other IPSTACK definitions that may exist for the other CPCs. The ipstack value used must be a valid z/OS jobname, representing the alternate IP stack. Only length checking is performed in ISQVARS.
IPSTACK	Name of the IP stack for the ensemble connection	write	ENS	The name of the IP stack on the ProcOps FP system to be used for this ensemble connection. If defined, the ProcOps FP TCP/IP must be configured for multiple IP stacks. If blank, the default IP stack is used, regardless of the TCP/IP stack configuration. The ipstack value used must be a valid z/OS jobname, representing the alternate IP stack. Only length checking is performed in ISQVARS.
LPARACT	LPAR: partition name in use?	read	THW	Null (not logically partitioned) or name of the initialized target system that has the specified LPAR name, in the form *target_hardware_name.LPAR_name*. The variable contains the name of the initialized target system that has LPAR name or a null value if none of the target systems initialized to the target hardware have that LPAR name.
LPARSCOP	LPAR scope	read	THW	ALL (default) or DEFONLY ALL: sessions will discover all detectable partitions on that target hardware. DEFONLY: sessions will discover only partitions defined as target systems for that target hardware.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
NPLU	NetView connection path LUNAME	read	TGT or THW	SNA LUNAME for connection to an OCF-based processor support element.
NPNETID	NetView connection path NETID	read	TGT or THW	SNA NETID for connection to OCF-based processor support element.
NPTHW	NetView connection path Target Hardware Names	read	LUN	Returns all defined target hardware names for an SNMP connection.
NVCS	NetView connection status summary	write	THW	Valid values are: ACTIVE, SNMP SESSION PROBLEM or blank. For read, you may also get CLOSED and DORMANT in addition to the values that you can write.
OCF2ND	Secondary OCF name	read	TGT	Returns the value of the secondary OCF name
OCLOCKN	Operator console lock	read	TGT	The name of operator who issued the lock. Blank if it has not been set.
OCSTAT	Operator console status	read	TGT	ACTIVE, CLOSED, UNKNOWN, LINK ERROR, UNDEFINED, and CONSOLE LOST
OSTYPE	Target operating system type	read	TGT	MVS, VM, LINUX, VSE, CF, ZAPP, or KVMIBM
PIPLA	IPL: primary IPL address	write	TGT	Specifies the device address to be used for the IPL.
PIPLCPUA	IPL: primary IPL CP address	write	TGT	Specifies the central processor address (no longer used).
PIPLP	IPL: primary IPL parameter	write	TGT	8 characters allowed.
PNSTATUS	LPAR: partition status	write	TGT	I (inactive) or A (active).
POLLFREQ	Path poll frequency for the target hardware connection	write	THW	Defines how often (in minutes) SA z/OS Processor Operations should poll the support element for its status. Valid values are 0 to 99 minutes. Specify 0 to deactivate polling. **Note:** Changing the value has no impact on the polling frequency of the polling task itself, see "Restrictions and Limitations" on page 312 for details.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)				
Keyword	**Keyword Description**	**Access**	**ISQVARS**	**Valid Values and Comments**
POLLFREQ	Path poll frequency for the ensemble connection	write	ENS	Defines how often (in minutes) SA z/OS Processor Operations should poll the ensemble HMC connection. Valid values are 0 to 359 minutes. Specify 0 to deactivate polling. **Note:** Changing the value has no impact on the polling frequency of the polling task itself, see "Restrictions and Limitations" on page 312 for details.
POLLOPT	Path poll option	write	THW	CPC (default) or CONN CPC: Issue CPCDATA request to validate the console application for a target hardware connection. CONN: Issue ISQXCON and GETSSTAT to verify only target hardware connection.
POLLRTRY	Path poll retries for the target hardware connection	write	THW	Defines the number of attempts SA z/OS Processor Operations should make to poll the support element for its status before notifying the operator that the connection failed. Valid values are 0 to 99 retries. **Note:** Changing the value has no impact on the polling retries of the polling task itself - see "Restrictions and Limitations" on page 312 for details.
POLLRTRY	Path poll retries for the ensemble connection	write	ENS	Defines the number of attempts SA z/OS Processor Operations should try and poll the HMC connection for status before notifying the operator that the connection failed. Valid values are 0 to 99 retries. **Note:** Changing the value has no impact on the polling retries of the polling task itself - see "Restrictions and Limitations" on page 312 for details.
PRIMFP	Primary focal point	read	THW	Primary focal-point NetView domainid.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)				
Keyword	**Keyword Description**	**Access**	**ISQVARS**	**Valid Values and Comments**
PSMIPV4	Force an IPv4 connection to PSM server	write	THW	Allowed values are 'Y' or 'N'. If set to 'Y', a IPv4 connection will be used although IPv6 could be tried. This is useful in environments where the IPv6 support is not fully enabled or IPv6 related connection problems may exist. In IPv4 only environments the setting of the flag is ignored. **Note:** This flag is only tested if the PSM server is defined using the Hostname address form.
SBGLIST	Subgroup name list	read	GET LIST	A list of subgroup names. The names are separated by one or more blanks.
SCLOCKN	System console lock	read	TGT	The name of operator who issued the lock. Blank if it has not been set.
SCSTAT	System console status	read	TGT	`SNMP SESSION PROBLEM,` `ACTIVE, CLOSED, DORMANT,` and blank.
SEADDR	Support Element (SE) address	write	THW	IP address or hostname of THW's Support Element Before changing the value of this variable, make sure that all target systems that share this address as their target hardware connection have been closed using the ISQXCLS command. The modified address value will be used only if no more connections are active from the ProcOps FP to the SE. Issue ISQXIII command to restart the connections with the changed address. Hostname ISQET32 will change the connection from TCP/IP to BCPii. If message ISQ186I is displayed, the current connection status does not allow to change SEADDR because it is still in use. The connection must be closed first. Note that at runtime ISQET32 cannot be set as SEADDR and HMCADDR at the same time. Otherwise, message ISQ186I will be displayed and the second setting will not be done.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
SITE	Target hardware site info	write	THW	Location information, if provided with the processor for the target hardware.
SNMPV3	Use SNMPv3 protocol	read	THW	YES: indicates that the THW requires SNMPv3 authentication. NO (or empty): indicates default SNMPv2c authentication using SNMP community.
TATTN	Target system attention	write	TGT	Blank, DCCF, EXCEPTIONS, DISABLED WAIT, SERIOUS ALERT, ALERT, and ENV ALERT.
TAUTH	Authorization token	read	TGT or THW	Authorization token or SNMP community name of the processor support element or HMC.
TDESC	Target system description	read	TGT	Target system description which corresponds to the System Short Description in System Automation's Customization Dialog.
TDIPF	Desired Image profile	write	TGT	Desired Image profile name for the specified target system name.
TDLPF	Desired Load profile	write	TGT	Desired Load profile name for the specified target system name.
TDRPF	Desired Reset profile	write	TGT	Desired Reset profile name for the specified target hardware name.
TEMSG	Status Panel Error Message	write	TGT or THW	Status panel error message line.
TGRP	Target System Group name	read	TGT or GRP	Target system names within a group and subgroups associated with this group or the group names for a target system.
TGTLIST	Target system name list	read	GET LIST	A list of target system names. The names are separated by one or more blanks.
THWLIST	Target hardware name list	read	GET LIST	A list of target hardware names. The names are separated by one or more blanks.
THWNAME	Target hardware name	read	TGT	Name of target hardware definition associated with the specified target system.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
THWSTAT	Target hardware status	write	TGT	Blank, `LPAR DEFINITION PROBLEM`, `TARGET HARDWARE PROBLEM`, `POWERED OFF`, `POWER-ON RESET REQUIRED`, `SERVICE`, `POWERSAVE`, `SERVICE REQUIRED`, `DEGRADED`, `UNKNOWN` or `OK`.
TIMEOFF	Target time offset	write	TGT	A number in the range of -23 through +23 the TGT time deviates from FP.
TIMSG	Status Panel Info Message	write	TGT or THW	Status panel informational message line.
TINIT	Target system initialized?	read	TGT	"YES" or "NO" is returned as the actual status of a target system connection, which must have been initialized before. If the TINIT read ends with return code 188 and message ISQ188I, this means that the connection to the target system has not been initialized since ProcOps was started. Use ISQXIII to start the connection and repeat the request.
TLPAR	LPAR: partition name	read	TGT	Null or LPAR name for the specified target system if the target system is not in an LPAR. Use the TGT form of the command.
TMODE	Target system mode	read	TGT	`ESA`, `LINUX`, `ZACI`, `SSC`, or `CF`.
TOCA	Target system console status summary	read	TGT	Blank.
TOCB	Target system console status summary	read	TGT	Blank.
TSCA	Target system console status summary	read	TGT	Blank. `SNMP SESSION PROBLEM` and `ACTIVE`
TSCB	Target system console status summary	read	TGT	Blank.
TSNAME	Target system name	read	THW or OCF	When THW, names of all defined target systems on specified target hardware name, whether initialized or not (one name for XA, ESA*, and 370, multiple names for LPAR-mode target hardware). When OCF, the target system name associated with a secondary OCF name.

Table 3. ISQVARS Keywords Sorted by Keyword Name (continued)

Keyword	Keyword Description	Access	ISQVARS	Valid Values and Comments
TSTAT	Target system status	write	TGT	`UNDECIDABLE, UNKNOWN, INITIALIZED, IPL COMPLETE, LOAD FAILED, IPL FAILED, CLOSED, WAITING FOR IEA101A MESSAGE`, `WAITING FOR IEA347A MESSAGE`, `WAITING FOR VM START MESSAGE`, `STAGE-1 ACTIVATE COMPLETE, NOT OPERATING`, and `NOT ACTIVE`.
TSUBGRP	Target System SubGroup name	read	TGT or GRP	Target system names within a subgroup or the subgroup names for a target system.
VGRP	Group processor operations-enabled indicator	read	GET	Y or N.
VSUBGRP	Subgroup processor operations-enabled indicator	read	GET	Y or N.
V3PWD	SNMPv3 Password	read	THW	Password for SNMPv3 authentication.
V3USER	SNMPv3 Username	read	THW	Username for SNMPv3 authentication.

ISQVARS Resource Type: The ISQVARS command syntax also includes a resource type. Use the correct resource type (TGT, THW, ENS, LIST, PUT LUN, or PUT GRP) for the requested keyword.

Automation from Status Messages: When SA z/OS processor operations detects a status change for any element of your SA z/OS configuration, it updates the appropriate status table variables and may generate a message or an alert. You can create a routine and a NetView automation table entry to automate the operator response to these status change messages. For the recommended operator response to each of these messages, see *IBM System Automation for z/OS Messages and Codes*.
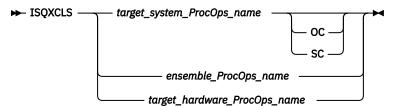
ISQXCLS

Purpose

End communication with a target system (console) or ensemble HMC and set the target system or ensemble connection status to CLOSED. For a target system, the communication with the SE/HMC of the target system's processor is also terminated if this was the last INITIALIZED target system on that processor.

When closing target hardware, ISQXCLS closes the console connections to all target systems defined, running on the specified hardware. This implicitly terminates the communication with the target hardware processor's SE/HMC.

Syntax

```
►►── ISQXCLS ──┬── target_system_ProcOps_name ──────┬──┬──────┬──►◄
               │                                     │  ├─ OC ─┤
               │                                     │  └─ SC ─┘
               ├──────── ensemble_ProcOps_name ──────┤
               └──────── target_hardware_ProcOps_name ──────┘
```

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The *target_system_ProcOps_name* syntax requires the addressed target system to be initialized.
- No console connection to be closed can be locked by another task.
- No ensemble connection to be closed can be locked by another task.

Parameters

target_system_ProcOps_name
>Is the name of the target system to be closed.
>
>**OC**
>>Specifies the active operator console connection.
>
>**SC**
>>Specifies the active path for an SNMP connection.

ensemble_ProcOps_name
>Is the name of ensemble to be closed.

target_hardware_ProcOps_name
>Is the name of the target hardware. This is a required parameter, and must be a valid target hardware name.

Defaults

None.

Usage

You can close a target system, target ensemble, or target hardware to end the communication between the target entity and focal point over the processor operations path.

Closing communication for a Target System: Issue the following to close a target system:

```
ISQXCLS target_system_ProcOps_name
```

Closing a target system sets its status to CLOSED.

Closing communication for an ensemble HMC: Issue the following to close an ensemble:

```
ISQXCLS ensemble_ProcOps_name
```

Closing an ensemble connection sets its status to CLOSED.

Closing communication for a Target Hardware: Issue the following to close console communication to all target systems on a target hardware and finally end communication between the target hardware processor's SE/HMC and ProcOps:

```
ISQXCLS target_hardware_ProcOps_name
```

Using this command form allows you to close ProcOps console communication with all target systems running on a defined target hardware in one step. The individual ISQXCLS commands for the target systems are scheduled to run on the ProcOps control task of the target hardware.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- The close of a target system does not end the processing of that target system. Use the common command DEACTIVATE to perform this task.
- Do not close a system console on a logically partitioned system if any logical partition on that target hardware is active.

Return Codes

0

The ISQXCLS command completed successfully, no errors occurred.

8

You used syntax that was not valid.

12

A NetView or processor operations service problem occurred or the THW connection path status is SUSPENDED.

16

A severe error occurred.

32

The processor operations environment does not exist; the ISQXCLS command was not processed.
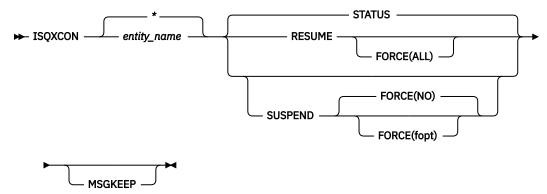
ISQXCON

Purpose

This command is used to manage Processor Operations connections during events such as the planned maintenance of processor Support Elements (SEs) or Hardware Management Consoles (HMCs) (that are used by Processor Operations). In order to prevent error retries and recovery actions by Processor Operations, the SUSPENDED status for a target hardware connection and its associated target systems can be set while the SEs/HMCs are not available. After maintenance, a RESUME function allows normal Processor Operations connection processing to continue.

In addition, the STATUS function provides a consolidated summary of important connection-related information in the multi-line message ISQ350I. This is an alternative to the ISQXDST status dialog panels, which provide similar information, available in different panel views.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor Operations must be active.
- The SUSPEND/RESUME functions of this command make use of the NetView DSISVRT VSAM DB to save status variables. If your NetView is not customized to use this facility, the ISQXCON SUSPEND/RESUME functions cannot be used, only the STATUS function will work.

Parameters

entity_name

Is the name of a configured target hardware (processor) in your active Processor Operations policy.

or

Is the name of a configured zEnterprise ensemble (zBX) in your active Processor Operations policy.

You can use the '*' wildcard as the last character in your *thwname* specification to let ISQXCON select all target hardware names, which match the partial string preceding the '*' for processing.

Using only the '*' wildcard character as *entity_name* selects all configured target hardware and ensemble names.

STATUS
Generates an ISQ350I multi-line message status report for the selected target entity name(s).

RESUME
For the selected entity name(s), the connection path status is first checked to see if it is currently SUSPENDED. If so, it is set to DORMANT. For target hardware connections the configured target system status is set to CLOSED. This enables normal Processor Operations for them. In order to re-establish communication to an entity name, use the ISQXIII command.

SUSPEND
For the selected entity name(s), the active connections are first CLOSED to end communication. Then the connection path status is changed to SUSPENDED. This status is saved in the DSISVRT to keep it available across NetView recycles. For target hardware, each configured target system of that target hardware is also set to SUSPENDED. In a SUSPENDED state, Processor Operations commands that use this connection will not work. Use the ISQXCON RESUME function to re-enable the entity name connection again for normal Processor Operations.

FORCE (fopt)
Required parameter of the SUSPEND request and optional parameter of the RESUME request. The parameter controls the processing of the request according to the parameter's specification or fopt. Valid values are:

ALL

For SUSPEND, it causes that in case of an HMC connection, other target hardware connections over this HMC (same IP address) will also be suspended, if not already in SUSPENDED state.

For RESUME, it causes that all previously suspended target hardware connections over the same HMC connection will be resumed.

YES

For SUSPEND, it causes the existing target systems sessions to be closed before the connection path is suspended.

For RESUME, this option is not valid.

NO

For SUSPEND, it causes the request to be executed only if no active target system sessions exist to the target hardware over the connection path to be suspended. FORCE (NO) is the SUSPEND default.

For RESUME, this option is not valid.

MSGKEEP

The Message Output option. If specified, the message output of the command is written to a PIPE KEEP with the name ISQXCON. For compatibility reasons with other Processor Operations commands, the successful completion response ISQ017I is not written to the message KEEP. Use a PIPE with KEEP ISQXCON as its first stage to analyse the message output. Each time the command ISQXCON is executed with the MSGKEEP option, the PIPE KEEP is re-initialized. If the MSGKEEP option is not specified, all ISQXCON messages are written to the NetView console.

Defaults

If no parameters are specified for ISQXCON, this will result in a STATUS request for all configured entity name connections. The resulting messages are written to the NetView console.

If the SUSPEND function is used, the FORCE(NO) option is in effect to prevent an unintended close of active target system or ensemble sessions.

For the SUSPEND function, if the target hardware entity is connected to an HMC, active target system connections of other target hardware entities with the same HMC IP address are closed as well.

If the connection is SUSPENDED, no Processor Operations session polling is limited.

Usage

When using ISQXCON to manage a single or multiple entity name connections, it is recommended to use the ISQXCON STATUS function first, before suspending or resuming a connection.

Please note that for SUSPENDED connections, no Processor Operations session polling is done.

Restrictions and Limitations

The SUSPEND and the RESUME functions of ISQXCON currently accept only the SNMP connection protocol for target hardware names and the HTTP connection protocol for ensemble names. TCP/IP connections to PSMs are not supported.

If multiple target hardware connections are processed in a request, the ISQXCON return code is always 0.

Return Codes

0

The command completed successfully. If multiple entity name connections are processed, but one or more connections have set return codes 6,8,10 and 16, use the responded messages ISQ357I - ISQ359I to determine which of the connections failed and the reason.

2

Function/option parameter invalid or missing. The ISQXCON command is not executed.

4

The entity name parameter is not specified or could not be resolved. The ISQXCON command is not executed.

6

Session is active, FORCE (YES) option is required.

8

Connection protocol is not supported.

10

Status is not SUSPENDED.

16

Suspend/Resume HW command failed.

32

The Processor Operations environment does not exist; the ISQXCON command was not processed.

ISQXDRL

Purpose

The ISQXDRL command displays the outstanding MVS requests from a target system; the command is rejected for operating systems other than MVS. ISQXDRL issues the following MVS command to the active operator console port of the target system, and sends the response to the requesting NetView operator:

```
D R,L,CN=(ALL)
```

Syntax

►►— ISQXDRL —— *target_system_ProcOps_name* —►◄

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed target system must have a status of INITIALIZED.
- The addressed target system must be running MVS.
- The operator console must not be locked by another task.
- You must be on the interested operators list for the operator console to see the reply messages.

Parameters

target_system_ProcOps_name
Is the name of the target system. It is a required parameter, and must be a valid target system name.

Defaults

None.

Usage

The ISQXDRL command provides a convenient alternative to using the passthrough facility to issue the **MVS D R,L** command.

Each line of the MVS response to the **D R,L** command is displayed as a single-line message. Processor operations does not trap the responses. There is no prefix to the message lines and the last line is followed by a line of dashes. Other messages to the operator may be interspersed with these messages, especially for the last line of dashes. The line of dashes may be issued some time after the last real line of output from the MVS command.

Restrictions and Limitations

The ISQXDRL command works only when issued to systems running MVS.

Return Codes

0

The ISQXDRL command completed successfully.

4

You used syntax that is not valid, specified a target system that is not running MVS, or specified a target system that is not initialized.

8

A problem occurred during the processing of the "ISQSEND" on page 301 command or the console is locked by another task.

32

The processor operations environment does not exist; the ISQXDRL command was not processed.

ISQXDST

Purpose

The ISQXDST command displays status panels, which provide the following information:

- Status summary (all target systems)
- Status summary (all blades of a zBX)
- Individual ensemble connection status
- Individual target hardware status
- Individual target hardware connection status
- Individual target system status
- Interested operator list

Syntax

```
►►─┬─ ISQXDST ──┬────┬─────────────────────┬─►◄
   └─ ISQXDSTI ─┘    └── target_entity_name ──┘
```

Requirements

Processor operations must be active.

Parameters

target_entity_name
    This can be:

    target_system_name
        Is the name of a valid target system for which you want to see individual target system status. If omitted, the summary status of all target systems is displayed.

> **target_hardware_name**
>> Is the name of a valid target hardware for which you want to see individual hardware information in ProcOps. If the hardware has a zBX attached, you can enter the zBX blade view from here.
>
> **ensemble_name**
>> Is the name of a valid zEnterprise ensemble for which you want to see individual information and connection status.

Defaults

If your ProcOps configuration has target systems and the associated target hardware (processors) defined, issuing the ISQXDST command without a target entity parameter will show the overall status of all target systems.

If your ProcOps configuration has only ensemble definitions, but no target systems and no associated target hardware definitions, issuing the ISQXDST command without a target entity will show the ensemble selection panel.

While in the ISQXDST status sytem, the NetView® OVERRIDE=NO option is in effect, which suppresses immediate messages sent to your NCCF screen, so the panel navigation is not interrupted. Note, that if you perform the NetView ROLL function, the DISPLAY=NO option is temporarily changed to DISPLAY=DEFAULT.

If you invoke the ProcOps status system using the ISQXDSTI command, the display option currently in effect for you, is not changed. As a result messages directed to your operator ID may interrupt the panel navigation flow.

Usage

Issue the ISQXDST command from an operator console to access the processor operations status facility. If you issue the command to access the status summary panel, you will be able to use the status facility to view multiple panels for multiple ProcOps entities without exiting the status facility. Refer to *IBM System Automation for z/OS Defining Automation Policy* and *IBM System Automation for z/OS User's Guide* for more information about how to set up and use the status facility.

To display the Status Summary, issue:

```
ISQXDST
```

This will invoke the target system summary.

To display the status of a specific target entity, issue:

```
ISQXDST target_entity_name
```

If you enter the status facility by issuing the ISQXDST command with no other parameters, all of the status panels give you access to the other status panels that are supported by the status facility, including the zBX blade and ensemble views. Some of these status panels cannot be directly accessed by command. Refer to *IBM System Automation for z/OS User's Guide* for further information about how to use the status panels.

To display the status of a specific target entity, issue:

```
ISQXDST ensemble_name
```

From the displayed ensemble status screen, you can navigate to the views of the other ensembles you may have configured.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- Do not issue this command with ISQEXEC, ISQROUTE or from an automation procedure.

• You can issue the ISQXDST command only from an operator console.

Return Codes

Return codes are not applicable because the ISQXDST command cannot be issued from a program.

Examples

Figure 126 on page 335 shows an example of the ProcOps Ensemble view panel ISQEENS that is displayed when you enter the command ISQXCMD and you have ensembles defined in your ProcOps configuration, but no target systems.

"How to Monitor and Control Ensemble connections and zBX resources" on page 342 shows an example of the ProcOps Ensemble view panel ISQEENS that is displayed when you enter the command ISQXDST and you have ensembles defined in your ProcOps configuration, but no target systems.

```
ISQESUM              SA z/OS Proc-Ops Target Status Summary    Updates: Dynamic
   Control file in use: ACF

 I isqxiii C isqxcls O isqxopt  A,B view netlogs E events      Debug Mode: OFF
 S Force a THW path suspend     R Resume a suspended THW path
 Cmd    Target System   Status     Focal Points - Primary: IPSNO Backup: IPSFL

        BOEVMSPA        CLOSED
        BOEVMTSA (*)    INITIALIZED
        BOEVMT1         CLOSED
        BOEVM9   (*)    CLOSED
        KEY1            CLOSED
        KEY2            CLOSED
        KEY3            LOAD FAILED
        KEY4            CLOSED
        KEY6CFF         CLOSED
        KEY6CF1         CLOSED
        KEY7            IPL COMPLETE
        LNXT0           INITIALIZED
        LNXT1           NOT ACTIVE
        TRX1            SUSPENDED


 Enter=Static  PF1=Help PF3=Exit PF4=Tgt Sys Summary PF5=Debug On/Off
 PF6=Roll      PF7=Up   PF8=Down PF9=Tgt HW Summary PF11=PATH Details PF12=Quit
```

Figure 126. ISQXDST Status Summary Panel

The following values can be displayed on the ISQXDST panel to describe the status of target systems:

CLOSED
(Green) The target system has been closed.

DCCF
(Red) A target system attention status indicating that a DCCF message has been detected.

DISABLED WAIT
(Red) A target system attention status indicating that a disabled wait condition has been detected.

INITIALIZED
(Green) The target system has been successfully initialized.

IPL COMPLETE
(Green, yellow, or red) The meaning of this status depends on the operating system:

• For a TPF or VSE system, the Load or Load Clear process started.

• For a z/OS system, processor operations automation responded to the IEA347A message.

• For a VM system, processor operations automation responded to the VM start message.

If this condition is displayed in red, it means that something is wrong (such as processor operations having lost its communication link with the target system) rather than that the IPL process failed. This condition reverts to green when the problem is corrected.

IPL FAILED

(Red) z/OS only. Error messages were generated during the initial program load process.

LOAD FAILED

(Red) The Load or Load Clear operation did not complete successfully.

NOT ACTIVE

(Yellow) Activate response was received from the target and did not indicate that stage 1 activation was completed. If the target is running in an LPAR, the logical partition found is not activated.

NOT OPERATING

(Red) Target hardware indicates a not operating condition for the image. No CP status is available for problem determination.

POWER-ON RESET REQUIRED

(Red) A POWER-ON RESET of the target system hardware is required before a BCP load.

POWERED OFF

(Red) The target hardware is physically powered off.

POWERSAVE

(Red) SNMP Path Only: Power® utility for the target hardware failed. Target hardware put in power save state.

SERIOUS ALERT

(Red) SNMP Path Only: Target system attention status indicating a serious alert has been detected.

SERVICE

(Red) SNMP Path Only: Service status enabled for the target hardware.

SNMP SESSION PROBLEM

(Red) SNMP Path Only: An attempt to use the SNMP Connection returned an error.

STAGE-1 ACTIVATE COMPLETE

(Yellow) The support element power-on reset has occurred but the load is not yet complete.

SUSPENDED

(Yellow) The connection path to the target hardware of the target system has been suspended. All defined target systems using the suspended connection path cannot be operated with Proc-Ops until the connection path is resumed again. For suspend/resume operation you can use the command characters of the ISQXDST panel ISQESUM or the ISQXCON command.

UNDECIDABLE

(Yellow) SNMP Path Only: The target hardware is not communicating with the support element or the support element is not communicating with the HMC.

UNKNOWN

(Green) No attempt has been made to initialize or activate this target system. This status can be set only by a cold start of processor operations.

WAITING FOR IEA101A START MESSAGE

(Yellow or red) MVS only: ACTIVATE, ISQXIPL, or ISQXLOD command processing has completed for an MVS system and processor operations is waiting for the IEA101A message on the operator console. If this condition is displayed in red, it means that something is wrong (such as processor operations having lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

WAITING FOR IEA347A MESSAGE

(Yellow or red) MVS only: processor operations has replied to the IEA101A message and is waiting for the IEA347A message on the operator console.

If this condition is displayed in red, it means that something is wrong (such as processor operations lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

WAITING FOR VM START MESSAGE

(Yellow or red) VM only: processor operations is waiting for the first VM IPL message on the operator console. ISQXLOD, ISQXIPL, or ACTIVATE command processing has completed for a VM system and processor operations is waiting for the first VM IPL message on the operator console.

If this condition is displayed in red, it means that something is wrong (such as processor operations having lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

If you issue ISQXDST with the name of a target system, the Target System Summary panel is displayed (Figure 127 on page 337).

```
ISQETARG            SA z/OS Proc-Ops Target System Summary    Updates:
Dynamic

 Target System
    Name          : KEY3
    Description   :
    O.S.          : MVS
    Load Profile  :
    Status        : UNKNOWN
    Attention     :

 Target Hardware
    Name          : FREEWAY       Mode :   LPAR
    Attention     :
    Path Status   : DORMANT

 Target Hardware LPAR
    Name          : KEY3          Mode :   ESA
    Image Profile : KEY3

 Last Significant Message:


 Enter=Static   PF1=Help PF3=Exit   PF6=Roll  PF7=Oper List
 PF9=Target Hardware     PF11=Path Detail    PF12=Quit
```

Figure 127. Target System Summary Panel

This panel has the following PF keys:

- The PF7 key displays the Processor Operations Interested Operator List panel (the one accessed with the ISQXMON command).

- The PF9 key displays the Target Hardware Summary panel ("Displaying Processor Resource Information (SNMP Connections)" on page 340). This panel provides detailed status information about the target hardware that the target system is defined on.

- The PF11 key displays the connection Path Detail panel. This panel provides detailed status information about a specific connection path.

The Target System Summary panel shows the following specific information:

Target System Name
    The name assigned in the customization dialog to this target system.

Target System Description
    Short textual description of this target system, defined in the customization dialog.

Status
    (Updated dynamically) The current value of the processor operations internal variable *tstat*.

    You can change this status from INITIALIZED, LOADFAILED, or IPLFAILED to IPLCOMPLETE by issuing the ISQVARS command to change the internal variable *tstat*. (For more information about specifying *tstat* as a keyword on the ISQVARS command, see the description of the ISQVARS command in *IBM System Automation for z/OS Operator's Commands*). You would want to do this when you perform a cold start of processor operations while a target system is already running.

    After the cold start, you issue the ISQXIII command to the target system that is already running so that its status becomes INITIALIZED, then you change the value of *tstat* to IPLCOMPLETE.

You may also want to change the status manually if the cause of the LOADFAILED status was corrected by using the pass-through facility of processor operations, or if it was corrected locally at the site of the target system.

You can also issue the ISQVARS command to change the internal variable *tstat* from IPLCOMPLETE to IPLFAILED. Processor operations sets a status of IPLCOMPLETE when it initiates a load of a target system and receives an operating system specific message that indicates that the operating system received a level where it is ready to work. However, neither of these operating systems provide a sufficient indication that the load process failed, preventing processor operations from changing the target system status appropriately.

Valid values for this status field are as follows:

CLOSED
> (Green) The target system has been closed.

INITIALIZED
> (Green) The target system has been successfully initialized.

IPL COMPLETE
> (Green, yellow, or red) For a TPF or VSE system, the Load or Load Clear process started. For an z/OS system, processor operations automation responded to the IEA347A message. For a VM system, processor operations automation responded to the VM start message. If this condition is displayed in red, this is done to get your attention to inform you that something is wrong (such as processor operations lost its communication link with the target system) rather than that the IPL process failed. This condition will revert to being displayed in green when the problem is corrected.

IPL FAILED
> (Red) z/OS only: Error messages were generated during the initial program load process.

LOAD FAILED
> (Red) The Load or Load Clear operation did not complete successfully.

NOT ACTIVE
> (Yellow) Activate response was received from the target and did not indicate that stage-1 activation was complete. If the target is running in an LPAR, the logical partition is found not activated.

NOT OPERATING
> (Red) Target hardware indicates a not operating condition for the image. No CP status is available for problem determination.

STAGE-1 ACTIVATE COMPLETE
> (Yellow) The Support Element power-on reset has occurred but the load is not yet complete.

UNDECIDABLE
> (Yellow) SNMP Path Only: The target hardware is not communicating with the support element or the support element is not communicating with the HMC.

UNKNOWN
> (Green) No attempt has been made to initialize or activate this target system. This status can be set only by a cold start of processor operations.

WAITING FOR IEA101A START MESSAGE
> (Yellow or red) z/OS only: ACTIVATE, ISQXIPL, or ISQXLOD command processing has completed for an z/OS system and processor operations is waiting for the IEA101A message on the operator console. If this condition is displayed in red, it is to get your attention to inform you that something is wrong (such as processor operations lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

WAITING FOR IEA347A MESSAGE
> (Yellow or red) z/OS only: processor operations has replied to the IEA101A message and is waiting for the IEA347A message on the operator console. If this condition is displayed in red, this is done to get your attention to inform you that something is wrong (such as processor operations

lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

WAITING FOR VM START MESSAGE

(Yellow or red) VM only: processor operations is waiting for the first VM IPL message on the Support Element CI. The ACTIVATE or LOAD command processing has completed for a VM system and processor operations is waiting for the first VM IPL message. If this condition is displayed in red, it is to get your attention to inform you that something is wrong (such as processor operations lost its communication link with the target system) rather than that processor operations has been waiting for the message too long.

Target Hardware

(Updated dynamically) The current value of the processor operations internal variable *thwstat*. Valid values are as follows:

blank

(Not highlighted) No problem has been reported for the target hardware. You can also use the ISQVARS command to change *thwstat* to blanks after correcting an error condition reflected in this field.

DEGRADED

(Yellow) SNMP Path Only: Target hardware runs with degraded performance (specific hardware types only).

POWERED OFF

(Red) The CPC is physically powered off.

POWERSAVE

(Red) SNMP Path Only: Power utility for the target hardware failed. Target hardware put in power save state.

SERVICE

(Red) SNMP Path Only: Service status enabled for the target hardware.

SERVICE REQUIRED

(Yellow) SNMP Path Only: The next disruption in the target hardware will result in degraded capacity or will fail.

TARGET HARDWARE PROBLEM

(Red) The Support Element of the processor (CPC) reported a target hardware problem.

Attention

(Updated dynamically) The current value of the processor operations internal variable *tattn*. Valid values are as follows:

blank

(Not highlighted) The target system has not encountered any of the following conditions. You can also use the ISQVARS command to change *tattn* to blanks after correcting an error condition reflected in this field.

ALERT

(Yellow) SNMP Path Only: Target system attention status indicating an alert has been detected.

DCCF

(Red) z/OS only: Processor operations has detected a DCCF message.

DISABLED WAIT

(Red) Processor operations has detected a Disabled Wait condition.

ENV ALERT

(Yellow) SNMP Path Only: Target system attention status indicating an environment alert has been detected.

SERIOUS ALERT

(Red) SNMP Path Only: Target system attention status indicating a serious alert has been detected.

Target Hardware
The name of the target hardware that this target system is running on.

O.S.
MVS, VM, VSE, LINUX, ZAPP, or CF

Mode
LPAR, ESA

LPAR name
The name of the logical partition that this target system is running in.

Connection Path Information
Identifies the connection type and current status of the connection between the processor operations focal point and the CPC support element or HMC.

Type
SNMP (IP-based Simple Network Management Protocol connection)

Status
(Updated dynamically) The current value of the processor operations internal variable *scstat*.

> **blank**
> (Not highlighted) Either the target system has not encountered any of the following conditions, or the condition has been resolved.

> **PATH PROBLEM**
> (Red) The focal point system cannot communicate with the Support Element on the NetView connection. View the Path Detail panel for more information (see "Display Path Details" on page 348).

> **ACTIVE**
> (Green) The path is ready for communications.

> **SNMP SESSION BUSY**
> (Red) Processor operations cannot presently communicate with the target Support Element, the problem appears to be recoverable.

> **SNMP SESSION PROBLEM**
> (Red) Processor operations cannot communicate with the target Support Element.

> **SUSPENDED**
> (Red) The connection path to the target hardware has been suspended. No ISQXIII command that is using this connection path will work until it is resumed again. For suspend/resume operation you can use the command characters of ISQXDST panel ISQESUM or the ISQXCON command. Note that this status is propagated to all affected target systems.

Lock Holder
(Updated dynamically) The current NetView operator that owns the lock for the target system and the connection path. Locks can be set using the ISQXLOC and ISQXUNL commands. Locks grant the exclusive use of the connection path of a target hardware and its associated target systems.

Last Significant Message
(Updated dynamically) The text of the last command response or report received from the target system. The date and time of the message is also displayed. The text of the message is truncated to 79 characters, including the message identifier but not including the time stamp. The message is not removed from the panel when the condition that generated the message is resolved.

Displaying Processor Resource Information (SNMP Connections)

To view target hardware summary of a processor, select PF9 from the Target System Summary panel (Figure 127 on page 337) or from the Status Summary panel (Figure 126 on page 335) on a NetView console.

```
ISQEHARP          SA z/OS Proc-Ops THW Summary           Updates: Dynamic
Target Hardware Name:  R35        Type:  9672       Mode: LPAR
zBX Extensions:        YES        Model: M49        Serial Number: 02-0089F25
Ensemble Membership:   R35ZBX     zBX Management:    YES
THW Description:       Development/Test Mainframe
THW Site Information:  LAB-BB, Block_19
------------------------Initialized Target Systems----------------------------
 TRX1        TRX2         TRX3         TRX4         TRX5         TRX6
 SYSA        SYSB         SYSC         SYSD         SYSE         SYSF
 KEY1        KEY2         KEY3         KEY4         KEY5         KEY6
 KEYA        KEYB         KEYC         KEYD         KEYE         KEYF
 AOC1        AOC2         AOC3         AOC4         AOC5         AOC6
 AOC7        AOC8         AOC9         AOC10        AOC11        AOC12
 TSCF1       TSCF2        TSCF3        TSCF4        TSCF5        TSCF6
 TSCF7       TSCF8        TSCF9        TSCF10       TSCF11       TSCF12
 BUMU        LAND         YDRAG        THBR         EMTI         HIRE09
 WAS65       GFG11        GUNN10       HWRE34       SANDBX1      ALEXIRL
 Communication Path Error Status:

 Last Significant Message:




 Enter=Static PF1=Help PF2=zBXcntl PF3=Exit PF6=Roll PF7=Oper List PF11=PATH Dtls
 PF12=Quit
```

Figure 128. Target Hardware SummaryPanel for OCF-Based Processors

This panel has the following PF keys:

- PF2 displays the zBX Base Operation Blade View panel ISQEZBX (see "ISQEZBX Panel Example" on page 346). This function is only available if the target hardware has a zEnterprise BladeCenter Extension attached and if an ensemble definition exists, with this target hardware selected as a member.

- PF7 displays the Processor Operations Interested Operator List panel (accessed with the ISQXMON command).

- PF11 displays the Path Detail panel ("Display Path Details" on page 348). This panel provides detailed status information about a specific NetView path. First place the cursor on the line with the name of the path that you want more information about, and then press PF11.

The Target Hardware Summary panels show the following specific information:

Ensemble Membership
Ensemble entry name or n/a. Shows the name of the ensemble, this target hardware is assigned as a member.

Target Hardware Name
The name assigned to this definition of target hardware in the customization dialog.

Target Hardware Type
Indicates the machine type of a System z or 390-CMOS processor.

Target Hardware Mode
LPAR, ESA

Target Hardware Description
Short textual description of this definition of target hardware, defined in the customization dialog.

Initialized Target Systems
(updated dynamically) List of target systems currently initialized to this target hardware. For non-LPAR-mode target hardware, this field lists one or none. For LPAR-mode target hardware, this field can list multiple target systems. This field is blank if no target systems are initialized to this target hardware.

Communication Path Error Status
(updated dynamically) Status information in case of a communication problem between the NetView focal point and the target hardware.

Valid values for the status of the NetView connection path are:

> **SNMP SESSION BUSY**
>> (red) Processor operations cannot presently communicate with the target support element, the problem appears recoverable.
>
> **SNMP SESSION PROBLEM**
>> (red) Processor operations cannot communicate with the target support element.

Last Significant Message
> The last significant message or alert associated with this target hardware.

THW Site Information
> THW location information for this target hardware as defined in the Policy Database.

zBX Extensions
> YES or NO. Indicates if the target hardware has a zBX unit attached.

zBX Management
> YES, NO, n/a. If the target hardware has a zBX attached and is also defined as an ensemble member, the value is YES. If the target hardware has no zBX attached, the value is n/a. If a zBX is attached, but no ensemble membership is defined, the value is NO.

How to Monitor and Control Ensemble connections and zBX resources

If you have defined ensemble connections together with target hardware that has a zBX unit attached, you can use the ProcOps ISQXDST status system to monitor and control the following zEnterprise BladeCenter Extension resources: blade centers, blades, the zBX unit, and the connection to the ensemble HMC, which is the communication end point for the ProcOps.

For a standard ProcOps configuration, with target systems and a ensemble connection to a target hardware with a zBX attachment, use the command form: ISQXDST <ensemble_name> to display the ensemble main selection panel ISQEENS.

For a ProcOps configuration with no target system definitions, the ISQXDST command entered without a parameter is sufficient to display the ensemble main selection panel ISQEENS.

Figure 129. Ensemble Main View

```
ISQEENS            SA z/OS  - Proc-Ops  Ensemble View      Updates: Dynamic
Ensemble(s) 001 to 003 of 003: GRY2ZBX   HYDRA      R35ZBX    ........ ........
Description   : Remote test Ensemble
Real EnsName  : Hydra                     Connection Type   : HTTP
Conn Status   : ACTIVE                    IP Stack          : TCPIP7
HMC Login User : TADDM03                  Lock Holder       :
Poll Frequency : 30                       Cmd Retries       : 3
Poll Retries  : 3                         Cmd Wait          : 15

 (P)rimary, (A)lternate HMC:
P: ensemble.hmc.ibm.com
A: ensemble.hmca.ibm.com


 THW Nodes:        R91:IBM390PS.R91          R93:IBM390PS.R93
                   .........................  .........................
                   .........................  .........................
                   .........................  .........................

 Last Significant Message:



 Enter=Static    PF1=Help   PF2=zBXCntl  PF3=Exit    PF4=ISQXIII    PF5=ISQXCLS
 PF6=Roll        PF10=Previous           PF11=Next                  PF12=Quit
```

The panel has the following PF keys:

- The PF1 key displays the ISQEENS panel help.

- The PF2 key (zBXCntl) invokes the zBX Base Operation Blade View panel to manage zBX resources of the selected THW Node. Place the cursor on one of the 8 ensemble THW Node fields and press PF2. Note, that this function works only for THW node names shown in the format:

`<thwname>:<netid>.<nau>`. For empty fields (....) or node members without a configured HTTP protocol, the zBXcntl function has no effect.

- The PF3 key returns from the ISQEENS panel to the previous panel view.
- The PF4 key schedules the ISQXIII command to initialize the current ensemble connection for execution on the associated ensemble control task. When the ISQXIII command is complete, the Conn Status field will be updated with the latest status.
- The PF5 key schedules the ISQXCLS command to close the current ensemble connection for execution on the associated ensemble control task. When the ISQXCLS command is complete, the Conn Status field will be updated with the latest status.
- The PF6 key invokes the NetView ROLL function.
- The PF10 key selects the ensemble previous to the currently selected one and refreshes the ISQEENS panel with the new selected ensemble. If the ensemble selected is the first one, pressing PF10 selects the last ensemble.
- The PF11 key selects the ensemble next to the currently selected one and refreshes the ISQEENS panel with the new selected ensemble. If the ensemble selected is the last one, pressing PF11 selects the first ensemble.
- The PF12 key terminates the ISQXDST dialog and returns to the NCCF screen.

The Ensemble View panel shows the following specific information:

Connection configuration and status fields

Description
Shows the text you entered in the SA customization dialog as a short description of this ensemble.

Real EnsName
Is the ensemble name defined on the HMC for this ensemble. This name can be different to the ensemble entry name used in ProcOps. SA ProcOps requires the entry names for its operation. Real ensemble names can be longer than 8 character and can contain mixed case characters or blanks. Note, that the real ensemble name is required when you define an ensemble with the SA customization dialog. The real ensemble name is also a supported target parameter of the ISQECMD ensemble command interface.

Conn Status
Current® status of the ensemble connection. Valid status values are:

Table 4. Ensemble Connection Status

Status Value	Color	Meaning
ACTIVE	green	Ensemble connection was successfully established and is currently active.
CLOSED	green	Ensemble connection is currently closed.
CONNECTING	yellow	Ensemble connection initialization failed. It will be retried after the specified polling frequency time period.
DORMANT	green	Ensemble connection not initialized since the last ProcOps start.

Table 4. Ensemble Connection Status (continued)		
Status Value	**Color**	**Meaning**
SUSPENDED	red	The ensemble connection has been suspended and cannot be used until it is resumed again, using the ISQXCON command. No polling is performed while an ensemble connection is suspended.
ENS SESSION PROBLEM	red	The ensemble connection experienced a PROBLEM problem after a successful initialization. If a polling frequency was defined for the connection, ProcOps will try to re-establish the connection at every polling time.

HMC Login User
This is the userid defined on the zEnterprise ensemble HMC, ProcOps uses for its HMC communication. Depending on the userid's task level and resource scope, which is set on the HMC when the userid is defined, zBX resources are accessible to be managed by ProcOps.

Poll frequency, poll retries (for the ensemble HMC connection)
The frequency is defined in minutes and represents the time period between two ensemble connection pollings. A polling frequency value of 0 means that no polling is performed. The frequency value for an ensemble can be set using the SA customization dialog, or at ProcOps runtime with the ISQVARS command. The polling retry value is used by the polling routine to determine if and how often a failing ensemble communication command should be retried before giving up the polling.

Cmd retries, cmd wait (the ensemble HMC connection)
These are general ensemble command control values to define how often a failing ensemble command should be retried before reporting it as failed and how long to wait for a command response from the HMC before reporting a timeout condition. The command retry and command wait values for ensemble commands can be set using the SA customization dialog, or at ProcOps runtime with the ISQVARS command.

Connection Type
Always set to HTTP. ProcOps exploits the System z HMC Web Services API which is a HTTP based IP Stack (alternate to the default stack). If you want to use a different IP stack on the ProcOps FP system for the HTTP communication with the zEnterprise ensemble HMC, you can define this using the SA customization dialog, or at ProcOps runtime with the ISQVARS command. Note, that after you have specified an alternate IP stack at ProcOps runtime, you must recycle the HMC connection to activate this change.

Lock Holder
With ProcOps you can use the ISQXLOC/ISQXUNL commands to lock an ensemble connection, so that only your operator tasks can use it. Other operators or autotasks cannot use the ensemble connection while it is locked. The Lock Holder field shows the name of the operator or autotask, currently holding the lock. Note, that normally locks are set only for a short time period, to gain exclusive control for important ensemble work.

HMC Addresses
In a zEnterprise ensemble environment a primary and an alternate HMC must be configured. The primary HMC's IP address or hostname is required when you define an ensemble in the SA customization dialog. If an alternate HMC address is specified, the ProcOps ensemble connection polling will PING both HMC addresses and report bad results. Note, that in case of an HMC switch (primary becomes alternate) the IP address of the 'old' primary HMC will remain the IP address of the 'new' HMC.

THW Node information

In a zEnterprise ensemble, up to 8 nodes can be defined as members. A node is a IBM zEnterprise (TM) System, with or without a zEnterprise BladeCenter Extension (zBX) attached. In ProcOps, a node is a target hardware (processor) with a membership to an ensemble. The processor and the ensemble membership can be defined using the SA customization dialog.

Panel ISQEENS lists the THW ensemble member nodes in two columns each with four fields. Unused member fields are marked: '........'. If a node is listed in the format <thw>:<netid>.<nau>, means that a zBX is expected to be attached and that management for the zBX resources is intended. This is configured by adding 'HTTP' to the connection protocol list for a processor with the SA configuration dialog. If only the <thw> target hardware name is displayed, the processor target hardware has an ensemble membership defined, however the zBX support protocol 'HTTP' is not configured.

How to Monitor and Control zBX resources

The ISQEZBX panel can be used to query information of the following zBX objects:

- The zBX unit,
- The associated ensemble,
- The rack mounted blade centers,
- The blades mounted in the blade centers

For the mounted blades, the ACTIVATE and DEACTIVATE operations commands are available to manage them. The ISQEZBX panel has no data entry fields. It uses the cursor position on the displayed zBX screen objects to select them for the PF-key assigned functions. Especially the panel operation with a 3270 screen emulator is supported, where you can position the cursor using a pointing device. If your 3270 emulator provides a customizable on-screen keypad function, you can even have the ISQEZBX panel function keys on the keypad, which allows you to control your zBX resources just with a pointing device.

Note: The layout of the view for racks, blade centers, and blades in panel ISQEZBX does not represent the exact physical layout of a zBX and its components, only a schematic view of a zBX is displayed. The blades are not shown in a view that represents their exact physical location in a blade center.

Cursor sensitive panel areas (A ... F)

```
                      F
ISQEZBX   ProcOps zBX Base Operation Blade View
        Ensemble / THW Node Member:    A    / MYCPC
--- Rack:  B  -  B --- Rack: C ---    --- RackD ----
B.1     B.2        C.1        C         n/a      n/a
=o=    D  =p= ...        D    .. =x= ...   ... ... ... ...
-o- ... _X_ ...  =x= ... _P_ ...    ... ... ... ...
_O_ ... -p- ...  -x- ... =p= ...    ... ... ... ...
         ( 14 Rows 8 Columns for detected blades )
... ... ... ...    ... ... ... ...    ... ... ... ...
+-------------------------------------------------------------------
|  E    ( Report window for zBX query information )
+-------------------------------------------------------------------
PF1=Hlp PF2=Reprt PF3=Exit PF4=Act PF5=Deact PF6=Roll PF9=Show/Refr  PF12=Quit
```

Figure 130. ISQEZBX cursor sensitive areas

A Ensemble
Field shows the ensemble name. When cursor selected, an Ensemble report will be displayed in the report window when the PF2 function is performed.

B Racks
The line lists the configurable racks of the zBX in the range rack B to rack D. Available, accessible rack IDs are displayed highlighted. When this line is cursor selected, a PF2 Report function will generate a zBX Unit report and display the results in the report window area.

C **Blade Centers**
The line lists all blade centers detected, when the ISQEZBX panel was invoked. Unavailable blade centers are shown with a name of 'n/a'. Blade centers available are shown with their names. Only the first 6 characters of their names are displayed in this line. If the cursor is positioned on a blade center name field, a PF2 report function will display the report for this blade center in the report window area.

D **Blades**
In this screen area, the mounted blades of a zBX are listed in columns. For each possible rack of a zBX and its two possible blade centers, two blade columns are shown as the display location for the individual blades. If the cursor position is on a mounted blade on one of the columns, the blade center of that column and the rack of the blade center are used to locate the correct zBX blade. The PF2 report function displays the result in the report window area.

E **zBX Report Output Window**
This screen section is used as the output area for the zBX reports. They start all with a AOFBxxxx report id. The remaining report data is shown in a condensed form to make best use of the limited area size. If you wish to see the original zBX report, just position the cursor in the window area and perform PF2. A WINDOW panel is displayed showing the original AOFBxxxx report. If you need help information for a AOFBxxxx report id, use PF1 in the report window area.

F **Any other screen area**
With the cursor on any other area than A to E , performing the PF2 report function has no effects. When you use the PF1 Help function, this panel help will be displayed. Independent from the cursor location you can always perform the PF9 Show/Refresh function.

ISQEZBX Panel Example

```
ISQEZBX          SA z/OS Proc-Ops zBX Base Operation Blade View
Ensemble / THW Node Member: HYDRA / R93
--- Rack B  ---    --- Rack C  ---    --- Rack D  ---    --- Rack E  ---
B.1    B.2         C.1    C.2         D.1    D.2         E.1    n/a
=p= ... ... ...    =p= ... =o= ...    =x= ... =x= ...    _P_ ... ... ...
=p= ... ... ...    =p= ... =p= ...    =x= ... =x= ...    -p- ... ... ...
=x= ... ... ...    =x= ... =x= ...    =x= ... =p= ...    =p= ... ... ...
=x= ... ... ...    =p= ... =o= ...    =p= ... =p= ...    _O_ ... ... ...
=p= ... ... ...    =x= ... =o= ...    =p= ... =p= ...    -o- ... ... ...
=p= ... ... ...    =p= ... =o= ...    =x= ... =p= ...    =o= ... ... ...
=x= ... ... ...    =p= ... =o= ...    =x= ... =p= ...    _X_ ... ... ...
=x= ... ... ...    =x= ... =o= ...    =x= ... =p= ...    -x- ... ... ...
=p= ... ... ...    =p= ... ... ...    =x= ... =p= ...    =x= ... ... ...
=p= ... ... ...    =x= ... ... ...    =x= ... =x= ...    ... ... ... ...
=x= ... ... ...    =p= ... ... ...    =x= ... =x= ...    ... ... ... ...
=x= ... ... ...    =p= ... ... ...    =x= ... =x= ...    ... ... ... ...
=p= ... ... ...    =x= ... ... ...    =x= ... ... ...    ... ... ... ...
=x= ... ... ...    =p= ... ... ...    =x= ... ... ...    ... ... ... ...

AOFB0011 ZBXDATA HYDRA STATUS(SUCCESS) TSTIME(120303085035) HYDRA CPC(R93)
ZBX NAME(2458-001-000000033333) MTYPE(2458) MMODEL(001)
MSERIAL(000000033333) DESC(Represents one zBX) CDPXI50E(6) CISAOPTE(3)
CPOWERE(29) CXE(35) MAXDPXI50E(112) MAXISAOPTE(112) MAXPOWERE(112) MAXXE(112)

 PF1=Hlp PF2=Report PF3=Exit PF4=Act PF5=Deact PF6=Roll PF9=Show/Refr PF12=Quit
```

Figure 131. zBX Base Operation Blade View

In the above ISQEZBX panel snapshot the cursor was positioned on the Rack header line and PF2 key was pressed. As a result a zEnterprise BladeCenter Extension unit report was returned in the ISQEZBX message window area.

Panel ISQEZBX provides the following PF key functions:

- The PF1 key invokes the AOFBxxxx report message specific help function, depending on the cursor position, either the general panel help, or if the cursor position is on the report window.

- The PF2 key executes the specific query command function for this object, if the cursor is positioned on a zBX object line or column. The result is displayed in a special report window at the lower part of the panel. The following ensemble commands are used: ZBXDATA, ENSDATA, BCDATA, and BLDATA.

The reports are presented in a condensed form, however you can use the PF2 function again with the cursor positioned in the report window area to display a new panel with the original report messages. With BCDATA and BLDATA processing, the panel status of the selected blade or blade center object will automatically change to the new status shown in the report if there was a status change. Note, that when you place the cursor on an empty (...) blade column position, an empty report window is shown.

- The PF3 key returns from this panel to the next higher level in the ISQXDST panel hierarchy.

- The PF4 key ACTIVATEs a blade, before the function starts, you must confirm it (PF10) to proceed or cancel (PF11) the request. This function activates the selected blade unit which is located in a Blade Center Chassis of a zBX rack. After a successful activation, the blade status of a BLDATA report (PF2) shows 'operating'. Note, that the zBX VH (virtual host) related to this blade will be automatically activated. The VS (virtual server) objects related to the VH must be extra configured for automatic activation. VSs not configured for automatic activation have a status of 'not-operating' after a successful blade activation. Activating a blade while the blade is still active and work is still running on the virtual servers of that blade, will interrupt this work because the blade is deactivated before it is activated again. The PF4 blade activation calls the ISQROUTE ProcOps function to schedule a ISQECMD with the blade activate ensemble command. This allows the user to perform other ISQEZBX functions immediately after the blade activation has been scheduled. You must use either PF9 or PF2 with the cursor on the blade position to get any blade status change information displayed on the panel.

- The PF5 key DEACTIVATEs a blade, before the function starts, you must confirm it (PF10) to proceed or cancel (PF11) the request. This function deactivates the selected blade unit which is located in a Blade Center Chassis of a zBX rack. After a successful deactivation, the blade status of a BLDATA report (PF2) shows 'no-power'. Note, that the zBX VH (virtual host) related to this blade will be automatically deactivated. The VS (virtual server) objects related to the VH will automatically be deactivated and any work running is disrupted. After successful deactivation of a blade, the related VS objects have a status of 'not-operating'. The PF5 blade deactivation calls the ISQROUTE ProcOps function to schedule a ISQECMD with the blade deactivate ensemble command. This allows the user to perform other ISQEZBX functions immediately after the blade activation has been scheduled. You must use either PF9 or PF2 with the cursor on the blade position to get any blade status change information displayed on the panel.

- The PF6 key invokes the NetView ROLL function

- The PF9 key invokes the zBX Show/Refresh function. When panel ISQEZBX is initially displayed in a panel session, the list of the mounted blades on the zBX is empty. The initial panel display shows the available racks highlighted with their available blade center names displayed. The PF9 function must be performed first to fill the blades columns with the available mounted blade information. The PF9 function can also be used to refresh all blade columns.

- The PF12 key (Quit) returns from ISQEZBX panel and exit ISQXDST. This returns you to the NCCF screen.

Acceptable status properties for blades

With the exception of racks and workloads, the possible status values of other zBX objects can be configured to be an 'ACCEPTED' status. zBX objects with this status attribute set can be considered as not requiring special attention, regardless of their actual status. In fact, the HMC user interface marks all zBX objects in an acceptable status with a green status indicator. You can use the HMC Ensemble Management task and set/unset the accepted status marker for a status value using the zBX object's Details view. Press the apply button to activate the changes.

The ISQEZBX panel displays all blades with the accepted status property set in green. The accepted status properties for blades are also shown in the AOFB0016 BLDATA reports. Acceptable status properties for other zBX objects than blades are currently ignored by the ISQEZBX panel display, but can be determined in the reports.

Blade type and status indicators

The following blade status indicators are shown in the rows/columns reserved for the zBX blades:

- Indicates an empty place, no blade is mounted:

    ... (color blue)

- Indicators for a mounted blade of type 'system-x':

    =x= (color green, status is accepted)
    -x- (color yellow reverse, status is transient)
    _X_ (color red reverse, status is unaccepted)

- Indicators for a mounted blade of type 'power':

    =p= (color green, status is accepted)
    -p- (color yellow reverse, status is transient)
    _P_ (color red reverse, status is unaccepted)

- Indicators for a mounted optimizer hardware component of type 'isaopt' or 'dpxi50z':

    =o= (color green, status is accepted)
    -o- (color yellow reverse, status is transient)
    _O_ (color red reverse, status is unaccepted)

How to Monitor Communications Path Status

The communications paths from the processor operations focal point system to target systems are of two types: NVC and SNMP. You can display details of the connection for these types of path.

Display Path Details

Press PF11 on the Target System Summary panel or Target Hardware Summary panel to display the Path Detail Panel, as shown in .

```
ISQEPNVC              SA z/OS PATH Detail        Updates: Dynamic

 Target Hardware Name: RAP2               Connection Type: SNMP

 Network ID         : IBM390PS       LU Name        : TEST99
 IP
Stack              :
 Support Element IP Address or Hostname:
 196.168.11.9
 Hardware Management Console IP Address or Hostname:
 196.168.11.11

 Connection Authorization: PROCOPS    Lock Holder    :
 SNMPv3 Security          : Y
 SNMPv3 User              : SNMPUSER1
 PATH Status              : DORMANT

 Poll Frequency : 30               Poll Retries   :
2

 Last Significant Message:



 Enter=Static          PF1=Help        PF3=Exit        PF6=Roll
 PF7=Oper List         PF12=Quit
```

Figure 132. Path Detail Panel

The Path Detail panel shows the following information:

Target Hardware Name
The name assigned in the customization dialog for the processor that this connection path details belong to.

Connection Type
Type of path assigned in the customization dialog to be used for communication between the processor operations focal point and the target hardware. Connection types can be the following:

SNMP

IP-based communications protocol that requires that the address information for either SE or HMC are defined. If both addresses are customized in the customization dialog, the SE address has priority.

NVC

SNA-based communications protocol that requires the CPC SNA address.

LU Name

The NAU part of the CPC SNA address, which is also the logical unit name assigned to the NetView connection path.

Network ID

The NETID part of the CPC SNA address, which is also the name of the SNA network ID for the NetView connection.

Support Element IP Address or Hostname

The name or IP address assigned in the customization dialog to the SE of this target hardware.

Hardware Management Console IP Address or Hostname

The name or IP address assigned in the customization dialog to the HMC of this target hardware.

Connection Authorization

In case of an NVC connection, the authorization token is displayed. For SNMP connections the community value is shown. The authorization values are defined in the customization dialog for a selected target hardware.

Lock Holder

(Updated dynamically) The current NetView operator owning the lock for the connection path. Locks can be set and unset using the ISQXLOC and ISQXUNL command. Locks grant the exclusive use of a connection path.

SNMPv3 Security

SNMPv3 security status.

Y

The connection is SNMPv3 and authenticated by SNMPv3 User and Password.

N

The connection is SNMPv2 and authenticated by the community name (**Connection Authorization**).

SNMPv3 User

SNMPv3 User specified for the connection.

Path Status

(Updated dynamically) The status of the NetView path. Valid values are:

UNKNOWN

(Green) No command was ever issued to this path name.

ACTIVE

(Green) The path is ready for communications.

PATH PROBLEM

(Red) The focal point system cannot communicate with the Support Element on the NetView connection. This status is accompanied by a Last Significant Message.

Poll Frequency

The time (in minutes) that processor operations should poll the Support Element for status.

Poll Retries

(Updated dynamically) The number of attempts to retry that should occur before processor operations notifies the operator that the connection failed.

Note: Updates for 'Path Poll Frequency' (pollfreq) or 'Path Poll Retries' (pollrtry) have no impact on the polling task; to effectively change these values, the update must be performed in the SA z/OS customization dialog Processor Information panel (AOFGCPD0); afterwards, rebuild and reload the Automation Control File (ACF) and restart processor operations.

Last Significant Message

(Updated dynamically) The text of the last command response or report received from the target system. The text of the message is truncated to 79 characters, including the message identifier but not including the time stamp. The message is not removed from the panel when the condition that generated the message is resolved.

ISQXIII
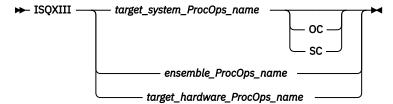
Purpose

The ISQXIII command initializes (or re-initializes) a target system, or a target system connection. When initializing a target system, ISQXIII establishes a connection to the target processor and enables its console connections.

When initializing a target hardware, ISQXIII establishes a connection to the target processor and enables the console connection for all target systems defined that run on the specified target hardware.

In addition, this command can be used to establish a session to an Ensemble HMC, which is required to manage zBX Blade resources with ProcOps.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed target system must have a status of UNKNOWN or CLOSED.
- The addressed target system must be initialized if you use the
  target_system_ProcOps_nameconsole_designator syntax.
- No associated console or ensemble connection can be locked by another task.

Parameters

target_system_ProcOps_name
Is the name of the target system. This is a required parameter, and must be a valid target system name.

OC
Specifies the active operator console (not valid for the coupling facility).

SC
Specifies the system console connection.

ensemble_ProcOps_name
Is the ProcOps name of a zBX Ensemble.

target_hardware_ProcOps_name
Is the name of the target hardware. This is a required parameter, and must be a valid target hardware name.

Defaults

None.

Usage

Issue the ISQXIII command to a target system to prepare it for processor operations monitoring and control.

Issue the ISQXIII command to a zBX ensemble HMC to prepare it for processor operations monitoring and control.

Issue the ISQXIII command to a target hardware to prepare it and all defined target systems for processor operations monitoring and control.

Restrictions and Limitations

The following restrictions or limitations apply:

- To re-initialize a target system, you must first close it with the ISQXCLS command (see "ISQXCLS" on page 327).
- To initialize a console connection, the target system must have been initialized previously.
- To re-initialize an ensemble session, you must first close it with the ISQXCLS command.

Return Codes

0

The ISQXIII command processed successfully and the processor operations environment for the specified target system or ensemble has been initialized or re-initialized.

4

During initialization of a target system or ensemble one or more of the following problems occurred:

- No system consoles could be contacted.
- No operator consoles could be contacted.
- No ensemble HMC could be contacted.

8

You used syntax that is not valid, specified a target system that is not initialized, or specified an invalid ensemble name.

12

An internal error occurred or connection path status is SUSPENDED to either the processor hardware (SE/HMC) or ensemble HMC.

16

A severe error occurred.

32

The processor operations environment does not exist; the ISQXIII command was not processed.

Initializing a Target System

Initializing a target system starts communication with the target hardware and enables the console connections. It also updates the interested operator lists for consoles at the target system. The interested operator lists are updated because an operator can join an interested operator list by issuing the ISQXMON command after processor operations has been started but before the target system has been initialized.

Initializing an Ensemble HMC Connection

Initializing this connection starts by logging in at the addressed Ensemble HMC. It then starts to discover the zBX base resources such as blades, available for monitoring and control, using this ensemble connection. The defined userid for this ensemble remains connected to the HMC, until an ISQXCLS is performed or processor operations is eliminated.

Operators can use the ISQXMON command to join/leave the interested operator group of an ensemble to get notifications and reports from the ensemble and its resources.

Initializing a Target Hardware
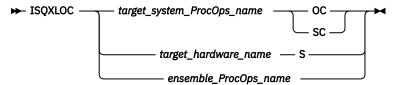
Using this command form allows you to initialize target systems of a target hardware defined to ProcOps in one step. The individual ISQXIII commands for target systems are scheduled to run on the ProcOps control task of the target hardware. When a target system is already INITIALIZED while ISQXIII for a target hardware is running, it is ignored.

ISQXLOC

Purpose

The ISQXLOC command locks access to a ProcOps entity to serialize operations to that console with other operator tasks. Entities can be either target system names together with a console designator or ensemble names.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The entity must not be locked by another task.
- The target_system_ProcOps_name syntax requires that the addressed target system be initialized.

Parameters

target_system_ProcOps_name
  Is the name of the target system.

  OC
    Specifies the active operator console (not valid for the coupling facility).

  SC
    Specifies the active system console (not valid for the OCF-based processors).

target_hardware_name
  Is the name of the target hardware.

  S
    Specifies the active system console.

ensemble_ProcOps_name
  Is the ProcOps name of a zBX ensemble.

Defaults

None.

Usage

All processor operations commands that require serialization automatically lock the entity when they start and unlock the entity when they complete.

The lock prevents processor operations from sending requests to an entity —they are rejected unless issued by the same task that issued the ISQXLOC command—until the lock is removed by the ISQXUNL command (see "ISQXUNL" on page 360).

If you are going to issue several commands to an entity, you can issue the ISQXLOC command to lock access to the entity to ensure the commands are processed without interruption by commands from other tasks. When you are finished with this sequence of commands, issue the ISQXUNL command to unlock access to the entity.

If the ISQXLOC command is issued within an automation procedure, or within a set of called automation procedures, the locked entity should be unlocked (using the ISQXUNL command) after all processing of the automation procedure is completed. It is not normally necessary to lock an entity for the processing of an automation procedure because of the serialization of the ISQEXEC command.

Any change in lock status is reflected in the status facility.

Restrictions and Limitations

The following restrictions or limitations apply to this command:

- The parameters are not checked for validity.
- Once obtained by a task, another task cannot obtain the lock until it is released by the owning task.
- An ISQXLOC command issued from within a locked sequence of commands is rejected.

Return Codes

0
   The ISQXLOC command completed successfully.

4
   The entity was already locked by the current task.

8
   You used syntax that is not valid, specified an entity that is not valid, or in the case that the entity is a target system, it is not initialized.

12
   The entity is locked by another task.

32
   The processor operations environment does not exist; the ISQXLOC command was not processed.

Any return codes greater than 8 that are not listed above indicate that an error occurred in the NetView CNMLOCK service.

ISQXMON

Purpose

The ISQXMON command adds you to or deletes you from the interested operator list for a target system console or an ensemble. When added, you can monitor a console and receive all message traffic from the target system or ensemble.
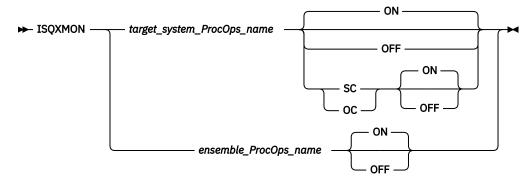
The following messages are sent to the interested operator's NetView screen:

- Operating system messages from target systems (target systems only)
- Processor hardware messages (target hardware only)
- Hardware status or Ensemble object status changes
- Command completion messages from the processor hardware or ensemble
- Query command responses from the processor hardware or ensemble

For target system and target hardware entities, messages for interested operators are all prefixed with the message ID ISQ901I and are copies of the original ISQ900I messages that ProcOps provides for its internal processing and automation.

For ensembles, messages for interested operators are prefixed with the message ID ISQ801I and are copies of the original ISQ800I messages that ProcOps provide for its internal processing and automation.

Syntax

Requirements

Processor operations must be active.

Parameters

target_system_ProcOps_name
Is the name of the target system you want to monitor. The name must be a valid target system name.

If the specified target system is a logical partition, you will receive messages from other LPARs running on the same target hardware if they are defined in your active ProcOps control file. The target system must be operational and its ProcOps status must not be UNKNOWN or CLOSED.

ON
Indicates that you are to be added to the list of interested operators.

OFF
Indicates that you are to be deleted from the list of interested operators.

SC
Specifies the hardware connection that includes the operating system console and the hardware system console functions.

OC
Specific operator console connection (no longer supported, message ISQ042I will be issued when specified).

ensemble_ProcOps_name
Is the name of the ensemble you want to monitor. The name must be a valid ensemble name.

ON
Indicates that you are to be added to the list of interested operators.

OFF
Indicates that you are to be deleted from the list of interested operators.

Defaults

ON.

Usage

The ISQXMON command may be issued at any time after processor operations has been started.

For target systems: Interested operator lists are maintained per console connection. There is one list for each target system. System console and operator console functions are supported. The maximum number of interested operators is 12 per connection (but only 10 can be specified through the configuration dialogs).

As an alternative to ISQXMON, clist script ISQGMSRT is available as a sample application. Member INGEI002 in your SINGSAMP library contains the REXX source code, together with the instructions to install and use the application. ISQGMSRT allows you to maintain interested operator lists for single target systems and to colorize the ISQ901I messages.

For ensembles: Interested operator lists for ensembles cannot be pre-defined using the configuration dialogs. If you are interested in messages from ensemble objects to be displayed on your screen, you must first use ISQXMON to receive them, after ProcOps is started.

Restrictions and Limitations

The following restrictions or limitations apply:

- Issuing ISQXMON ON for a target system running on a target hardware in LPAR mode has the effect that you will receive messages from other target systems that are running on the same target hardware.
- Issuing ISQXMON OFF for a target system running on a target hardware in LPAR mode has the effect that, as long as other target systems on that hardware still have set ISQXMON ON, you will receive messages from all target systems that share the connection.
- There is a maximum of 12 interested operators per console.
- A NetView group name cannot be added or removed from a list with the ISQXMON command.
- There can be no more than 256 unique operator names in all interested operator lists.
- ISQ901I messages sent to the interested operators are suppressed in the NetView log by ProcOps.
- ISQ801I messages sent to the interested operators are suppressed in the NetView log by ProcOps

Return Codes

0

The ISQXMON command processed successfully. The operator who issued the ISQXMON command has been added to or deleted from the interested operators list of the specified console, as requested.

4

You specified incorrect command syntax.

6

The interested operator list is full.

8

You specified a NetView group name for the list to which you want to be added as an interested operator.

16

An internal error occurred.

32

The processor operations environment does not exist; the ISQXMON command was not processed.

ISQXOPT

Purpose

The ISQXOPT command displays target system information. Some information can be changed at this panel.

Syntax

▶▶── ISQXOPT ── *target_system_ProcOps_name* ──▶◀

Requirements

Processor operations must be active.

Parameters

target_system_ProcOps_name
    Is the name of the target system. It must be a valid target system name of 8 characters or less.

Defaults

None.

Usage

Issue ISQXOPT `target_system_ProcOps_name` to display a full-screen panel that shows the values of the variables that define the operation of a specific target system, such as initial program load parameters and the responses to IPL messages. The following fields cannot be modified:

- Hardware mode
- Partition
- Target mode
- Operating system
- Hardware type
- Automatic response selection

Examples of this panel are shown in the following:

- Figure 133 on page 357 in basic-mode using an OCF-based processor
- Figure 134 on page 357 in LPAR mode using an OCF-based processor

```
ISQHOPT        SA z/OS - Target System Options

    Modifiable options specified for target system     KEY6B
Hardware Mode:      Basic Mode Target Mode:    ESA        ...
                                       ... Time Offset: +00
Operating System:   MVS        Hardware Type: eServer
Target description: KEY6 on Basic Mode HW

 Image Profile Name    KEY6
 Load Profile Name
 Reset Profile Name    KEY6BSC

 Auto resp sel         Y

Response to IEA101A:

Response to IEA347A:

Required addresses:


PF1= Help PF3= End PF6= Roll Enter= Process changes
```

Figure 133. Sample System Options Panel for an OCF-Based Processor in a Basic-Mode MVS Target System

```
ISQHOPT1       SA z/OS - Target System Options

  Modifiable options specified for target system    KEY6

Hardware Mode:    LPAR Partition:     KEY6 Target Mode: ESA
Operating System: MVS  Hardware Type: 9672 Time Offset: +00

Target description:

 Image Profile Name    KEY6
 Load Profile Name
 Reset Profile Name
 Secondary OCF Name    KEY6

 Auto resp sel         Y                        ...
                ... (Only valid for Operating System MVS)

Response to IEA101A:

Response to IEA347A:

Required addresses:

PF1= Help PF3= End PF6= Roll Enter= Process changes
```

Figure 134. Sample System Options Panel for an OCF-Based Processor in LPAR-Mode MVS Target System

Issuing this command for a non-existent target system results in a panel for a Basic-mode system with a message that the specified target system does not exist. You can recover from this condition by simply typing in the name of the desired target system in the first field of the panel and pressing the Enter key. You can also type over the name of a valid target system on a valid panel and press the Enter key to change the display to that for a different target system.

Some variables can be changed by typing a new value over the old value and pressing Enter. When the variable is updated, the ISQXOPT panel is displayed again and another variable can be updated.

The information contained in the panel is retrieved, and the NetView View command presents the panel. The information you enter is checked and error messages are generated if the information is not valid. These error messages, which identify the field with the problem, are displayed on a separate panel that shows all error messages for all fields.

Restrictions and Limitations

- You cannot issue the ISQXOPT command from within a program.
- You must issue the ISQXOPT command from an NCCF command line.

Return Codes
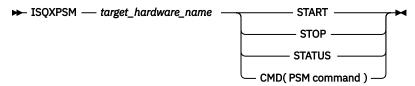
Return codes are not applicable because you cannot issue this command from within a program.

ISQXPSM
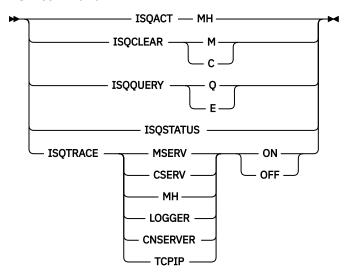
Purpose

The ISQXPSM command starts and stops the ProcOps Service Machine (PSM) or returns its VM CP status from the system where it is running. In addition, PSM commands can be forwarded to the PSM for execution with this command.

Syntax

```
►► ISQXPSM ── target_hardware_name ──┬── START ──┬──►◄
                                      ├── STOP ───┤
                                      ├── STATUS ─┤
                                      └─ CMD( PSM command ) ─┘
```

PSM command

```
►►──┬─── ISQACT ─── MH ──────────────────────────►◄
    ├─── ISQCLEAR ──┬── M ──┤
    │               └── C ──┘
    ├─── ISQQUERY ──┬── Q ──┤
    │               └── E ──┘
    ├─────── ISQSTATUS ──────┤
    └─ ISQTRACE ─┬── MSERV ───┬──┬── ON ──┐
                 ├── CSERV ───┤  └── OFF ──┘
                 ├── MH ──────┤
                 ├── LOGGER ──┤
                 ├── CNSERVER ┤
                 └── TCPIP ───┘
```

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- To issue a START, STOP, or STATUS command:
  1. The hosting VM system and the PSM name must be defined in ProcOps.
  2. The VM host system of the PSM, associated with the specified *target_hardware_name*, must have been initialized with the ProcOps ISQXIII command.
  3. A VM user, having the authority to issue XAUTOLOG, FORCE, and QUERY commands, must be logged on to the console via SE/HMC.
- To issue a CMD command, the PSM must be active.

Parameters

target_hardware_name
>   The name of a processor of type PSM.

START

Starts the PSM virtual machine that is specified in *target_hardware_name*.

STOP

Stops the PSM virtual machine that is specified in *target_hardware_name*.

STATUS

Returns the VM CP status for the PSM virtual machine that is specified in *target_hardware_name*.

CMD

Forwards a PSM command to the ProcOps Service Machine of the specified target hardware for execution and returns the result.

PSM command

One of the PSM diagnosis and service commands that is listed in the syntax fragment, see Chapter 9, "PSM Commands - Special Requests," on page 479 for more details.

Defaults

None.

Usage

See Chapter 9, "PSM Commands - Special Requests," on page 479 for information about the PSM commands that are available.

Restrictions and Limitations

Only a subset of the available PSM commands can be used with the CMD option of ISQXPSM. To use the full set of commands, a VM user must be logged on as PSM and enter the commands at the PSM console.

The following commands can only be entered from the PSM console directly:

- ISQMSG
- ISQPSM
- STOPALL

Return Codes

0

The ISQXPSM command completed successfully.

4

One of the following occurred:

- No VM host system has been defined for this PSM.
- The PSM's VM host target system has not initialized.
- The PSM has not been defined for the specified target hardware.
- The specified target hardware type is not PSM.
- There is an error in the parameter list.

6

Authorization error. Either the user ID that was checked to access the specified target hardware has not been authorized, or the allowed access level is not sufficient.

8

One of the following occurred:

- ISQSEND returned an error while processing a START, STOP, or STATUS request.
- An error occurred while waiting for the response of a START, STOP, or STATUS request.

32
> The ProcOps environment does not exist; the ISQXPSM command was not processed.
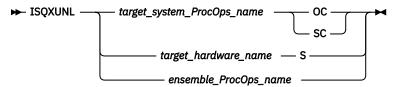
ISQXUNL

Purpose

The ISQXUNL command cancels a ProcOps entity lock instituted by the ISQXLOC command. Entities can be either target system names together with a console designator or ensemble names.

Syntax

```
►► ISQXUNL ─┬─ target_system_ProcOps_name ──┬─ OC ─┬──►◄
            │                               └─ SC ─┘
            ├─ target_hardware_name ── S ───────────┤
            └─ ensemble_ProcOps_name ───────────────┘
```

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed entity must not be locked by another task.
- The *target_system_ProcOps_name* entity requires that the addressed target system be initialized.

Parameters

target_system_ProcOps_name
> Is the name of the target system for the specified console.

> **OC**
>> Specifies the active operator console (not valid for the coupling facility).

> **SC**
>> Specifies the active system console (not valid for OCF-based processors).

target_hardware_name
> Is the name of the target hardware.

> **S**
>> Specifies the active system console.

ensemble_ProcOps_name
> Is the name of the ProcOps name of a zBX Ensemble.

Defaults

None.

Usage

The ISQXUNL command removes a entity lock established by the ISQXLOC command (see "ISQXLOC" on page 352). Any change in lock status is reflected in the status facility.

Restrictions and Limitations

The ISQXUNL command is effective only when issued from the same task that issued ISQXLOC to establish the entity lock.

Return Codes

0

The ISQXUNL command completed successfully.

4

The specified entity was not locked.

8

One of the following was specified:

- Invalid syntax
- Invalid entity name
- Target system entity that is not initialized

12

The console is locked by another task.

32

The processor operations environment does not exist; the ISQXUNL command was not processed.

For return codes greater than 12 that are not listed, a NetView CNMLOCK service problem occurred.

Chapter 7. Common Commands
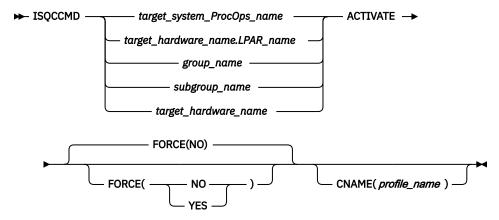
Common commands are preceded by the ISQCCMD command (described in detail on page "ISQCCMD" on page 287). Use common commands in APIs whenever possible because they provide a single product image across various hardware and software implementations. Regardless of the processor type or the operating system running at your target system, the common command is the same. This can potentially minimize the need for future modifications to your automation routines should you modify or upgrade your processor hardware or operating system type.

ACTIVATE

Purpose

The ACTIVATE command causes the target system to perform a complete initialization. This initialization extends from a power-on reset to performing the initial program load process.

Syntax

```
▶▶─ ISQCCMD ─┬─ target_system_ProcOps_name ──┬─ ACTIVATE ─▶
             ├─ target_hardware_name.LPAR_name ─┤
             ├─ group_name ───────────────────┤
             ├─ subgroup_name ────────────────┤
             └─ target_hardware_name ──────────┘

       ┌─────────── FORCE(NO) ───────────┐
▶──────┼─────────────────────────────────┼──┬──────────────────────────┬─▶◀
       └─ FORCE( ─┬─ NO ──┬─ ) ──────────┘  └─ CNAME( profile_name ) ──┘
                  └─ YES ─┘
```

Requirements

The requirements for the ACTIVATE command to complete successfully are:

- Processor operations must be active.
- The addressed target system must have a status of UNKNOWN, CLOSED, or INITIALIZED for the default setting of FORCE(NO) to work. See Examples for a list of status settings.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, *subgroup_name*, and *target_hardware_name* see "ISQCCMD" on page 287.

FORCE
Requests conditional processing of commands that are disruptive to the operating system control program and application work that is in progress. Use of this operand is based on the operating state of the target processor.

NO
Specifies that processing of the command is to continue *only* if the target CPU control program is not in the operating state. Specify FORCE(NO) in a situation where you would *not* want to disrupt the control program work-in-progress.

YES
Specifies that processing of the command is to continue *even* if the target CPU control program is in the operating state. Specify FORCE(YES) in a situation where disruption of the control program work-in-progress is not important, such as in recovery situations.

FORCE(NO) requires that the associated command *fails* when useful work is taking place. For ACTIVATE, *fail* states occur if an operating mode is detected and FORCE(NO) is specified, or when FORCE defaults to NO. The command fails whenever the processor is in those states.

CNAME
Specifies the name of an image or reset profile to be sent to the processor's support element.

For image activation, it is recommended to let processor operations select the profile name automatically rather than overriding processor operations's selection with the *profile_name* parameter. If specified, the operand must match the *target_hardware_name.LPAR_name*.

For CPC activation, as indicated by *target_hardware_name*, SA z/OS uses the reset profile in the ACTIVATE operations management command that is sent to the support element. If this keyword is not used, SA z/OS selects the activation reset profile that is specified in the configuration dialog for *target_hardware_name*. If an activation reset profile was not specified in the configuration dialog, SA z/OS selects the default activation reset profile that is specified with the CCNTL common command or on the support element directly.

profile_name
Indicates the name of the image or reset profile. It is recommended that you let processor operations select the profile name automatically rather than overriding processor operations' selection with the *profile_name* parameter.

Usage

Caution: The ACTIVATE command can be very disruptive when you specify FORCE(YES), so use this command carefully. The SA z/OS processor operations status facility only knows about status changes that are performed from within SA z/OS. If you load and start a target system's operating system outside of SA z/OS (such as from the SA z/OS processor operations passthru facility or from the console at the remote target system) rather than by using the SA z/OS commands, SA z/OS does not know that the status of the target system has changed.

The effect of the ACTIVATE FORCE keyword applies only to target systems that are defined to SA z/OS. Because SA z/OS does not know that the target system was activated from outside of SA z/OS, it considers the target system status to be UNKNOWN. The functions performed by the ACTIVATE common command will disrupt the operating system even if you specify the FORCE(NO) option, because the SA z/OS status facility does not indicate that the target system is already initialized and running.

If you do not specify FORCE(YES):

- The ACTIVATE command checks whether the same logical partition name is in use by another target system. If so, the ACTIVATE command is rejected; if not, processing continues.
- The ACTIVATE command also checks target hardware that is not logically partitioned to see if the target hardware is in use by another target system. If so, the ACTIVATE command is rejected; if not, processing continues.

ACTIVATE processing can also produce the result that more target systems are affected than the one explicitly specified in the command or those included in a target group or subgroup specified in the command. The additional target systems are CPC images on a processor in LPAR mode. These additional target systems are activated when a Reset or Image profile specifies additional profile names in the AUTOACT operand. To avoid unintended activations, operators should be kept aware of the linkages between profiles.

Using either scheduled requests or auto-activated logical partitions causes SA z/OS to receive "unsolicited" responses from one or more target systems. SA z/OS uses these responses to update its status information and to attempt to initialize the corresponding target systems.

When you specify FORCE(YES):

- The ACTIVATE command overrules the requirement that a target system must have a status of UNKNOWN, CLOSED, or INITIALIZED.
- Processing of the ACTIVATE command is performed even if the target system has a status condition of IPL COMPLETE, IPL FAILED, LOAD FAILED, or one of the WAITING FOR...MESSAGE conditions.

The ACTIVATE command performs only the processing that is required. For example, it performs a power-on reset only when required, and it does not initialize a target system that is already initialized correctly.

Remember: A real THW can only do one ACTIVATE at any time. On a VM system, no such restriction applies and no serialization is done.

Restrictions and Limitations

The ACTIVATE command does not perform resource requirement checks.

The default form of the ACTIVATE command is rejected if the addressed target system has a status other than UNKNOWN, CLOSED, or INITIALIZED.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

ACTIVATE of VM Guest Systems

Purpose

If a target system running on a guest machine is part of an ACTIVATE request, this results in an XAUTOLOG command being issued to the VM system. This starts the guest machine using the profile defined for it in VM. This profile usually causes a guest operating system (MVS, LINUX, VSE, VM) to be loaded, but it is possible that no IPL command is executed. This corresponds to the use of a hardware profile where no automatic IPL is done. For an MVS target system the RUN state of the VM guest machine is set to ON.

Parameters

FORCE(YES)
> A CP FORCE command is issued to the VM system to stop the guest, if the guest is currently active. Then CP XAUTOLOG is issued to start the guest again.

FORCE(NO)
> Guest status is checked. If the guest is known to be NOT OPERATING then a CP FORCE command is issued to stop the guest.
>
> CP XAUTOLOG is issued. This means if the guest is already started (logged on) and known to be processing normally, the ACTIVATE command is rejected.

Restrictions and Limitations

The CNAME parameter is not supported.
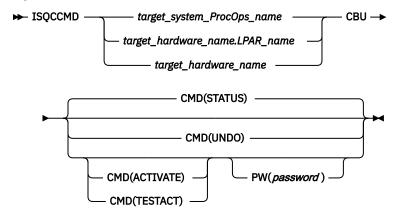
CBU

Purpose

The CBU command causes the target hardware processor to perform the specified capacity backup (CBU) function if available.

With the CBU command you can temporarily increase the central processor (CP) capacity of your central processor complex (CPC). In case of an outage, which may have reduced your overall processor capacity, additional workload can be processed on that CPC.

Syntax

Requirements

The requirements for the CBU command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.
- For UNDO, ACTIVATE, and TESTACT, the SE of the target hardware must have Capacity backup set to 'Enabled' in the Customize Console Services window (Console Workplace 2.10 and later versions). This applies to ACTIVATE and TESTACT regardless of whether the CBU activation password is provided or not.

  With Console Workplace 2.10 and later versions, for ACTIVATE and TESTACT, the CBU records must be loaded on the SE of the target hardware. Multiple CBU records are supported.
- With Console Workplace 2.10 and later versions, for ACTIVATE, TESTACT and UNDO, the flag 'Allow capacity change API requests' must be set in 'Customize API Settings' on the SE.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CBU
> Indicates the CBU command function to be executed.

> **CMD**
> > The command to be executed

> **STATUS**
> > Returns the current status of the CBU facility of the addressed CPC. The possible status values returned are:

> > **AVAILABLE**
> > > CBU is installed on the CPC.

> > **ACTIVATED**
> > > CBU is started through ACTIVATE command.

> > **NOT_ACTIVATED**
> > > CBU is installed but not activated.

NOT_ENABLED
    CBU is installed but not enabled.

NOT_INSTALLED
    CBU is not installed on the CPC.

UNAVAILABLE
    CBU is installed but no longer available.

In addition, if the CBU Status is ACTIVATED, the activation and expiration dates are returned. The expiration date corresponds to the capacity record expiration date.

The ISQCCMD response message ISQ464I contains the status report.

ACTIVATE
    Activates the previously installed and enabled CBU.

    For Console Workplace 2.10 and later versions: Multiple CBU records can exist on the SE. In this case, the decision logic is as follows:

    • If one of the CBU records is marked as Default, CBU Activate works with this record.

    • If none of the CBU records is marked as Default, CBU Activate works with the 'oldest' CBU record.

    This Logic applies for TESTACT as well. Note that with the CBU common command, it is NOT possible to select a specific CBU record.

TESTACT
    Activates the previously installed and enabled CBU in test mode.

UNDO
    Deactivates a previously activated CBU to the regular configuration. Note that this function is not available on all CPCs supporting CBU. If the UNDO command fails, the regular CPC configuration must be restored by performing a POWERON-RESET of the CPC.

    For Console Workplace 2.10 and later versions: Multiple CBU records can exist on the SE. In this case, the decision logic for the UNDO command is as follows:

    • If one of the CBU records is marked as Default, CBU Undo works with this record.

    • If none of the CBU records is marked as Default, CBU Undo works with the 'oldest' CBU record.

PW
    The CBU activation password for ACTIVATE or TESTACT. If provided, this password is used for CBU activation instead of calling the Remote Service Facility (RSF).

    For Console Workplace 2.10 and later versions: The CBU activation password is no longer supported. If provided, it is ignored.

Defaults

The default of the CBU command is CMD(STATUS).

Usage

Issue the CBU command to temporarily increase the central processor (CP) capacity of your central processor complex (CPC). The increased capacity may require to update your CPC's activation profiles, so that the additional processor resources can be used in your processor configuration.

Note that the term *Console Workplace* refers to the title line, that is displayed in the Main Application Window of each CPC Support Element. The following lists the SE Workplace Version numbers and their related IBM System names:

    2.14: IBM z14
    2.13: IBM z13
    2.12: IBM zEC12
    2.11: IBM z196

      `2.10`: IBM z10

For more information about CBU, see *System z Capacity on Demand User's Guide* or *Capacity Backup User's Guide,* available for the particular System z on IBM Resource Link®.

Restrictions and Limitations

The CBU common command is only supported for SNMP connections. When issuing a CBU request for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.
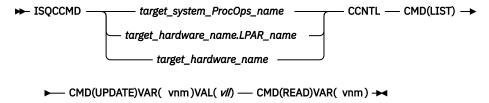
CCNTL

Purpose
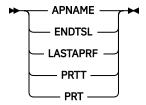
The CCNTL commands let you modify function assignments or settings related to the central processor complex (CPC), or list the current values of CPC attribute variables:

- List or set: APNAME, ENDTSL, PPRT, and PRT
- List: LASTAPRF

Syntax

vnm:

Requirements

The requirements for the CCNTL command to complete successfully are:

Processor operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, and *target_hardware_name.LPAR_name*, see "ISQCCMD" on page 287.

CMD
> The CPC control command that is to be executed.
>
> **LIST**
> > Returns a list of the current CPC control variable settings in a AOFA0006 response report from the target hardware.
> >
> > Only variables supported by the target processor type are shown in the response report. Other read errors are marked as 'ReadErr:xxx' in the variable's value field.
>
> **UPDATE**
> > Changes the value of the specified image control variable and returns a AOFA0006 response report.
> >
> > Only variables supported by the target processor type can be updated. An update error is marked as 'WriteErr:xxx' in the variable's value field.
>
> **READ**
> > Returns the current setting of the specified CPC control variable in a AOFA0006 response report. A read error is marked as 'ReadErr:xxx' in the variable's value field.

VAR
> CPC control variable name vnm.
>
> **APNAME**
> > Name of the reset activation profile to be used for the next CPC activation.
>
> *vll*
> > Profile name can have a maximum length of 19 alpha-numeric characters.
>
> **ENDTSL**
> > Flag to indicate it for the shared logical processors on the addressed CPC the processor runtime timeslice (PRT) should end in case a processor enters a wait state.
>
> *vll*
> > NO - Processor timeslice is not ended.
> >
> > YES - Processor timeslice is ended.
>
> **LASTAPRF**
> > Name of the last profile used to ACTIVATE the CPC from the console (SE/HMC). This can only be the name of a RESET type activation profile. This is a READONLY variable.
>
> *vll*
> > Profile name can have a maximum length of 19 alpha-numeric characters.
>
> **PRTT**
> > Processor runtime type. Available types are 'System controlled' or 'User controlled'.
>
> *vll*
> > 0 - System controlled processor runtime.
> >
> > 1 - User controlled processor runtime.
>
> **PRT**
> > Processor runtime value. Denotes the constant amount of time in milliseconds, a shared logical processor gets time to perform work before being redispatched.
>
> *vll*
> > 1-100 is the allowed numeric value range.

Defaults

Command LIST.

Usage

Use this command to control the set of z System API variables for the addressed CPC. Any change goes into effect immediately. Note, that only in 'User controlled' processor runtime mode, ENDTSL and PRT settings go actually into effect.

Use APNAME to control the default activation profile assignments of a CPC. You can prepare CPC configuration changes, such as changes in the IOCDS, in a separate RESET activation profile, then use this profile for the next CPC activation, and if successful use CCNTL to set it as new default activation profile.

Note, that in the processor policy of SA z/OS customization dialog, you can define a RESET activation profile to be used for a target hardware (CPC) activation. This is ProcOps specific and overrides the profile assignment made with CCNTL.

The RESET activation profile name that can be changed using CCNTL is the default name that is provided by the processor hardware. This default applies for activation from the Support Element or the HMC operator interfaces.

Use PRTT to change the processor runtime type from system- to user-controlled, or vice-versa. Only in user-controlled mode can the duration of a shared logical processor timeslice end behaviour be adjusted and timeslice end behavior can be changed. Use these adjustments carefully, as they may have an effect on the overall performance of the addressed CPC. Before changing the PRTT, PRT, or ENDTSL settings it is highly recommended to use the 'Processor Resource/Systems Manager Planning Guide' information in 'Operating logical partitions' as a reference.

The CCNTL response is returned in a AOFA0006 multi-line report. For more information about this report format see the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

In case of data access errors, please refer to the appendix section "Data Exchange Services 0B100xxx" in *IBM System Automation for z/OS Messages and Codes*. Access errors are 'ReadErr:xxx' or 'WriteErr:xxx' strings, returned in the AOFA0006 data lines.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note, that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See .

Restrictions and Limitations

The CCNTL common command is only supported for SNMP connections and BCP internal interface connections configured for LPAR management. When issuing a CCNTL request for another ProcOps connection type, it is rejected.

Only the length of the specified APNAME name string is verified. No other activation profile validations are performed.
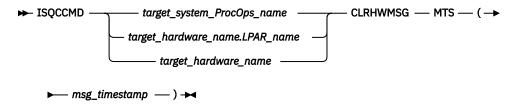
Return Codes

The ISQCCMD command (see) generates the return codes for common command processing.

CLRHWMSG

Purpose

The CLRHWMSG command deletes one message from the list of messages shown in the Hardware Messages window of the Support Element or Hardware Management console, sent to ProcOps FP system as an AOFA0400 HW message event report. The message selector is the timestamp, preceding the message text. This allows you to perform automated/manual housekeeping of the hardware messages sent to ProcOps.

▶▶── ISQCCMD ──┬── *target_system_ProcOps_name* ──┬── CLRHWMSG ── MTS ── (──▶
　　　　　　　　├── *target_hardware_name.LPAR_name* ──┤
　　　　　　　　└──── *target_hardware_name* ────┘

▶── *msg_timestamp* ──) ──▶◀

Requirements

The requirements for the CLRHWMSG command to complete successfully are:

Processor operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *target_hardware_name.LPAR_name,* and *target_hardware_name*, see "ISQCCMD" on page 287.

MTS

msg_timestamp
    Date and Time when the message occurred. The timestamp format is as follows:

    mm-dd-yyyy hh:mn:ss:mis

    Date

        mm
            month of the year 01-12

        dd
            day of the month 01-31

        yyyy
            four digit year

    Time

        hh
            hour of day 00-23

        mn
            minute of the hour 00-59

        ss
            second of the minute 00-59

        mis
            millisecond 000-999

> **Note:** Depending on the processor type a two digit hundredths of seconds value may also be specified.

Date and Time information must be separated by a blank character.

Hardware message example:

```
07-21-2015 12:37:59:581 A logically partitioned mode event occurred.
```

Defaults

None.

Usage

Use this command to delete a hardware message from either the HMC or SE of the addressed CPC, depending on its ProcOps SNMP connection address. After successful deletion, the hardware message is no longer visible in the console hardware message window. On completion, a AOFA0028 report is issued.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "ISQCCMD" on page 287.

Restrictions and Limitations

The CLRHWMSG common command is only supported for SNMP connections. You cannot use CLRHWMSG to perform housekeeping of multiple messages at once. In order to delete a message you must specify the complete timestamp, including the millisecond value.

Return Codes

The ISQCCMD command generates the return codes for common command processing.

CONDATA
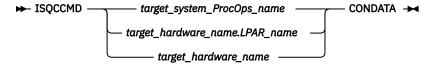
Purpose

The CONDATA command collects basic information about the console of the addressed target hardware and presents this information in a multi-line report.

The term console designates either a Support Element (SE) or Hardware Management Console (HMC), whatever console type is in use for the connection.

Syntax

```
▶▶── ISQCCMD ──┬── target_system_ProcOps_name ──┬── CONDATA ──▶◀
               ├── target_hardware_name.LPAR_name ──┤
               └── target_hardware_name ──┘
```

Requirements

The requirements for the CONDATA command to complete successfully are:

Processor Operations environment

- Processor operations must be active.

- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

Use this command to get basic information about a console, such as console name and type, console application version number, or the configured IP addresses of this console. In addition, the HW EC Level of the console is shown and if an alternate console will take over automatically in case the primary fails.

The data is returned in an AOFA0022 multi-line report. For more information about this report format see the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The CONDATA common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing a CONDATA request for another ProcOps connection type, it will be rejected.

Depending on the console version, not all basic console information is available such as EC Level, console IP address or autoswitch setting. The autoswitch setting applies only to Support Element consoles.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.
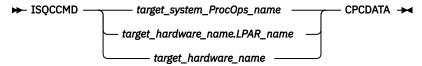
CPCDATA

Purpose

The CPCDATA command collects configuration and status information about the addressed target hardware and presents this information in a multi-line report.

The report includes CPC and IMAGE (logical partition) information if the processor is running in LPAR mode.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ CPCDATA ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ─┘
```

Requirements

The requirements for the CPCDATA command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

Use this command to get a snapshot of the current CPC and LPAR configuration. The data is returned in a AOFA0016 multiline report. For more information about this report format see the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The CPCDATA common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing a CPCDATA request for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.
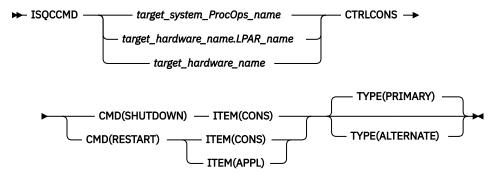
CTRLCONS

Purpose

The CTRLCONS common command allows you to:

- RESTART the console application of the addressed HMC or SE (for an SE, either the primary or the alternate application can be restarted)
- RESTART or SHUTDOWN the addressed HMC or SE console (for an SE, either the primary or the alternate console can be restarted or shut down)

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ──┬─ CTRLCONS ─►
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ──────────┘

                                              ┌─ TYPE(PRIMARY) ──┐
►─┬─ CMD(SHUTDOWN) ─── ITEM(CONS) ──────┬─────┼──────────────────┼──►◄
  └─ CMD(RESTART) ─┬─ ITEM(CONS) ──┬────┘     └─ TYPE(ALTERNATE) ─┘
                   └─ ITEM(APPL) ──┘
```

Requirements

The requirement for the CTRLCONS command to complete successfully is:

- Processor operations must be active.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
    The command to be executed. Can be either RESTART or SHUTDOWN.

    Note: SHUTDOWN is only allowed with ITEM(CONS). If it used with ITEM(APPL), the CTRLCONS command will be rejected.

ITEM

The target of the command. Specify either:

- CONS for the SE or HMC console

- APPL for the SE or HMC console application

TYPE

The type of console or console application.

PRIMARY

Refers to the primary SE or HMC console or console application.

ALTERNATE

Refers to the secondary SE console or console application.

Note: ALTERNATE can only be used for SE connections; if it is used for an HMC connection, the CTRLCONS command will fail.

Defaults

The CTRLCONS command defaults to TYPE(PRIMARY).

Usage

Use this command to shut down or restart the HMC or SE Console or to restart the HMC or SE console application. On command execution, all ProcOps connections to that console or console application that are still active will be closed before executing the Shutdown or Restart itself in order to avoid uncontrolled connection loss as a consequence of the Shutdown or Restart command.

Note: If a console SHUTDOWN is performed, the console must be restarted manually.

Restrictions and Limitations

The CTRLCONS common command is only supported for SNMP connections. When issuing a CTRLCONS request for another ProcOps connection type, it will be rejected.

All required command parameters are checked if provided with the CTRLCONS command. All command parameters are checked for valid content.

Due to technical limitations on the SE console side, an SE Application Restart will actually be executed as a SE Console Restart.

Condition Codes

The following condition code is returned in the form 00B000*xx*, where *xx* is the condition code:

82

Invalid Session Type of ASYNC encountered. It must be SYNC.

Return Codes

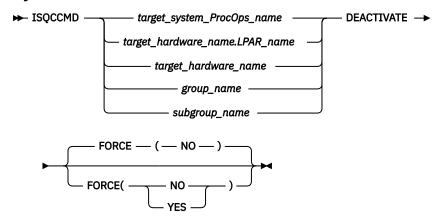The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

DEACTIVATE

Purpose

The DEACTIVATE command causes the target system to end normal operation. It also closes the system console and operator console ports.

Syntax

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

FORCE
Requests conditional processing of commands that are disruptive to the operating system control program and application work that is in progress. Use of this operand is based on the operating state of the target processor.

NO
Specifies that processing of the command is to continue *only* if the target CPU control program is not in the operating state. Specify FORCE(NO) in a situation where you would *not* want to upset the control program work-in-progress.

YES
Specifies that processing of the command is to continue *even* if the target CPU control program is in the operating state. Specify FORCE(YES) in a situation where disruption of the control program work-in-progress is not important, such as in recovery situations.

The default, if FORCE is not explicitly stated, is FORCE(NO).

FORCE(NO) requires that the associated command *fail* when useful work is taking place. The DEACTIVATE command's formal fail criteria when FORCE(NO) is specified or when FORCE defaults to NO is *operating*.

Defaults

The DEACTIVATE command defaults to FORCE(NO).

Usage

Use this common command to close a target system. Closing a target system does the following:

- Ends any active sessions with the target system
- Disables the target system
- Performs any required end-of-day activities
- Quiesces the target system

If this command is directed to a target hardware name rather than to a target system ProcOps name, the entire processor complex is brought to a power-off state.

If you do not specify FORCE(YES), the DEACTIVATE command checks to make sure it will not be disruptive by performing the following processing:

- If the target system runs in a logical partition and the same logical partition name is initialized to another target system in the same target hardware, the DEACTIVATE command is rejected and processing of the command halts.
- On a non-partitioned target system, if the target hardware has another target system initialized to it, the DEACTIVATE command is rejected and processing of the command halts.

Restrictions and Limitations

- When closing a target system, the DEACTIVATE common command issues an MVS QUIESCE (or equivalent) command and hardware system reset at the system console port if appropriate. This processor command may be processed in the NNT-driven part of shutdown procedures, if necessary.
- The DEACTIVATE common command also performs a system reset of the target system, and disables and releases the focal-point ports.
- To reinitialize a target system that was shut down with the DEACTIVATE common command, you must issue the ACTIVATE common command(see "ACTIVATE" on page 363).

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

DEACTIVATE of VM Guest Systems

Purpose

If a target system running in a guest machine is part of a DEACTIVATE request, a CP FORCE command is issued by the PSM for that guest machine. The VM host system is not affected.

Parameters

FORCE(NO)
> If FORCE(NO) is specified for a guest machine, the guest status is checked. If it is NOT OPERATING then a CP FORCE command is issued to stop the guest. If the status is any other value, the CP FORCE command is not issued and the DEACTIVATE request is rejected.

FORCE(YES)
> If FORCE(YES) is specified for a guest machine, a CP FORCE command is issued for the guest. If there is an active operating system running in the guest machine, it is first stopped using the appropriate QUIESCE processing for the operating system.
>
> For LINUX systems, the use of CP FORCE command means that a shutdown signal is sent to the operating system. This, in turn, allows the LINUX system to initiate its own controlled shutdown process.
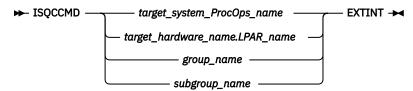
Restrictions and Limitations

DEACTIVATE is not supported for *target_hardware_names*. (The PSM cannot be powered off.)

EXTINT

Purpose

The EXTINT command causes the target system to perform the external interrupt function on a central processor that exists on a target hardware processor.

Syntax

```
►►─ ISQCCMD ──┬── target_system_ProcOps_name ──┬── EXTINT ─►◄
              ├── target_hardware_name.LPAR_name ──┤
              ├── group_name ──┤
              └── subgroup_name ──┘
```

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized for this command to complete successfully.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

Issue the EXTINT command to generate an interrupt request to the processor which will be processed at the end of the current unit of work (unless other interrupt requests are pending), causing the program status word (PSW) to be swapped with a new PSW, and initiating processing from an address in the new PSW.

Restrictions and Limitations

• This command is not supported for coupling facility target systems.

Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.

EXTINT for a VM Guest System

Purpose

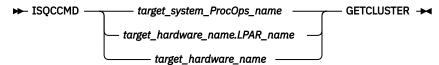This causes a CP EXTERNAL KEY command to be issued for the guest machine.

GETCLUSTER

Purpose

The command returns a list of the CPC addresses that are in the scope of control in the current CPC environment. If the ProcOps SNMP connection is to a Support Element, the list represents the defined CPCs of the so called Master HMC, which has the LIC Change function enabled. If the ProcOps SNMP is to a HMC, the GETCLUSTER command returns the CPC addresses of the Defined CPCs Group of this HMC.

Use the GETCLUSTER command to get basic information about all CPCs in the neighborhood of your CPC, regardless if the processors are defined to System Automation, or not.

Syntax

```
►► ISQCCMD ──┬─ target_system_ProcOps_name ──┬─ GETCLUSTER ►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ──────────┘
```

Requirements

The requirements for the GETCLUSTER command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see .

Defaults

None.

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETCLUSTER common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing this request for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.
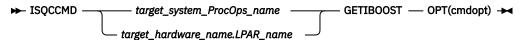
GETIBOOST

Purpose

The GETIBOOST command returns information about the system recovery boost mode of the targeted system or logical partition. Operating systems can utilize this mode to minimize the impacts of shutdown and restart situations.

Use the GETIBOOST command if you know the LPAR name or system name and you need to verify if the hardware provides this functionality. In case the hardware supports boost, the current boost mode status information for the system or LPAR is returned.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETIBOOST ── OPT(cmdopt) ─►◄
             └─ target_hardware_name.LPAR_name ─┘
```

Requirements

The requirements for the GETIBOOST command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware LPAR must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

OPT
    The command option to be executed. The parameter *cmdopt* can be:

    STATUS
        Returns basic recovery boost mode information of the specified target system or LPAR.

Defaults

None.

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this situation, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Command response

GETIBOOST obtains the information from the hardware. The binary response data is converted into a standard ProcOps target system console message:

ISQ900I *target_hardware_name*.*LPAR_name* SC BOOST(*boost_status*)

The *boost_status* parameter can have the following values:

NOT_SUPPORTED
   The target hardware of this system or LPAR does not support system recovery boost mode.

NOT_ACTIVE
   The target hardware of this system or LPAR supports system recovery boost mode and is currently running in normal mode.

SPEED
   The target hardware of this system or LPAR supports system recovery boost mode and is currently running in SPEED BOOST mode.

ZIIP
   The target hardware of this system or LPAR supports system recovery boost mode and is currently running in ZIIP BOOST mode.

ZIIP, SPEED
   The target hardware of this system or LPAR supports system recovery boost mode and has currently ZIIP plus SPEED boost modes active.

UNDEFINED
   The target hardware of this system or LPAR supports system recovery boost mode. However, the information returned from the hardware does not allow to determine the current boost mode status.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETIBOOST common command is supported only for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When this request is issued for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command generates the return codes for common command processing.
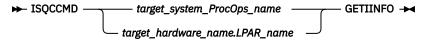
GETIINFO

Purpose

The GETIINFO command returns a subset of the CPCDATA command response. It allows you to retrieve the status and mode of the specified target system LPAR together with the defined LPAR number. If available, OS-related information such as operating system name or version data is returned.

Use the GETIINFO command if you know the LPAR name or system name and you are interested only in HW information for this LPAR or system. For performance reasons you are not recommended to use CPCDATA in such cases.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETIINFO ─►◄
             └─ target_hardware_name.LPAR_name ─┘
```

Requirements

The requirements for the GETIINFO command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

None.

Defaults

None.

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETIINFO common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing this request for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.
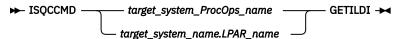
GETILDI

Purpose

The GETILDI query command returns the load parameter information used with the last executed LOAD of the specified target system or LPAR.

Use the GETILDI command if you know the LPAR name or system name and you are interested in getting the IPL address and load parameters used for the last IPL.

Syntax

▶▶─ ISQCCMD ─┬─ *target_system_ProcOps_name* ─┬─ GETILDI ─▶◀
             └─ *target_system_name.LPAR_name* ─┘

Requirements

The requirements for the GETILDI command to complete successfully are:

Processor operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

None.

Defaults

None.

Usage

GETILDI can be used to implement re-IPL automation without the need to preconfigure this in the operating system. Prior to the re-IPL, simply query the last used load address and loadparm data and use this information with the new load command when re-IPLing the specified target system or LPAR.

Note, that specifying LOAD without a load address or loadparm uses the ProcOps prepared defaults from the ProcOps Policy or the runtime overwrite dialog ISQXOPT. If no such default information is available, ProcOps passes the load command to the console (SE/HMC). The console tries to supplement

the missing LOAD parameters with data found from the last LOAD for the LPAR using the console GUI. This information may however be no longer valid. It is therefore recommended to use GETILDI to determine the accurate last used load information prior to performing automated re-IPLs with SA z/OS.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first PIPE stage, you can directly access this HW data.
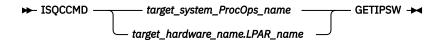
Restrictions and Limitations

The GETILDI common command is only supported for SNMP connections and BCP internal interface connections configured for LPAR management. When issuing this request for another ProcOps connection type, it is rejected.

Return Codes

The ISQCCMD command generates the return codes for common command processing.

GETIPSW

➤➤─ ISQCCMD ─┬─ *target_system_ProcOps_name* ─┬─ GETIPSW ─➤◄
             └─ *target_hardware_name.LPAR_name* ─┘

Purpose

The GETIPSW command returns the content of the Program Status Word of a logical partition for each active central processor.

Requirements

The requirements for the GETIPSW command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name* and *target_hardware_name.LPAR_name*, see .

Defaults

None.

Usage

You can use GETIPSW to determine Disabled Wait State Condition details. If the command is entered when all CPs are operational and the status of the image (LPAR) is OPERATING, then the returned PSW information is undetermined.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETIPSW common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR management. When issuing this request for another ProcOps connection type, it is rejected.

Return Codes

The ISQCCMD command generates the return codes for common command processing.
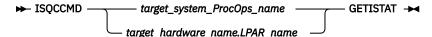
GETISTAT

Purpose

The GETISTAT command returns a subset of the CPCDATA command response. It allows you to retrieve the current HW status of a target system LPAR.

Use the GETISTAT command if you know the LPAR name or system name and you are interested only in HW information for this LPAR or system. For performance reasons you are not recommended to use CPCDATA in such cases.

Syntax

```
▶▶── ISQCCMD ──┬── target_system_ProcOps_name ──┬── GETISTAT ──▶◀
               └── target_hardware_name.LPAR_name ──┘
```

Requirements

The requirements for the GETISTAT command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

None.

Defaults

None.

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETISTAT common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing this request for another ProcOps connection type, it will be rejected.
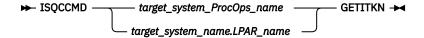
Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.

GETITKN

Purpose

The GETITKN command returns the current IPL TOKEN value of the addressed target system LPAR.

Use the GETITKN command if you know the LPAR name or system name and you are interested in the token value to find out if there has been a value change since the last time it was set.

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETITKN ─►◄
             └─ target_system_name.LPAR_name ─┘
```

Requirements

The requirements for the GETITKN command to complete successfully are:

Processor operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

None.

Defaults

None.

Usage

LOAD, SYSTEM RESET, and entering a DISABLED WAIT, all change the value of the IPL TOKEN associated with the LPAR. The token is known to both, the hardware and the operating system. Given that you query the token value directly after a successful LOAD(IPL) and days later the token query returns a different value, you have determined that the lifetime of your initiated IPL ended, maybe earlier than expected by a SYSTEM RESET, DISABLED WAIT or another LOAD (IPL).

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

Note, that the IPL TOKEN support is available with console version 2.10.1 or later. With older hardware you may receive an 'object not defined' error.

The GETITKN common command is only supported for SNMP connections and BCP internal interface connections configured for LPAR management. When issuing this request for another ProcOps connection type, it is rejected.

Return Codes

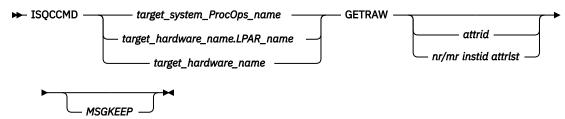The ISQCCMD command generates the return codes for common command processing.

GETRAW

GETRAW command is a fast low-level API to retrieve CPCs or CPC images related SNMP MIB data, which is stored in IBM Z Support Elements or Hardware Management Consoles. The query response is returned in an AOFA0030 report.

The GETRAW API works for the ProcOps SNMP protocol. With this interface, SA z/OS passes the query requests to the SNMP API and returns the responses to the caller in printed hex notation. Output conversion and formatting must be done by the caller. This is similar to the native SNMP commands that are provided in NetView or z/OS USS.

The *IBM Z SNMP Application Programming Interfaces,* (SB10-7171) contains all the information about the various SNMP MIB object attributes to set up a query for a single or multiple MIB variables. It lists the supported data types that are needed to decode or convert the returned hexadecimal response. It also documents the API services return codes that are passed back to the GETRAW caller. See "Tips to find SNMP MIB attributes for GETRAW queries" in *IBM System Automation for z/OS Customizing and Programming*.

Syntax

Requirements

The communication to the IBM Z console of the addressed hardware must be established, according to your SA z/OS policy definitions or runtime setting for ProcOps SNMP.

If you route the ISQCCMD GETRAW request to run on another task, the timeout TGLOBAL variable *ISQ.SNMP.WAIT* must be set with this task, in case you do not want to use the default.

Parameters

target_system_ProcOps_name, target_hardware_name.LPAR_name, target_hardware_name
For these parameters, see "ISQCCMD" on page 287 command.

A GETRAW call without additional parameters simply returns the object ID and instance information for the target processor or LPAR.

attrid
A single SNMP MIB variable attribute for the addressed SNMP object types. The *attrib* format is '*x.y*', where *x* can be 1-999 and *y* can be 0-99. *x* and *y* values must be separated by a dot. No blanks are allowed.

The availability of certain attributes depends on the mainframe console version. The GETRAW caller is responsible to make sure that the specified *attrid* is valid for the target. For reference about the valid attributes for the CPC or CPC image object types and the availability of the supported object attributes, see *IBM Z SNMP Application Programming Interfaces*, (SB10-7171). Note that in the attribute descriptions, a '*' may be padded to indicate that for a full qualified MIB object variable, instance information must be added after the *x.y* attribute part. Ignore the '*' and do NOT use it in your *attrid* specification.

For a GETRAW request with a single attribute parameter, the API's SNMP GET service is used. Object type and instance information for CPC and CPC image objects is discovered at session initialization time and stored internally during the session.

nr/mr
The *nr* value specifies the number of attributes from your GETRAW call to return just one response for each attribute, without additionally added query responses from any next object attribute variable found in the logical sequence of the object attribute variables of the SNMP MIB DB. The *mr* value defines the maximum amount of GETRAW response you allow for the GETRAW call to be returned. This includes the *nr* responses. The value of *nr* and *mr* parameters can be 0-*nnn*, where *nnn* has to be a positive integer. At least one value must be larger than zero. 0/0 is not supported.

To retrieve multiple attributes from an object type, GETRAW internally uses the SNMP GetBulk service of the z System API. SNMP GetBulk requires to specify a non-repeater (nr) and a max-repeater (mr) value to control and limit the access and search for object variables in the SNMP MIB DB. If a GETRAW - GetBulk request has processed all *nr* attributes, and the *mr* count is not yet reached, the query is repeated or continued. The base is the last specified attribute.

If you want to retrieve the responses only for the specified attributes, without any additional logical-related attribute responses, specify a dimension of *x/0*, where *x* is the number of attributes in your request.

If you want to retrieve multiple occurrences (instances) of the same object attribute, specify a GETRAW call with one attribute and a dimension of *0/x*. 0 stands for no non-repeaters for the attribute. *x* is the maximum limit of the attribute responses that are returned from the repeated queries for additional occurrences of the attribute or logical-related attributes.

instid
The **instid** is a unique numeric value and part of a fully qualified SNMP MIB object specification.

In an SNMP MIB DB, there can be multiple instances of object type variable attributes. Example: Each CPC image (LPAR) has its own name, so each LPAR (image object) represents one instance of the image object type, with the same set of attribute variables. The name attribute is one of them. The content of the name attribute may differ from instance to instance. It is this instance identification that makes the object attribute variable unique within the MIB DB.

Note: GETRAW calls with an instance ID and attribute dimension specifications always use SNMP GetBulk, which is internally processed by the API using SNMP GETNEXT. The GETNEXT design and implementation requires that the instance ID specified with the request, addresses the instance that is logically preceding the actually targeted instance. As a consequence, in such a GETRAW call, you must always use the direct predecessor in the logical *instid* order to retrieve its next object's instance MIB variable content to get the data you actually want.

attrlst
Name of a NetView task global variable valid for the task or operator issuing the GETRAW call. This variable is supposed to contain 1 to n attribute definitions related to the object type and instance information of the GETRAW call. You can store as many blank separated attributes as fit into the maximum data bytes of a TGLOBAL. Note that GETRAW does not validate the content of the specified *attrlst* variable.

For a query of multiple attributes with one GETRAW call, the API's SNMP GetBulk service is used. All requested attributes must be stored in the NetView task global variable *attrlst.* In addition, a *nr/mr* dimension parameter must be defined in the request, together with the *instid* parameter.

Internally, the API code splits off GetBulk requests into one or multiple GETNEXT requests that run under API control, before returning the collected query results in a single GetBulk/GETRAW response.

MSGKEEP
The Message Output option.

If MSGKEEP is specified, the message output of the command is written only to PIPE KEEP ISQ.SNMP. For compatibility reasons with other ProcOps commands, the successful completion response ISQ017I is not written to the message KEEP. Use a PIPE with KEEP ISQ.SNMP as first stage to analyze the message output. Each time the GETRAW command is executed with the MSGKEEP option, the previous PIPE KEEP is cleared.

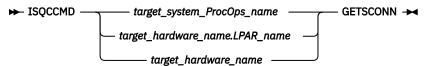If MSGKEEP is not specified, all GETRAW messages are written to the NetView console.

Defaults

If ISQCCMD timeout information is not specified in task global variable *ISQ.SNMP.WAIT* for the GETRAW request, a 5-minute wait time is used as the default. You cannot change this default timeout value. If you need a different wait time for your GETRAW request, specify a global *ISQ.SNMP.WAIT* time.

GETSCONN

Purpose

The **GETSCONN** command checks if a connection to the target hardware can be established. It returns the serial number of the target hardware CPC.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETSCONN ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ─┘
```

Requirements

The requirements for the **GETSCONN** command to complete successfully are:

Processor Operations environment

- The addressed target system or target hardware.lpar must have been initialized using the **ISQXIII** command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The **GETSCONN** common command is only supported for SNMP connections and BCP internal interface connections configured for LPAR management.

When issuing this request for another ProcOps connection type, it will be rejected.

The **GETSCONN** command does not necessarily require an active connection.

If no active connection exists, you cannot use Host-based command **ISQXMON** to add you to or delete you from the interested operators for a target system console.

Return Codes

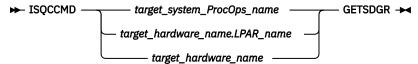The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.

GETSDGR

Purpose

The command returns the reason details available from target hardware processors that operate in DEGRADED state.

GETSDGR

Use the GETSDGR command if you need information about the reason of the DEGRADED status.

Syntax

►►── ISQCCMD ─┬─── *target_system_ProcOps_name* ───┬─ GETSDGR ─►◄
             ├─── *target_hardware_name.LPAR_name* ──┤
             └─── *target_hardware_name* ───┘

Requirements

The requirements for the GETSDGR command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see .

Defaults

None.

ISQVARS Keywords

NOT_DEGRADED
System is not in DEGRADED mode

MEM_REDUCED
Loss of memory

MEM_BUS_FAILURE
Loss of channels due to CPC hardware failure

NODE_NOT_RUNNING
One or more books are no longer functioning

RING_OPEN
The ring connecting the books is open

CBU_EXPIRATION
Capacity backup resources have expired

MRU_FAILURE
Modular Refrigeration Unit (cooling) problem

TEMPERATURE_PROBLEM
Processor frequency reduced due to temperature problem

IML_WAS_IN_DEGRADED_MODE
CPC was IMLed during temperature problem

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETSDGR common command is only supported for SNMP connections and BCP internal interface connections configured for LPAR management. When issuing this request for another ProcOps connection type, it will be rejected.

Not all processor types provide DEGRADED support. If you issue GETSDGR for such target hardware, the GETSDGR command will fail with a condition code of 0B100001, object not defined, which means that the HW does not provide this function.

Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.
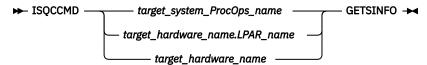
GETSINFO

Purpose

The GETSINFO command returns a subset of the CPCDATA command response. It allows you to retrieve the status and mode of the specified target hardware together with information about the machine type model or serial number.

Use the GETSINFO command if you know the target hardware or a target system name running on that hardware. For performance reasons you are not recommended to use CPCDATA in such cases.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETSINFO ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ─┘
```

Requirements

The requirements for the GETSINFO command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.

- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETSINFO common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing this request for another ProcOps connection type, it will be rejected.

Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.
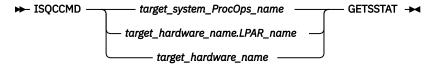
GETSSTAT

Purpose

The GETSSTAT command returns a subset of the CPCDATA command response. It allows you to retrieve the current HW status of target hardware.

Use the GETSSTAT command if you know the target hardware or a target system name running on that hardware. For performance reasons you are not recommended to use CPCDATA in such cases.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ GETSSTAT ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ─┘
```

Requirements

The requirements for the GETSSTAT command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a Pipe KEEP with the name 'ISQ.SNMP'. When using this KEEP as your first Pipe stage, you can directly access this HW data.

Restrictions and Limitations

The GETSSTAT common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing this request for another ProcOps connection type, it will be rejected.
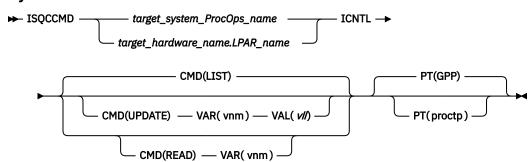
Return Codes

The ISQCCMD command (see ISQCCMD Return Codes) generates the return codes for common command processing.
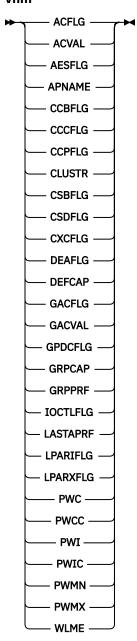
ICNTL

Purpose

The ICNTL common command allows you to query and change LPAR-specific values and settings. The PR/SM hardware component or WLM use this information to manage partition performance and to distribute shared processor resources among the images of a CPC. Changing the image control values and settings with ICNTL allows you to influence LPAR performance and LPAR resource capacities at runtime.
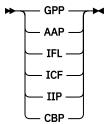
Syntax

►►─── ISQCCMD ───┬─── *target_system_ProcOps_name* ───┬─── ICNTL ─►

└─── *target_hardware_name.LPAR_name* ───┘

►─┬─────────────── CMD(LIST) ───────────────┬──┬─── PT(GPP) ───┬─►◄

├─── CMD(UPDATE) ─── VAR(vnm) ─── VAL(*vll*) ───┤ └─── PT(proctp) ───┘

└─── CMD(READ) ─── VAR(vnm) ───┘

vnm

►►─┬─── ACFLG ───┬─►◄
├─── ACVAL ───┤
├─── AESFLG ───┤
├─── APNAME ───┤
├─── CCBFLG ───┤
├─── CCCFLG ───┤
├─── CCPFLG ───┤
├─── CLUSTR ───┤
├─── CSBFLG ───┤
├─── CSDFLG ───┤
├─── CXCFLG ───┤
├─── DEAFLG ───┤
├─── DEFCAP ───┤
├─── GACFLG ───┤
├─── GACVAL ───┤
├─── GPDCFLG ───┤
├─── GRPCAP ───┤
├─── GRPPRF ───┤
├─── IOCTLFLG ───┤
├─── LASTAPRF ───┤
├─── LPARIFLG ───┤
├─── LPARXFLG ───┤
├─── PWC ───┤
├─── PWCC ───┤
├─── PWI ───┤
├─── PWIC ───┤
├─── PWMN ───┤
├─── PWMX ───┤
└─── WLME ───┘

proctp

```
  ┌──── GPP ────┐
──┤             ├──
  ├──── AAP ────┤
  │             │
  ├──── IFL ────┤
  │             │
  ├──── ICF ────┤
  │             │
  ├──── IIP ────┤
  │             │
  └──── CBP ────┘
```

Requirements

The requirements for the ICNTL command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name* and *target_hardware_name.LPAR_name,* see "ISQCCMD" on page 287.

CMD
  The image control command that is to be executed.

  LIST
    Returns a list of the current image control variable settings in a AOFA0007 response report from the target hardware image.

    Only variables supported by the target processor type are shown in the response report. Other read errors are marked as 'ReadErr:xxx' in the variable value field.

    Refer to the appendix section "Data Exchange Services "0B100xxx" in *IBM System Automation for z/OS Messages and Codes*, if you receive 'ReadErr:xxx' responses for additional information.

  UPDATE
    Changes the value of the specified image control variable and returns an AOFA0007 response report.

  READ
    Returns the current setting of the specified image control variable in an AOFA0007 response report.

VAR
  Image control variable name *vnm*.

  ACFLAG
    Flag that indicates whether LPAR absolute capping capability is active and processor value settings are permitted.

    Value information:

    YES
      Absolute shared processor capping is enabled. The processor ACVAL setting is used and can be changed for the selected processor type. This processor value is the upper limit. Available

shared processor values that exceed the capping limit are not assigned to the LPARs in the group.

NO

Absolute shared processor capping is disabled. The processor ACVAL value is not used and cannot be changed. The assignment of shared processor values for the LPAR is dynamically determined and adjusted according to the available resources for that processor type.

Note: Absolute capping is supported on console version 2.12.1 or later.

ACVAL

Shared processor value. Defines the upper limit of shared processor values a LPAR can get when the ACFLAG is set to YES.

Value Information:

The allowed absolute capping processor value range is: 0.01 - 255.0

Note: Absolute capping is supported on console version 2.12.1 or later. If the ACFLG is set to 'NO', an undetermined value (for example, '-1') may be returned by the hardware when querying ACVAL. Ignore this value, do not interpret it for any reason.

AESFLG

The logical partition allows to import AES encryption keys.

Value Information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

APNAME

Name of the activation profile to be used for the next image activation.

Value Information:

alpha-num

Profile name can have a maximum length of 19 alpha-numeric characters.

Note: Assigning a profile name different from the image's name is tolerated, but has no effect on the image ACTIVATE command when specified without an activation profile name. In this case, the image activation profile having the name of the LPAR is always used.

CCBFLG

Basic CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

CCCFLG

Crypto activity CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

CCPFLG

Problem state CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

CLUSTR

Name of the CPC LPAR cluster that the LPAR belongs to.

This is a READONLY variable.

Value information: Cluster of one or more LPARs, running on one zSeries 900 or later CPC, that are in the same sysplex and are running z/OS 1.1 or later in z/Architecture® mode. The scope of an LPAR Cluster is currently the same as the scope of an I/O Cluster, however the term LPAR Cluster is also used in relation to WLM LPAR CPU Management and Channel Subsystem I/O Priority Queuing. LPAR clusters are used for z/OS Intelligent Resource Director (IRD) capabilities. Cluster names can be defined using HCD.

CSBFLG

Basic CPU sampling control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

CSDFLG

Diagnostic sampling authorization control. This function applies only if the CSBFLG is set to YES. The CSDFLG controls whether it is allowed to control or collect sampling data, such as instruction addresses and CPU information.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

CXCFLG

Extended CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

DEAFLG

The logical partition allows to import DEA encryption keys.

Value information:

YES
> The flag is enabled.

NO
> The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

DEFCAP
Defined capacity.

Value information:

0
> No defined capacity for the LPAR.

1–2147483647
> Amount of defined LPAR capacity.

> Note that the maximum value represents the highest value accepted by the SE/HMC, which may not represent the correct capacity limit in your environment.

The defined capacity expressed in terms of Millions of Service Units (MSUs) per hour. MSUs is a measure of processor resource consumption. The amount of MSUs that a logical partition consumes is dependent on the model, the number of logical processors that are available to the partition, and the amount of time that the logical partition is dispatched. The defined capacity value specifies how much of the logical partition capacity is to be managed by Workload Manager (WLM) for the purpose of software pricing.

GACFLG
Flag that indicates whether LPAR absolute group capping capability is active and processor value settings are permitted.

Value information:

YES
> Absolute shared processor group capping is enabled. The processor GACVAL setting is used and can be changed for the group assigned to selected LPAR. This processor value is the upper limit. Available shared processor values that exceed the capping limit are not assigned to the LPARs in the group.

NO
> Absolute shared processor group capping is disabled. The processor GACVAL value is not used and cannot be changed. The assignment of shared processor values for the LPAR is dynamically determined and adjusted according to the available resources for that processor type, or if the ACFLG is set to YES and a valid ACVAL is set for the LPAR, this capping value goes into effect.

Note: Absolute group capping is supported on console version 2.13.1 or later.

GACVAL
Shared processor group value. Defines the upper limit of the processor value that is shared among the LPARs assigned to the group.

Value information:

The allowed absolute capping processor value range is: 0.01 - 255.0

Note: Absolute capping is supported on console version 2.13.1 or later. In case the GACFLG is set to 'NO', an undetermined value (for example, '-1') may be returned by the hardware when querying GACVAL. Ignore this value, and do not interpret it by any means.

GPDCFLG
Global performance data control flag. If the flag is enabled, the partition can view CP utilization and IO busy data for all partitions in the configuration. If the flag is disabled, only the data of the own partition can be viewed.

Value information:

YES
> The flag is enabled.

NO
> The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

GRPCAP
Defined group capacity.

Value information:

0
> No defined group capacity for the LPAR.

1-2147483647
> Amount of defined group capacity the LPAR belongs to.
>
> Note that the maximum value represents the highest value accepted by the SE/HMC, which may not represent the correct capacity limit in your environment.

The defined capacity expressed in terms of Millions of Service Units (MSUs) per hour. MSUs is a measure of processor resource consumption.

GRPPRF
Capacity Group Profile name where the addressed target system or logical partition is a member. Members of capacity groups share a common MSU value. This is an alternative to the DEFCAP specification, where the MSU value is partition-specific. You can change the MSU CAPACITY value of a group profile using the PROFILE common command.

Note: With console version 2.13.1 or later, groups additionally allow absolute capping of shared processor values, applicable to all LPARs assigned to that group. Group assignments can be made at LPAR runtime, or preconfigured in the image activation profile. Only one group assignment at a time is possible for an LPAR.

Value information:

nnnnnnnn
> The name of the group profile. The name must be alphanumeric and a maximum of 8 characters. If you specify a name that does not exist as an activation profile of type GROUP, the ICNTL command fails with a condition code of 0B100005.

Note: GRPPRF is available on System z processors or later. Reading GRPPRF on older processors will return GRPPRF without a value. Updating GRPPRF on older processors fails with a condition code of 0B100001.

. (dot) specifying a dot as value, clears GRPPRF.

IOCTLFLG
Input/Output configuration control flag. If the flag is enabled, the partition is authorized to read and write any non-write protected IOCDS in the configuration and can change the configuration dynamically.

Value information:

YES
> The flag is enabled.

NO
> The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

LASTAPRF
Name of the last profile used to activate the image with the console (SE/HMC). This can be either an image activation profile, which implicitly has the name of the partition, or is the name of a load activation profile. This is a READONLY variable.

Value information:

alpha-num
Profile name can have a maximum length of 19 alpha-numeric characters.

LPARIFLG
Logical partition isolation flag. If the flag is enabled, unshared but reconfigurable channel paths remain in exclusive use for that partition.

Value informations:

YES
The flag is enabled.

NO
The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

LPARXFLG
Cross partition flag. Operation management commands to other LPARs can be sent over the BCPii only when this flag is enabled. This is a READONLY variable.

Value informations:

YES
The flag is enabled.

NO
The flag is disabled.

Note: A LIST request does not reference this variable, and only explicit queries are supported.

PWC
Current processing weight.

This is a READONLY variable.

Value information:

0
The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it.

1–999
Represents the relative amount of shared processor resources that is currently allocated to the LPAR.

PWCC
Current processing weight capped indicator.

This is a READONLY variable.

Value information:

YES
The current processing weight for the LPAR is capped. It represents the maximum share of processor resources regardless of the availability of excess processor resources.

NO
The current processing weight for the LPAR is not capped. It represents the share of resources that is guaranteed to the LPAR when all CP resources are in use. When excess processor resources are available, the LPAR can use them if necessary.

PWI
Initial processing weight.

Value information:

0
The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1–999
Represents the relative amount of shared processor resources that is initially allocated to the LPAR.

Note: If the WLME flag has a value of YES, the PWI value must be in the range from PWMN to PWMX.

PWIC
Initial processing weight capped indicator.

Value information:

YES
The initial processing weight for the LPAR is capped. It represents the maximum share of processor resources regardless of the availability of excess processor resources.

NO
The initial processing weight for the LPAR is not capped. It represents the share of resources that is guaranteed to the LPAR when all CP resources are in use. When excess processor resources are available, the LPAR can use them if necessary.

PWMN
Minimum processing weight.

The guaranteed minimum share of non-dedicated processor weight, when all processing resources are in use.

Value information:

0
The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1–999
A value that is less than or equal to the initial processing weight that is used to define the minimum relative amount of shared processor resources that is allocated to the LPAR.

Note: This value is only applied if the WLME flag has a value of YES.

PWMX
Maximum processing weight.

Maximum relative amount of shared processor resources for this LPAR.

Value information:

0
The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1–999
A value that is greater than or equal to the initial processing weight that is used to define the maximum relative amount of shared processor resources that is allocated to the LPAR.

Note: This value is only applied if the WLME flag has a value of YES.

WLME
Workload Manager Enabled flag.

Value information:

YES

z/OS Workload Manager is used to manage shared processor resources for a logical partition, according to the settings of the minimum and maximum weight specifications.

NO

PR/SM is managing the processing weight. The PWMN and PWMX values do not apply.

VAL

Value specification for variable UPDATE operation.

vll

See the value information for the VAR parameter.

PT

The Processor Type parameter allows you to specify which processor type the corresponding Image Control information should be read or updated for.

proctp

The processor type:

GPP

General Purpose Processor

AAP

Application Assist Processor

IFL

Integrated Facility for LINUX processor

ICF

Internal Coupling Facility processor

IIP

Integrated Information Processor

CBP

Container Based Processor

Notes:

1. The IFA processor type (Integrated Facility for Application processor) has been replaced by AAP.
2. You cannot specify special purpose processors (AAP, IFL, ICF, IIP, CBP) for the CLUSTR, DEFCAP, GRPCAP, GRPPRF or WLME command parameters.

Defaults

If no ICNTL parameters are specified, a CMD(LIST) is executed.

If no processor type is specified with the PT parameter, the default value of GPP (general purpose processor) is used.

Usage

The ICNTL common command can be used to set LPAR performance related parameters, such as an LPAR's initial processing weight, PWI, or the Defined Capacity, DEFCAP.

For example, DEFCAP can be used to automate the lowering and raising of the MSU value (defined capacity, soft-cap). This LPAR value is important when Sub-Capacity License charging for software is in place. An optimized setting of the DEFCAP value can help to control software cost.

The equivalent to the ICNTL common command can be performed on the HMC using the CPC Operational Customization tasks: Change LPAR Controls and Change LPAR Group Controls.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR

name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The ICNTL common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. If you issue an ICNTL request for another ProcOps connection type, it will be rejected.

The ICNTL common command works only for processors running in LPAR mode. Depending on the processor machine type, the number of ICNTL variables may vary. Use ICNTL CMD(LIST) to determine the set of the available ICNTL variables for a processor.

You cannot specify special purpose processors (AAP, IFL, ICF, IIP, CBP) for the CLUSTR, DEFCAP, or WLME command parameters.

For special purpose processor types (AAP, IFL, ICF, IIP, CBP), variables 'CLUSTR', 'DEFCAP' and 'WLME' are not supported.

For an ICF-type (Internal Coupling Facility processor) special purpose processor, ensure that LPAR that you specify corresponds to a Coupling Facility LPAR in order to read or update meaningful values.

Condition Codes

The following are condition codes that ICNTL might encounter. They are returned in the form 00B000*xx*, where *xx* is the condition code.

62
No (valid) ICNTL command (LIST, UPDATE, READ) is specified in the request or the command is incomplete. The request is rejected.

63
The variable name that is specified in the request is not supported. The request is rejected.

65
The value operand of the request was not recognized by ICNTL. The request is rejected. Contact IBM Support.

6G
The processor type value of the request is invalid. The request is rejected.
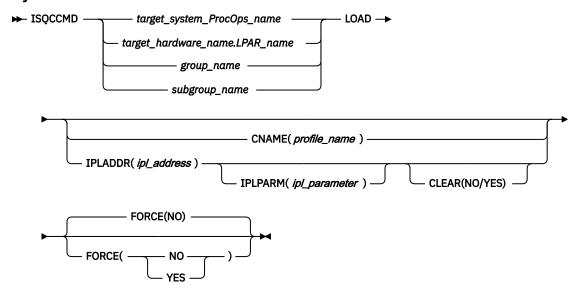
Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

LOAD

Purpose

The LOAD command performs the initial program load process for a target system processor. This command is not supported for coupling facility target systems.

Syntax

Requirements

The requirements for this command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized.
- The addressed target system must have a status of at least INITIALIZED.
- The addressed target system cannot have a status of UNKNOWN, CLOSED, or IPLCOMPLETE for the default setting of FORCE(NO) to work.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

CNAME
    Specifies the name of a Load profile to be sent to the processor's support element. If this keyword is not used, the LOAD operations management command that SA z/OS sends to the support element has a CNAME operand with the Load profile name that was specified in the configuration dialogs.

    If this keyword is not used and no Load profile name was specified in the configuration dialogs, SA z/OS omits the CNAME operand from the LOAD command sent to the support element. In this latter case, the support element uses the load parameters that were saved from the last LOAD command for the corresponding target image.

    profile_name
        Indicates the name of the Load profile. IBM recommends that you let SA z/OS select the profile name automatically rather than overriding the SA z/OS selection with the *profile_name* parameter.

IPLADDR
    Indicates that the variable following it in parenthesis is the IPL address parameter.

ipl_address

Specifies the IPL address as four hexadecimal digits. No space is allowed between the keyword IPLADDR and the left parenthesis.

IPLPARM

Indicates that the variable following it in parenthesis is an IPL parameter.

ipl_parameter

Specifies an IPL parameter to be issued with the Load command. This parameter can be 1 through 8 characters long. Lowercase letters are translated to uppercase letters. No space is allowed between the keyword IPLPARM and the left parenthesis.

CLEAR(NO)

Indicates the function of clearing storage is not to be performed; the LOAD common command issues a normal LOAD command. No space is allowed between the keyword CLEAR and the left parenthesis. This is the default.

CLEAR(YES)

Indicates the function of clearing storage is to be performed; the LOAD common command issues a LOADCLEAR command. No space is allowed between the keyword CLEAR and the left parenthesis.

FORCE

Requests conditional processing of commands that are disruptive to the operating system control program and application work that is in progress. Use of this operand is based on the operating state of the target processor.

NO

Specifies that processing of the command is to continue *only* if the target CPU control program is not in the operating state. Specify FORCE(NO) in a situation where you would *not* want to upset the control program work-in-progress.

YES

Specifies that processing of the command is to continue *even* if the target CPU control program is in the operating state. Specify FORCE(YES) in a situation where disruption of the control program work-in-progress is not important, such as in recovery situations.

The default, if FORCE is not explicitly stated, is FORCE(NO).

FORCE(NO) requires that the associated command *fails* when useful work is taking place. For this command the formal fail criteria when FORCE(NO) is specified or when FORCE defaults to NO is the *operating* state.

Defaults

The LOAD command defaults to CLEAR(NO) and to FORCE(NO).

The *ipl_address* and *ipl_parameter* parameter default to the values defined in the configuration dialogs, unless they have been changed with the ISQVARS or ISQXOPT command, see , in which case the values defined by the ISQVARS or ISQXOPT command are used.

For OCF-based processors, the *ipl_address* and *ipl_parameter* parameters default to the values specified in the Load profile.

Usage

This common command assumes that the processor operations environment has been established and that the system console function has been assigned. For a target system operating on an LPAR-mode processor, it also assumes that the logical partition is active and that any required channels are online to the partition. If these assumptions are not correct, other initialization commands should be run first. These functions of the LOAD common command are all performed by the ACTIVATE common command.

If you do not specify `FORCE(YES)`, the LOAD common command checks to make sure it will not be disruptive by performing the following processing:

- If the target system runs in a logical partition and the same logical partition name is initialized to another target system in the same target hardware, the LOAD command is rejected and processing of the command halts.
- On a non-partitioned target system, if the target hardware has another target system initialized to it, the LOAD command is rejected and processing of the command halts.

Restrictions and Limitations

This command is not supported for coupling facility target systems.

If you do not specify FORCE(YES), the LOAD common command is rejected if the addressed target system has a status of UNKNOWN, CLOSED, or IPL COMPLETE. To perform the load process for a target system that is in a status condition of UNKNOWN or CLOSED, issue the ACTIVATE common command (see "ACTIVATE" on page 447). If the addressed target system has a status of IPLCOMPLETE, you can specify FORCE(YES) to perform the IPL process without deactivating the target system first.

For SNMP connections, if a CNAME keyword is specified with the LOAD command, any other load keyword operands are ignored. Note that this does not apply to the FORCE(YES) or FORCE(NO) parameter.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

LOAD for a VM Guest System

Purpose

The CP IPL command is issued for the guest machine. (This assumes that the guest machine is already active.)

Parameters

IPLADDR
This parameter must be present.

IPLPARM
This parameter is translated into a LOADPARM operand.

Restrictions and Limitations

The CNAME parameter is not supported.
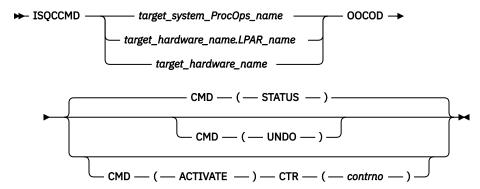
OOCOD

Purpose

The OOCOD common command allows you to:

- Query the status of the On/Off Capacity on Demand feature for a specific CPC
- Activate the On/Off Capacity on Demand feature
- Undo a previously performed Activate

Syntax

```
►►─ ISQCCMD ──┬─ target_system_ProcOps_name ──┬─ OOCOD ─►
              ├─ target_hardware_name.LPAR_name ─┤
              └─ target_hardware_name ──────────┘

   ┌──────────── CMD ─(─ STATUS ─)─────────────┐
►──┤                                           ├──►◄
   │         ┌─ CMD ─(─ UNDO ─)─┐              │
   │         └──────────────────┘              │
   └─ CMD ─(─ ACTIVATE ─)─ CTR ─(─ contrno ─)──┘
```

Requirements

The requirements for the OOCOD command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.
- For the STATUS command: No further requirements.
- For the ACTIVATE command: The On/Off Capacity on Demand feature must be enabled and installed and be in a status of not activated.
- For UNDO: This is only applicable after a successful ACTIVATE.
- With Console Workplace 2.10 and later versions, for ACTIVATE and UNDO, the flag 'Allow capacity change API requests' must be set in 'Customize API Settings' on the SE.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
The OOCOD command that is to be executed. This can be:

STATUS
Query the status of the On/Off Capacity on Demand feature and issue a report. If activated, the activation date is also provided.

Note: The INSTALLED status is set when an On/Off Capacity on Demand contract is activated. If no contract is active, the status is NOT INSTALLED.

ACTIVATE
Put the On/Off Capacity on Demand feature in an active state. This command requires a valid contract number for successful execution.

UNDO
Put the On/Off Capacity on Demand feature in an inactive state.

CTR
Only required for the ACTIVATE command. The order number (*contrno*) must correspond to a valid contract number for the hardware that has the On/Off Capacity on Demand feature implemented.

Note: For SE Console Workplace 2.10 and later versions, *contrno* corresponds to the record ID of one of the On/Off Capacity on Demand records that have already been loaded on the processor hardware.

Defaults

The OOCOD command defaults to STATUS.

Usage

Use the OOCOD command to activate and deactivate the On/Off Capacity on Demand feature. You can retrieve the current On/Off Capacity on Demand feature settings with the STATUS command.

Note that the term *Console Workplace* refers to the title line that is displayed in the Main Application Window of each CPC Support Element. The following lists the SE Workplace Version numbers and their related IBM System names:

    2.14: IBM z14
    2.13: IBM z13
    2.12: IBM zEC12
    2.11: IBM z196
    2.10: IBM z10

For more information about OOCOD, see *System z Capacity on Demand User's Guide,* available for the particular System z on IBM Resource Link.

Restrictions and Limitations

The OOCOD command is only supported for SNMP connections. If you issue an OOCOD request for another ProcOps connection type, it will be rejected.

The OOCOD command applies only to hardware that supports the On/Off Capacity on Demand feature. For other hardware, the OOCOD command will fail.

Condition Codes

The following lists the condition codes that are returned in the form 00B000*xx*, where *xx* is the condition code:

83

   Invalid OOCOD command provided (it must be STATUS, ACTIVATE or UNDO).

84

   No Order Number (CTR) provided for the OOCOD ACTIVATE command.

85

   The current ooCoD status of the target does not allow the action (for example, an UNDO without a previous ACTIVATE).

Return Codes

The ISQCCMD command (see) generates the return codes for common command processing.

POWERMOD
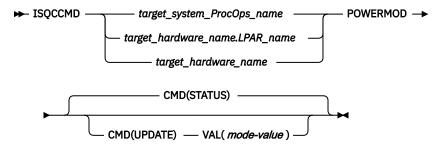
Purpose

The POWERMOD common command allows you to:

- Query the power mode status of a specific CPC
- Change the power mode of a specific CPC (Static power save mode)

Static power save mode is designed to reduce power consumption on z196 when full performance is not required. It can be switched on and off during runtime with no disruption to currently running workloads, aside from the change in performance.

Syntax

```
►►─── ISQCCMD ───┬─── target_system_ProcOps_name ───┬─── POWERMOD ──►
                 ├─── target_hardware_name.LPAR_name ─┤
                 └─── target_hardware_name ──────────┘

        ┌─────────── CMD(STATUS) ───────────┐
   ►────┤                                   ├──►◄
        └─ CMD(UPDATE) ── VAL( mode-value ) ─┘
```

Requirements

The requirements for the POWERMOD command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized or, if the target hardware is addressed, at least one target system on that hardware must be initialized.
- Hardware Console Workplace must be version 2.11 or higher.
- For the STATUS command: No further requirements.
- For the UPDATE command: The CPC must be allowed or entitled to perform a power mode change.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
> The POWERMOD command that is to be executed. This can be:
>
> **STATUS**
>> Query the power mode status of the CPC. The report issued by the command contains the following information:
>>
>> - Current power mode setting
>> - Supported power mode values
>> - Power mode change allowed (Y/N)
>>
>> **Note:** A Current Mode value '**STATIC**' indicates that the CPC does not support Power Mode changes.
>
> **UPDATE**
>> Change the CPC's power mode, for example, from 100 (High Performance) to one of the supported Power Save values.

VAL
> Only required for the UPDATE command. Contains the power mode the CPC should be changed to.

Defaults

The POWERMOD command defaults to STATUS.

Usage

Use the POWERMOD command to query and change the CPC's power mode.

Note that the term 'Console Workplace' refers to the title line, displayed on the Main Application Window of each CPC Support Element (SE) or on the Hardware Management Console (HMC).

The following lists the SE/HMC Workplace Versions numbers and their related IBM System names:

> `2.14`: IBM z14
> `2.13`: IBM z13
> `2.12`: IBM zEC12
> `2.11`: IBM z196
> `2.10`: IBM z10

Restrictions and Limitations

The POWERMOD command applies only to hardware that supports the Power Management feature. For other hardware, the POWERMOD command will fail.

The POWERMOD command is only supported for SNMP connections. If you issue a POWERMOD request for another Processor operations connection type, it will be rejected.

On air-cooled models, Static power save mode can be entered only once in a calendar day.

Condition Codes

The following lists the condition codes that are returned in the form 00B00xxx, where xx is the condition code:

097
Unable to retrieve CPC's current power mode status.

098
Unable to retrieve CPC's supported power modes list.

099
Unable to retrieve power mode change allowed information.

100
Unsupported POWERMOD command.

101
Invalid POWERMOD 'UPDATE' parameter.

Return Codes

The ISQCCMD command (see) generates the return codes for common command processing.

PROFILE
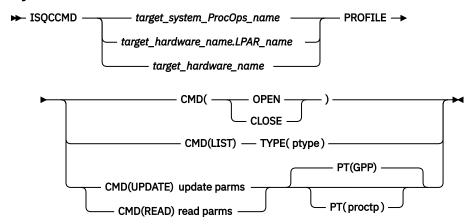
Purpose

The PROFILE common command allows you to access the activation profiles of a CPC. Activation profiles contain configuration information about the CPC itself and its images (LPARs), as well as load information for the operating systems to be initialized on the CPC or its LPARs.
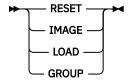
With PROFILE, the names of the activation profiles can be listed and the content of a profile can be queried. The profile content can be changed.

The activation profiles are stored in the Support Element of a CPC. They are used for CPC or image activation and for processor load operations that are executed using load profile information.

Syntax

▶▶─ ISQCCMD ──┬─ *target_system_ProcOps_name* ──┬─ PROFILE ─▶
　　　　　　　　├─ *target_hardware_name.LPAR_name* ─┤
　　　　　　　　└─ *target_hardware_name* ──────────┘

　　├──────────────── CMD(──┬─ OPEN ──┬─) ──────────────┬─▶◀
　　│　　　　　　　　　　　　　　└─ CLOSE ─┘　　　　　　　　　　　│
　　├──────────── CMD(LIST) ── TYPE(ptype) ─────────────┤
　　│　　　　　　　　　　　　　　　　　　　　　┌─ PT(GPP) ─┐　　　│
　　└─┬─ CMD(UPDATE) update parms ─┬──────┼─────────┼──┘
　　　　└─ CMD(READ) read parms ────┘　　　 └─ PT(proctp) ─┘

ptype

▶▶─┬─ RESET ─┬─▶◀
　　├─ IMAGE ─┤
　　├─ LOAD ──┤
　　└─ GROUP ─┘
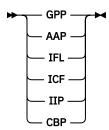
update parms
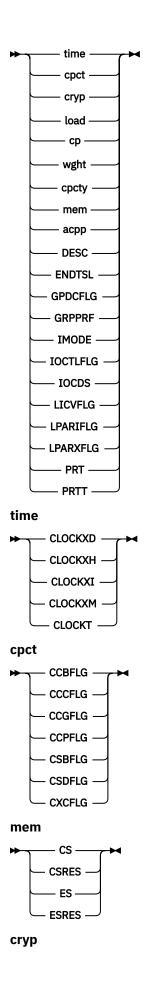
▶▶─ TYPE(ptype) ── NAME(*pname*) ── VAR(pvar) ── VAL(*pval*) ─▶◀

read parms

▶▶─ TYPE(ptype) ── NAME(*pname*) ─┬──────────────┬─▶◀
　　　　　　　　　　　　　　　　　　　　 └─ VAR(pvar) ─┘

proctp

▶▶─┬─ GPP ─┬─▶◀
　　├─ AAP ─┤
　　├─ IFL ─┤
　　├─ ICF ─┤
　　├─ IIP ─┤
　　└─ CBP ─┘

pvar

PROFILE

```
►►─┬─── time ───┬─►◄
   ├─── cpct ───┤
   ├─── cryp ───┤
   ├─── load ───┤
   ├──── cp ────┤
   ├─── wght ───┤
   ├─── cpcty ──┤
   ├─── mem ────┤
   ├─── acpp ───┤
   ├─── DESC ───┤
   ├── ENDTSL ──┤
   ├── GPDCFLG ─┤
   ├── GRPPRF ──┤
   ├── IMODE ───┤
   ├── IOCTLFLG ┤
   ├── IOCDS ───┤
   ├── LICVFLG ─┤
   ├── LPARIFLG ┤
   ├── LPARXFLG ┤
   ├─── PRT ────┤
   └─── PRTT ───┘
```

time

```
►►─┬── CLOCKXD ──┬─►◄
   ├── CLOCKXH ──┤
   ├── CLOCKXI ──┤
   ├── CLOCKXM ──┤
   └─── CLOCKT ──┘
```

cpct

```
►►─┬── CCBFLG ──┬─►◄
   ├── CCCFLG ──┤
   ├── CCGFLG ──┤
   ├── CCPFLG ──┤
   ├── CSBFLG ──┤
   ├── CSDFLG ──┤
   └── CXCFLG ──┘
```

mem

```
►►─┬─── CS ────┬─►◄
   ├── CSRES ──┤
   ├─── ES ────┤
   └── ESRES ──┘
```

cryp

```
▶▶─────── AESFLG ───────◀◀
        └──── DEAFLG ────┘
```

load

```
▶▶─────── AUTOIPL ──────◀◀
        ├──── BRLBA ─────┤
        ├───── BPS ──────┤
        ├──── IPLADR ────┤
        ├──── IPLPRM ────┤
        ├──── IPLTYP ────┤
        ├──── OSSLP ─────┤
        ├───── LUN ──────┤
        └──── WWPN ──────┘
```

cp

```
▶▶─────── CPD ─────────◀◀
        ├──── CPDRES ────┤
        ├───── CPS ──────┤
        └──── CPSRES ────┘
```

cpcty

```
▶▶─────── CAPACITY ─────◀◀
        └──── DEFCAP ────┘
```

wght

```
▶▶─────── PWI ─────────◀◀
        ├───── PWIC ─────┤
        ├───── PWMN ─────┤
        ├───── PWMX ─────┤
        └───── WLME ─────┘
```

acpp

```
▶▶─────── ACFLG ───────◀◀
        ├──── ACVAL ─────┤
        ├──── GACFLG ────┤
        └──── GACVAL ────┘
```

Requirements

The requirements for the PROFILE command to complete successfully are:

Processor Operations environment

- Processor operations must be active.
- The addressed target system or target hardware.lpar must have been initialized using the ISQXIII command.

LPAR Management environment

- SA z/OS must be fully initialized.

- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
The profile command that is to be executed. This can be:

OPEN
This command must be executed as the first profile access command. It builds an internal list of the available profiles names for faster profile access. On successful completion an AOFA0020 report is returned, with the number of the available activation profiles for each of the profile types.

CLOSE
This command should be executed when your profile access is complete. It clears the internal profile name list. If the CLOSE is omitted, you can re-access the profiles without performing an OPEN command, however the internal profile list may no longer be current. On completion, an AOFA0020 report is returned.

LIST
Returns a list of the profile names for the specified profile TYPE in an AOFA0020 response report.

UPDATE
The content of the specified profile variable is changed to the value defined with the VAL parameter. The update response is returned in an AOFA0020 report. The update fails or is rejected if the hardware detects an invalid value.

READ
Returns the contents of the specified profile NAME and TYPE in an AOFA0020 response report. If a VAR parameter is added, only the content of the specified profile variable is returned.

Note that if the profile content is retrieved, variable names without a value may be listed. If this is the case, either the CPC does not support this profile variable, or a supported variable is not initialized.

You can use the HMC's CPC Operational Customization Task: Customize/Delete Activation Profiles to determine which profile variables are supported by a CPC's machine type.

TYPE
The activation profile type, *ptype*, which can be one of the following:

RESET
This profile type is used to activate a CPC. The following profile variables are supported: IOCDS, ENDTSL, PRT, PRTT.

IMAGE
This profile type is used to activate images (LPARs). The following profile variables are supported: AUTOIPL, BRLBA, BPS, CS, CSRES, CPD, CPDRES, DEFCAP, ES, ESRES, GRPPRF, IPLADR, IPLPRM, IPLTYP, LUN, OSSLP, PWI, PWIC, PWMN, PWMX, WLME, WWPN.

LOAD
This profile type is used to load a CPC or an image. The following profile variables are supported: BRLBA, BPS, IPLADR, IPLPRM, IPLTYP, LUN, OSSLP, WWPN.

GROUP
This profile type is used to define capacity limits for a group of logical partitions. The CAPACITY profile variable is supported.

NAME
The activation profile name.

pname
Name, 1-16 alphanumeric characters, without blanks. The named profile must be available on the Support Element.

VAR

The activation profile variable name *pvar*. The following is a list of variable names and their associated values.

ACFLAG

Flag that indicates whether LPAR absolute capping capability is active and processor value settings are permitted.

Value information:

YES

Absolute shared processor capping is enabled. The processor ACVAL setting is used and can be changed for the selected processor type. This processor value is the upper limit. Available shared processor values that exceed the capping limit are not assigned to the LPARs in the group.

NO

Absolute shared processor capping is disabled. The processor ACVAL value is not used and cannot be changed. The assignment of shared processor values for the LPAR is dynamically determined and adjusted according to the available resources for that processor type.

Note that absolute capping is supported on console version 2.12.1 or later.

ACVAL

Shared processor value. Defines the upper limit of shared processor values a LPAR can get when the ACFLAG is set to YES.

Value Information:

The allowed absolute capping processor value range is: 0.01 - 255.0

Note that absolute capping is supported on console version 2.12.1 or later.

AESFLG

The logical partition allows you to import AES encryption keys.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

AUTOIPL

This flag indicates if a automatic LOAD should be performed as part of the LPAR activation. The variable is valid for IMAGE profile only.

Value information:

YES

Perform an automatic LOAD after LPAR activation is complete, using the IPLTYP, IPLADR, and IPLPRM information that is stored in the IMAGE profile.

NO

Do not perform a LOAD after LPAR activation.

BRLBA

The boot record logical block address that is used for IPLs from a SCSI device. Valid for profile types IMAGE and LOAD.

Value information:

pval

The eight-byte (16 hexadecimal digit) boot record logical block address specifies the logical block address (LBA) of the boot record. (A boot record is used to locate an OS loader on an IPL disk. Normally, this boot record is located at LBA 0. The SCSI IPL function allows the boot record to be located at a different LBA.)

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable BRLBA.

BPS

The boot partition specification that is used for IPLs from a SCSI device. Valid for profile types IMAGE and LOAD.

Value information:

pval

The boot program selector, a decimal value between 0 and 30, is used to select the section of the IPL disk on which the desired OS resides. (The SCSI IPL function allows up to 31 different operating systems to reside on one IPL disk.)

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable BPS.

CAPACITY

The defined capacity limit not only for a single LPAR (see The DEFCAP parameter), but for a group of LPARs running on the same CPC, known as a capacity group. It represents the number of workload units (WLUs) a capacity group has assigned as its limit. Valid for profile type GROUP only.

Value information:

0

No group capacity limit defined.

1–2147483647

Note that the maximum value represents the highest value accepted by the SE/HMC, which may not represent the correct capacity limit in your environment.

For more information about Group Capacity settings and how workload management and workload license charges are related, see *z/OS MVS Planning: Workload Management*, SA22-7602.

CCBFLG

Basic CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

CCCFLG

Crypto activity CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

CCGFLG

Coprocessor group CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

CCPFLG
Problem state CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES
The flag is enabled.

NO
The flag is disabled.

CLOCKXI
Clock time offset direction, increase/decrease.

Value information:

EAST
Increase - The local time zone is East of GMT.

WEST
Decrease - the local time zone is West of GMT.

CLOCKXM
Clock time offset minutes.

Value information:

mm
One of the following values: 0, 15, 30, 45

CLOCKXH
Clock time offset hours.

Value information:

hh
Range 0 - 23

CLOCKXD
Clock time offset days.

Value information:

ddd
Range 0 - 999

CLOCKT
Clock type assignment of the partition.

Value information:

STD
Standard time of day. Select this option to set the logical partition's clock to the same time set for the CPC's time source (either the CPC TOD clock or an external time reference, such as the STP).

LPAR
Logical partition time of day. Select this option to set the logical partitions clock using an offset from the time of day supplied by its time source. Use the following variables to define an offset: CLOCKXI, CLOCKXM, CLOCKXH, and CLOCKXD.

CPD
The number of logical central processors assigned to the partition for its dedicated use. The assignment occurs at partition activation time.

Value information:

n

The number of logical processors. For processor type GPP, 1 is the allowed minimum. For other processor types 0 is allowed. The maximum number of logical processors possible depends on your physical processor configuration.

CPDRES

The number of logical central processors assigned to the partition for its dedicated use. The logical processors are reserved to be used after partition activation, when needed.

Value information:

n

The number of logical processors. For processor type GPP, 1 is the allowed minimum. For other processor types 0 is allowed. The maximum number of logical processors possible depends on your physical processor configuration.

CPS

The number of logical central processors assigned to the partition, but shared with other partitions. The assignment occurs at partition activation time.

Value information:

n

The number of logical processors. For processor type GPP, 1 is the allowed minimum. For other processor types 0 is allowed. The maximum number of logical processors possible depends on your physical processor configuration.

CPSRES

The number of logical central processors assigned to the partition, but shared with other partitions. The logical processors are reserved to be used after partition activation, if needed.

Value information:

n

The number of logical processors. For processor type GPP, 1 is the allowed minimum. For other processor types 0 is allowed. The maximum number of logical processors possible depends on your physical processor configuration.

CS

The amount of Central Storage, in megabytes, allocated at partition activation time for its exclusive use.

Value information:

n

Enter a value that is compatible with the storage granularity supported by your CPC.

For storage granularity information, see the *Processor Resource/Systems Manager Planning Guide*, available for your CPC on IBM Resource Link.

CSBFLG

Basic CPU sampling control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

CSDFLG

Diagnostic sampling authorization control. This function applies only if the CSBFLG is set to YES. The CSDFLG controls whether it is allowed to control or collect the sampling data, such as instruction addresses and CPU information.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

CSRES

The amount of Central Storage, in megabytes, that can be allocated dynamically to the partition after activation.

Reserved storage provides the logical partition with an additional amount of storage that can be used only if it is not already being used by another active logical partition.

There is no minimum for reserved storage. Zero megabytes (0 MB) is a valid amount of reserved storage.

Value information:

0–n

Enter a value that is compatible with the storage granularity supported by your CPC.

For storage granularity information, see the *Processor Resource/Systems Manager Planning Guide*, available for your CPC on IBM Resource Link.

CXCFLG

Extended CPU counter control. If the flag is enabled, the function can be used.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

DEAFLG

The logical partition allows to import DEA encryption.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

DEFCAP

The logical partition's defined capacity. Valid for profile type IMAGE.

Value information:

0

No defined capacity for the LPAR.

1–2147483647

Amount of defined LPAR capacity.

Note that the maximum value represents the highest value accepted by the SE/HMC, which may not represent the correct capacity limit in your environment.

The defined capacity expressed in terms of Millions of Service Units (MSUs) per hour. MSUs is a measure of processor resource consumption. The amount of MSUs that a logical partition consumes is dependent on the model, the number of logical processors that are available to the partition, and the amount of time that the logical partition is allocated. The defined capacity value specifies how much of the logical partition capacity is to be managed by Workload Manager (WLM) for the purpose of software pricing.

DESC

Activation profile description text string. Valid for profile types: RESET, LOAD, IMAGE, and GROUP.

Value information: A maximum length of 50 characters is allowed. Pass a null string to clear the current DESC content.

ENDTSL

The end time slice if the CPC image enters a wait state. Valid for the RESET profile type.

Value information:

YES

Indicates that a CPC Image should lose its share of running time when it enters a wait state.

NO

Indicates that a CPC Image should not lose its share of running time when it enters a wait state.

Note: This value can only be set if the processor running time type is set to 1, that is, set to a constant value (see The PRTT Parameter).

ES

The amount of Central Storage, in megabytes, allocated at partition activation time for use as expanded storage.

There is no minimum for expanded storage. Zero megabytes (0 MB) is a valid amount of expanded storage.

Value information:

0–*n*

Enter a value that is compatible with the storage granularity supported by your CPC.

For storage granularity information, see the *Processor Resource/Systems Manager Planning Guide*, available for your CPC on IBM Resource Link.

ESRES

The amount of Expanded Storage, in megabytes, that can be allocated dynamically to the partition after activation. This variable applies only if the partition mode is ESA/390 or ESA/390 TPF.

Reserved storage provides the logical partition with an additional amount of storage that can be used only if it is not already being used by another active logical partition.

There is no minimum for reserved storage. Zero megabytes (0 MB) is a valid amount of reserved storage.

Value information:

0–*n*

Enter a value that is compatible with the storage granularity supported by your CPC.

For storage granularity information, see the *Processor Resource/Systems Manager Planning Guide*, available for your CPC on IBM Resource Link.

GACFLG

Flag that indicates whether LPAR absolute group capping capability is active and processor value settings are permitted.

Value information:

YES

Absolute shared processor group capping is enabled. The processor GACVAL setting is used and can be changed for the group assigned to selected LPAR. This processor value is the upper limit. Available shared processor values that exceed the capping limit are not assigned to the LPARs in the group.

NO

Absolute shared processor group capping is disabled. The processor GACVAL value is not used and cannot be changed. The assignment of shared processor values for the LPAR is dynamically determined and adjusted according to the available resources for that processor

type, or if the ACFLG is set to YES and a valid ACVAL is set for the LPAR, this capping value goes into effect.

Note: Absolute group capping is supported on console version 2.13.1 or later.

GACVAL
Shared processor group value. Defines the upper limit of the processor value that is shared among the LPARs assigned to the group.

Value information:

The allowed absolute capping processor value range is: 0.01 - 255.0.

Note: Absolute capping is supported on console version 2.13.1 or later. In case the GACFLG is set to 'NO', an undetermined value (for example, '-1') may be returned by the hardware when querying GACVAL. Ignore this value, and do not interpret it by any means.

ICNTL common command updates of GACVAL are only possible while the addressed LPAR is a member of the GROUP activation profile, shown in variable GRPPRF at the time GACVAL is updated. The GACVAL in this profile must have been initialized.

GPDCFLG
Global performance data control flag. If the flag is enabled, the partition can view CP utilization and IO busy data for all partitions in the configuration. If the flag is disabled, only the data of the own partition can be viewed.

Value information:

YES
The flag is enabled.

NO
The flag is disabled.

GRPPRF
The name of the LPAR capacity group that the LPAR is a member of. This variable is valid for IMAGE profiles only.

Value information:

pval
An alphanumeric name with a maximum length of 8 characters.

*
If you specify an asterisk as the UPDATE value, the actual data value is copied from the NetView task global variable GRPPRF.

IMODE
Operating mode of the partition. Depending on the mode, the LPAR capabilities are different. Use the mode that is required by the operating system or the appliance running in the partition.

Value information:

1 (ESA390)
2 (ESA390TPF)
3 (CF)
4 (LINUX)
5 (FMEX)
6 (HMEX)
7 (HMAS)
8 (ZVM)
9 (ZACI or ZAWARE)

IOCTLFLG
Input/Output configuration control flag. If the flag is enabled, the partition is authorized to read and write any non-write protected IOCDS in the configuration and can change the configuration dynamically.

Value information:

YES
The flag is enabled.

NO
The flag is disabled.

IPLADR
The IPL address (load address) for IPLs from a channel attached device. (IPLTYP NORMAL) Valid for profile types IMAGE and LOAD.

Value information:

pval
Hexadecimal device number of a channel attached load device.

NEXT
Indicates that the IPLPRM value that is supplied by HCD through its hardware interface is to be used.

*
When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable IPLADR.

Note: Depending on the CPC hardware type, a device number of '0000' is accepted as IPLADR by the hardware. Do *not* use this value, either with SA z/OS ProcOps, or when using the HMC to specify a LOAD address. Unpredictable results may occur.

IPLPRM
The IPL parameter (load parm) for IPLs from a channel attached device. (IPLTYP NORMAL) Valid for profile types IMAGE and LOAD.

Value information:

pval
OS-supported, 8-character load parameter field of CMOS S/390® and zSeries hardware. See the OS documentation for information about the IPL parameters that it supports.

NEXT
Indicates that the IPLPRM value that is supplied by HCD through its hardware interface is to be used.

*
When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable IPLPRM.

IPLTYP
The type of IPL.

Value information:

NORMAL
Use a channel attached device address to load a basic control program (OS). When this IPL type is used, IPLADR must be specified. IPLPRM is optional.

SCSILOAD
Uses the address of a SAN-attached SCSI device to load a BCP (OS).

When this IPL type is used, the following profile variables must be specified: BRLBA, BPS, LUN, WWPN. OSSLP is optional.

SCSIDUMP

Uses the address of a SAN-attached SCSI device to load a Standalone Dump Utility. The utility uses a dump area on the same SCSI device to store the main storage content.

When this IPL type is used, the following profile variables must be specified: BRLBA, BPS, LUN, WWPN. OSSLP is optional.

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable IPLTYP.

IOCDS

The input/output configuration data set identifier. Valid for profile type RESET.

Value information:

pval

Two-character identifier of the IOCDS that is to be used for CPC activation with this profile.

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable IOCDS.

LICVFLG

License Internal Code validation. When enabled, the activation profile data must conform to the current LICCC configuration.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

LPARIFLG

Logical partition isolation flag. When enabled, unshared but reconfigurable channel paths remain in exclusive use for that partition.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

LPARXFLG

Cross partition flag. Only when this flag is enabled, can operations management commands to other LPARs be sent over the BCP internal interface.

Value information:

YES

The flag is enabled.

NO

The flag is disabled.

LUN

The logical unit number of the SCSI IPL boot device. Valid for profile types: IMAGE, LOAD.

Value information:

pval

Eight-byte identifier (16 hexadecimal digits) of the logical unit representing the SCSI IPL device.

> *****
>> When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable LUN.

OSSLP
> The operating-system-specific load parameter for IPL from SCSI device. Valid for profile types: IMAGE, LOAD.
>
> For a READ operation, the data that is returned in the AOFA0020 response report is split into 8 lines. If OSSLP is not set, a string of 256 blanks is returned from the hardware. If not all OSSLP bytes are used, the string returned is always padded with blanks.
>
> **Value information:**
>
> *pval*
>> The operating system specific load parameters to be used for the SCSILOAD or SCSIDUMP. The character string can be up to 256 bytes long.
>>
>> The OS-specific load parameter is optionally used to pass a string of characters to the program that is being loaded. Neither the system nor the machine loader interprets or uses these parameters. For example, the OS-specific load parameter can be used to identify additional I/O devices and related storage addresses that are required by the OS being loaded.
>
> *****
>> When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable OSSLP.
>>
>> Use this method if you want to copy a mixed case character string, or if the string contains multiple blank separated words.

PRT
> Processor Running Time. Valid for the RESET profile type.
>
> **Value information:**
>
> **1–100**
>> User-defined processor running time.
>>
>> Defines the amount of continuous time allowed for logical processors to perform jobs on shared processors for the Defined CPC object.
>>
>> **Note:**
>> 1. This value can only be set if the processor running time type is set to 1, that is, set to a constant value (see The PRTT Parameter).
>> 2. If the processor running time type is set to 0, the value for processor running time displayed with the READ command will always be 0.

PRTT
> Processor Running Time Type. Valid for the RESET profile type.
>
> **Value information:**
>
> **0**
>> The processor running time is dynamically determined by the system.
>
> **1**
>> The processor running time is set to a constant value.
>
> Defines whether the processor running time is dynamically determined by the system or set to a constant value for the Defined CPC object.

PWI
> The initial processing weight. Valid for profile type IMAGE.
>
> **Value information:**

0

The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1-999

Represents the relative amount of shared processor resources that is initially allocated to the LPAR.

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable PWI.

Note: If the WLME flag has a value of YES, the PWI value must be in the range from PWMN to PWMX.

PWIC

The initial processing weight capped indicator. Valid for profile type IMAGE.

Value information:

YES

The initial processing weight for the LPAR is capped. It represents the maximum share of processor resources regardless of the availability of excess processor resources.

NO

The initial processing weight for the LPAR is not capped. It represents the share of resources that is guaranteed to the LPAR when all CP resources are in use. When excess processor resources are available, the LPAR can use them if necessary.

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable PWIC.

PWMN

The minimum processing weight. Valid for profile type IMAGE.

The guaranteed minimum share of non-dedicated processor weight, when all processing resources are in use.

Value information:

0

The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1-999

A value that is less than or equal to the initial processing weight that is used to define the minimum relative amount of shared processor resources that is allocated to the LPAR.

*

When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable PWMN.

Note: This value is only applied if the WLME flag has a value of YES.

PWMX

The maximum processing weight. Valid for profile type IMAGE.

Maximum relative amount of shared processor resources for this LPAR.

Value information:

0

The CPC image does not represent a logical partition, or the LPAR has only dedicated processors assigned to it. This value is not valid for UPDATE.

1-999

A value that is greater than or equal to the initial processing weight that is used to define the maximum relative amount of shared processor resources that is allocated to the LPAR.

*

　When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable PWMX.

Note: This value is only applied if the WLME flag has a value of YES.

WLME

　The Workload Manager enabled flag. Valid for profile type IMAGE.

　Value information:

　YES

　　z/OS Workload Manager is used to manage shared processor resources for a logical partition, according to the settings of the minimum and maximum weight specifications.

　NO

　　PR/SM is managing the processing weight. The PWMN and PWMX values do not apply.

　*

　　When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable WLME.

WWPN

　The worldwide port name of the disk controller for the SCSI IPL. Valid for profile type IMAGE.

　Value information:

　pval

　　The worldwide port name is the eight-byte permanent name (16 hexadecimal digits) that is assigned to the FC (fibre channel) adapter port of the SCSI target device containing the logical unit serving as the IPL device. The FC fabric must be configured in such a way that the FCP channel that is used for the IPL operation has access to this port.

　*

　　When an asterisk (*) is specified as the UPDATE value, the actual data value is copied from the NetView Task Global variable WWPN.

VAL

　The value specification for an UPDATE operation.

　pval

　　See the value information for the VAR parameter.

PT

　The Processor Type parameter allows you to specify which processor type the corresponding activation profile information should be read or updated for.

　proctp

　　The processor type:

　　GPP

　　　General Purpose Processor

　　AAP

　　　Application Assist Processor

　　IFL

　　　Integrated Facility for LINUX processor

　　ICF

　　　Internal Coupling Facility processor

　　IIP

　　　Integrated Information Processor

　　CBP

　　　Container Based Processor

　Notes:

1. The IFA processor type (Integrated Facility for Application processor) has been replaced by AAP.
2. Processor types other than GPP are only applicable for the IMAGE profile type and the activation profile variables PWI, PWIC, PWMN or PWMX.

Defaults

For UPDATE and READ actions, if a processor type is not specified with the PT parameter, the default value of GPP (general purpose processor) is used.

Usage

The PROFILE common command for SNMP connected processors can be used to manage important CPC and LPAR activation and operating system load information.

The supported set of profile variables can be queried and modified using the ISQCCMD PROFILE common command with automation procedures.

Automation of IPLs from SCSI devices can be performed using LOAD or IMAGE activation profiles.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The PROFILE common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. If you issue a PROFILE request for another ProcOps connection type, it will be rejected.

The PROFILE common command cannot be used to create or delete activation profiles; use the HMC to perform these tasks. The PROFILE command supports a subset of the available activation profile variables.

Processor types other than GPP are only applicable for the IMAGE profile type and the activation profile variables PWI, PWIC, PWMN or PWMX.

Condition Codes

The PROFILE common command uses the internal APROF service to process the requests. The following lists the condition codes that are returned in the form 00B000*xx*, where *xx* is the condition code:

62
  The variable name that is specified in the request is not supported. The request is rejected.
63
  The variable name that is specified in the request is not supported. The request is rejected.

64

The request was not recognized by the APROF service. The request is rejected. Contact IBM Support.

65

The value operand of the request was not recognized by APROF. The request is rejected. Contact IBM Support.

66

OPEN error. APROF could not allocate the profile list storage. The request is rejected. Contact IBM Support.

67

OPEN error. Profile was already opened. The request is rejected. Issue a CLOSE request first.

68

Profile TYPE error. Allowed types are RESET, IMAGE, and LOAD. The request is rejected.

69

Profile is not open. Issue an OPEN request first. The request is rejected.

6A

Profile not found error. If the named profile was created since the last OPEN, issue a CLOSE and reopen the profiles to access the new list of profiles. The request is rejected.

6B

Profile UPDATE error. Error in APROF parameter list. The request is rejected. Contact IBM Support.

6C

Profile UPDATE error. Internal variable name list error. The request is rejected. Contact IBM Support.

6D

Profile UPDATE error. The specified variable name is not valid. Re-specify the variable name and repeat the request. The request is rejected.

6E

Profile UPDATE error. The specified update value was not accepted. Re-specify the value and repeat the request. The request is rejected.

6F

Profile UPDATE error for OSSLP. A NetView Cglobal could not be accessed. The request is rejected. Contact IBM Support.

Return Codes
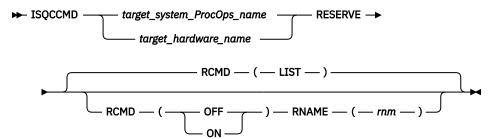
The ISQCCMD command (see) generates the return codes for common command processing.

RESERVE

Purpose

The RESERVE common command allows you to gain exclusive control over a CPC and lock the execution of disruptive commands. While a CPC is reserved, no application, including the one holding the reserve, can issue hardware commands to the CPC itself or one of its logical partitions until the lock is released again. The lock also applies for manual CPC and LPAR operation using the CPC's Support Element or an HMC.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ RESERVE ─►
             └─ target_hardware_name ────────┘

   ┌──────────── RCMD ── ( ── LIST ── ) ─────────────┐
►──┤                                                 ├──►◄
   └─ RCMD ── ( ─┬─ OFF ─┬─ ) ── RNAME ── ( ── rnm ── ) ─┘
                 └─ ON ──┘
```

Requirements

The requirements for the RESERVE command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized for this command to complete successfully. If the target hardware is addressed, at least one target system on that hardware must have the ProcOps status INITIALIZED.

Parameters

For a definition of *target_system_ProcOps_name* and *target_hardware_name*, see .

RCMD
> Reserve command to be executed.
>
> **LIST**
> > Returns the current reserve ID, if one is set in the field APPLNAME of the AOFA0001 response report from the target hardware. If the APPLNAME field that is returned is empty, no reserve condition exists for the CPC. The format 'majorname.minorname' is used if the APPLNAME field indicates a reserve condition. The majorname '0AUTOOPS' is used if a reserve is set by ProcOps or other applications using the z Systems API. The minorname returned is the reserve ID that is specified by an application.
>
> **ON**
> > Sets a CPC reserve using the name that is specified with the RNAME parameter keyword.
>
> **OFF**
> > Releases a previously set CPC reserve condition using the name that is specified with the RNAME parameter keyword.

RNAME
> Reserve identification minor name.
>
> *rnm*
> > Reserve ID minor name. The maximum length that is allowed is eight characters.

Defaults

If no RESERVE parameters are specified, an RCMD(LIST) is executed.

Usage

Locking a CPC with the RESERVE command for disruptive command execution should only be performed in recovery situations, where access to the CPC or its LPARs has to be controlled. The operator or recovery application can issue the ISQCCMD RESERVE to isolate and release a CPC.

Note that the hardware commands issue a reserve internally to indicate a busy condition to the HMC operator or to other applications for the duration of a command. This internal reserve is object specific (CPC, image) and is different from the ISQCCMD RESERVE in ProcOps.

The RESERVE command can be used to determine whether a Support Element has exclusive control enabled. Usually hardware service sets this control to make sure no hardware command can disrupt SE service activity. After service, exclusive control is usually reset to disable.

Issue a RESERVE RCMD(LIST) common command to determine whether exclusive control has been set from the CPC's Support Element. The AOFA0001 report that is returned shows an application name in the format APPLNAME(*netid.nau*), where *netid* is the CPC's netid, and *nau* is the CPC's nau.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR name. In order to get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

Restrictions and Limitations

The RESERVE common command is only supported for SNMP connections. When issuing a RESERVE for other ProcOps connection types, it will be rejected.

The RESERVE hardware command works only for ProcOps sessions to the Support Element of the addressed CPC. ProcOps sessions to an HMC are not supported and the RESERVE command will fail.

The RESERVE hardware command is available for machine types from 2064 onwards.

Return Codes
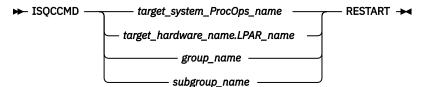
The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

RESTART

Purpose

The RESTART command causes the target system processor to perform the restart function. This function consists of loading the restart program status word (PSW).

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ─┬─ RESTART ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             ├─ group_name ─┤
             └─ subgroup_name ─┘
```

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized for this command to complete successfully.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

The RESTART command is normally used to return the processor to an active processing state from a QUIESCE or SHUTDOWN condition.

The RESTART command can also be used to recover from various system problems.

Restrictions and Limitations

None.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

RESTART of a VM Guest System

Purpose
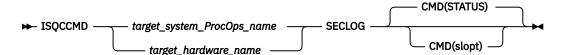
For a guest machine a CP SYSTEM RESTART command is sent.

SECLOG

Purpose

The SECLOG command provides routing for security records as they are written in the Support Element (SE) or Hardware Management Console (HMC) logs of Processor operations for automation. The routing can be turned ON or OFF and the current routing STATUS can be determined. Depending on the session endpoint, the Security Log of an SE or HMC can be monitored.

Syntax

```
►►─ ISQCCMD ──┬─ target_system_ProcOps_name ─┬─ SECLOG ──┬──── CMD(STATUS) ────┬─►◄
              └─── target_hardware_name ──────┘           └──── CMD(slopt) ─────┘
```

Requirements

The requirements for the SECLOG command to complete successfully are:

- Processor operations must be active
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.

Parameters

For a definition of *target_system_ProcOps_name* and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
　　Prefix for sub-command/Options.

slopt
> The following sub-commands/Options are supported:

> **Status**
>> Returns the current SECLOG setting.

> **ON**
>> Turns ON the routing of SECLOG messages to Processor operations.

> **OFF**
>> Turns OFF the routing of SECLOG messages to Processor operations.

Defaults

The default of SECLOG is Sub-command CMD(STATUS).

Usage

The monitoring of Security Log messages in Processor operations exists for console events, such as User Access, Software Updates, Data Mirroring, Configuration Changes and additional information about operational commands. Use the task 'View Security Logs' available on the console Graphical User Interface (GUI) to view additional information. A typical scenario for SECLOG is to start it, before issuing an Operations Management or Configuration command, such as TCM or CBU. For further issues, the SECLOG messages in the Netlog of the Processor operations focal point, may be useful. It is recommended to turn SECLOG OFF again, once the management or configuration command is complete.

Restrictions and Limitations

The SECLOG command is only supported with SNMP connections.

Return Codes
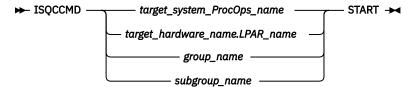
The ISQCCMD command generates the return codes for common command processing.

START

Purpose

The START command causes the target system processor to perform the start function. This function consists of returning the operating system to the operating state from the stopped state initiated by the STOP command.

Syntax

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized for this command to complete successfully.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

The START command is equivalent to pressing the START key at a target system.

Use the START command to cancel the effects of the STOP command and allow the operating system to run again.

Restrictions and Limitations

- This command is not supported for coupling facility target systems.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

START of a VM Guest System

Purpose
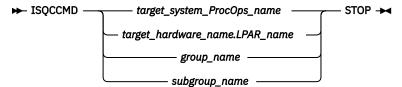
For a guest machine the CP BEGIN command is entered.

STOP

Purpose

The STOP command causes the target system processor to perform the stop function. This function consists of placing the processor in the stopped state at the end of the current unit of operation.

Syntax

```
►► ISQCCMD ─┬─ target_system_ProcOps_name ──┬─ STOP ►◄
            ├─ target_hardware_name.LPAR_name ─┤
            ├──────── group_name ───────────┤
            └──────── subgroup_name ─────────┘
```

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized for this command to complete successfully.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

Use the STOP command to temporarily halt normal operations. You can use this command to interrupt processing to perform various hardware maintenance functions (such as cleaning the heads of a tape drive) and then continue processing from the point at which it stopped.

Note: The STOP command triggers a hardware status change event from the SE or HMC which sets the target hardware status to 'TARGET HARDWARE PROBLEM'. If you execute the ISQXDST command to display the target status, the compound status is displayed in the main panel. For more details about the target hardware status, refer to ISQVARS variable 'thwstat'.

Restrictions and Limitations

This command is not supported for coupling facility target systems.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

STOP of a VM Guest System

Purpose

For a guest machine the CP STOP command is entered. (This will place the guest machine in a CP READ state, and a message is issued to this effect.)
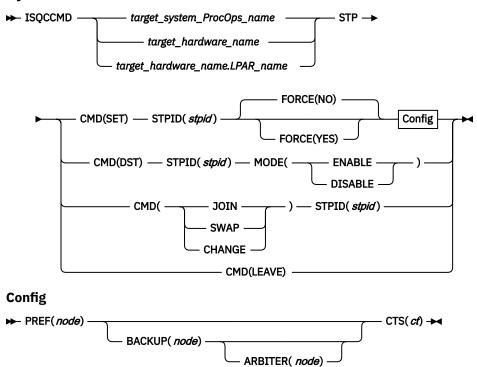
STP

Purpose

The STP command allows you to manipulate server time protocol (STP) settings in an STP network. You can:

- Join, leave, or change an STP-only Coordinated Timing Network (CTN)
- Swap a Current Time Server (CTS) from Preferred to Backup, or vice versa
- Set Preferred, Backup, Arbiter, and CTS server roles
- Enable or disable the Daylight Saving Time setting in an STP-only CTN

Syntax

Config

Requirements

The requirements for the STP command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.
- The target hardware must be an STP-capable server supported by SA z/OS, with STP configured and enabled.
- The target hardware mainframe must be configured and enabled in the Coordinated Timer Network identified by the STPID.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
Indicates the type of STP command to be performed. It can be one of the following:

JOIN
This command allows a CPC to join an STP-only CTN.

If the CPC is already participating in an STP-only CTN, it is removed from that CTN and joins the specified one.

If the CPC has an external time reference (ETR) ID, it is removed.

The target system cannot be the CTS.

LEAVE
This command removes a central processor complex (CPC) from an STP-only CTN. The target system cannot be the CTS.

CHANGE
This command is sent to the Defined CPC with the role of CTS in an STP-only CTN and changes the STP ID portion of the CTN ID for the entire STP-only CTN. The target system must be the CTS.

SET
This command sets the configuration for an STP-only Coordinated Timing Network (CTN). The target system must be the system that will become the Current Time Server (CTS).

SWAP
In a configured STP-only CTN, one CPC has the role of CTS. If the CTN has both a Preferred Time Server and a Backup Time Server configured, either one can be the CTS. This command swaps the role of CTS from Preferred Time Server to Backup Time Server or vice versa.

The target system must be the system that will become the CTS.

DST
In an STP-only CTN, the configured Daylight Saving Time setting can be enabled or disabled with this command. Note that the active DST settings cannot be queried. This is a z System API limitation.

STPID
An alphanumeric string that represents the current STP identifier for the Defined CPC object. The string must not exceed 8 characters. It is applicable for the CMD options JOIN, CHANGE, SWAP, and SET. It is applicable for the CMD options JOIN, CHANGE, SWAP, SET, and DST.

FORCE
This parameter is only applicable for CMD (SET). It bypasses a number of validity checks on server connectivity, and it allows the configuration of servers that may not be in POR-complete state or do not yet have coupling link connectivity to the selected CTS.

NO
Specifies that various verifications will be made before allowing the configuration to be set. For example, connections between the Preferred Time Server (CPC), Backup Time Server (CPC), and Arbiter will be verified. If the connections are not there, the configuration will fail.

YES
Specifies that the configuration will be applied without verifications.

MODE
This parameter is only applicable for CMD (DST). It defines the CTN time to run with the daylight saving time either enabled or disabled.

ENABLE
MODE value of the STP sub-command DST. Specifying ENABLE sets a configured daylight time saving offset in the current CTN time and the normal time setting is inactive in the CTN, identified by the STPID.

DISABLE
MODE value of the STP sub-command DST. Specifying DISABLE removes a configured daylight time saving offset from the current CTN time and the normal time setting becomes active in the CTN, identified by the STPID.

Config
Specifies the type of server that a configuration is being set for. It is only applicable for CMD(SET). It can be one of the following:

PREF
Assigns the Preferred Time Server role (the server that is assigned to be the Preferred Stratum 1 server) in an STP-only CTN. The PREF parameter is mandatory for the CMD(SET) command.

This is usually also the Current Time Server (CTS).

BACKUP
Assigns the Backup Time Server role in an STP-only CTN. This is the server that is assigned to take over as the CTS, either because of a planned or unplanned reconfiguration. This is usually a

Stratum 2 server that should be attached to the Preferred Time Server as well as all the servers that are attached to the Preferred Time Server.

If you do not specify BACKUP for the SET command, the BTS role will be unset (that is, not configured).

ARBITER
Assigns the Arbiter role in an STP-only CTN. This is the server that is assigned to provide additional means for the Backup Time Server to determine whether it should take over as the Current Time Server.

If you do not specify ARBITER for the SET command, the Arbiter role will be unset (that is, not configured). You must configure the Backup Time Server (that is, specify the BACKUP parameter) if you configure an Arbiter.

CTS
Assigns the Current Time Server role in an STP-only CTN. This is the server that is currently the Stratum 1 server for an STP-only CTN. The only values that are allowed are `Preferred` or `Backup`. The CTS parameter is mandatory for the CMD(SET) command.

node
An alphanumeric string that represents the name of the CPC and must not exceed eight characters.

Defaults

The STP command defaults to FORCE (NO).

Usage

Use this command to modify the STP configuration in an STP-only CTN.

Restrictions and Limitations

The STP common command is only supported for SNMP connections. If an STP request is issued for another processor operations connection type, it will be rejected.

Note: To perform an STP CMD(SET) command, all nodes that are referenced in the command should be defined in main HMC console.

Return Codes
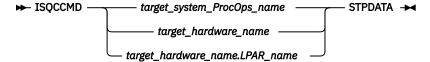
The ISQCCMD command (see) generates the return codes for common command processing.

STPDATA

Purpose

The STPDATA command allows you to query the Server Time Protocol (STP) configuration for the defined CPC object.

Syntax

```
►►─ ISQCCMD ─┬─── target_system_ProcOps_name ───┬─ STPDATA ─►◄
             ├──── target_hardware_name ────────┤
             └─── target_hardware_name.LPAR_name ───┘
```

Requirements

The requirements for the STPDATA command to complete successfully are:

- The target hardware must be an STP-capable server supported by SA z/OS, with STP configured and enabled.

Processor Operations environment

- Processor operations must be active.
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.

LPAR Management environment

- SA z/OS must be fully initialized.
- The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

Defaults

None.

Usage

Use this command to query the Server Time Protocol (STP) configuration for a specific CPC object. The data is returned in an AOFA0024 multiline report. For more information about this report format see the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the processor hardware are available as processor operations ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a processor operations target system name or a target hardware name together with an LPAR name. To have a copy of these hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If processor operations is active, and your common command targets a processor or system that has the same name in both your processor operations and BCP Internal Interface configuration, processor operations is always preferred. To avoid this, you must either stop processor operations or use names that are uniquely assigned to either processor operations or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name ISQ.SNMP. You can access this HW data directly when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The STPDATA common command is only supported for SNMP connections and BCP Internal Interface connections that are configured for LPAR Management. When issuing a STPDATA request for another processor operations connection type, it will be rejected.

Condition Codes

The following condition codes are returned in the form 00B000*xx*, where *xx* is the condition code:

96
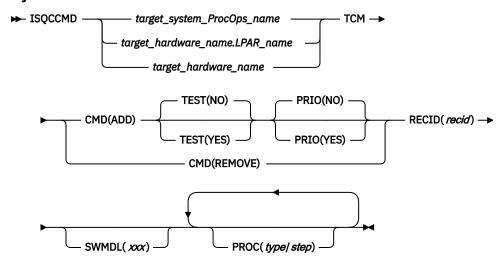No STP configuration was found.

Return Codes
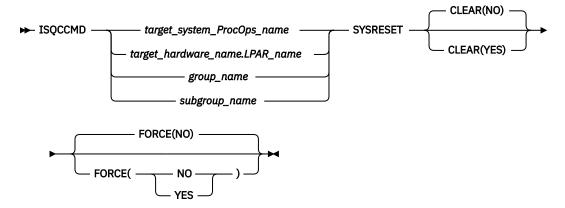
The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

SYSRESET

Purpose

The SYSRESET command causes the target system processor to perform the system reset function. This function consists of resetting and initializing the processor.

Syntax

Requirements

Processor operations must be active for this command to complete successfully.

The addressed target system must be initialized for this command to complete successfully.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, *group_name*, and *subgroup_name*, see "ISQCCMD" on page 287.

CLEAR(NO)
Indicates that the option of clearing storage is not being specified. This is the default value. No space is allowed between the keyword CLEAR and the left parenthesis.

CLEAR(YES)
Indicates that the option of clearing storage is being specified. No space is allowed between the keyword CLEAR and the left parenthesis.

FORCE
Requests conditional processing of commands that are disruptive to the operating system control program and application work that is in progress. Use of this operand is based on the operating state of the target processor.

NO
> Specifies that processing of the command is to continue *only* if the target CPU control program is not in the operating state. Specify FORCE(NO) in a situation where you would *not* want to upset the control program work-in-progress.

YES
> Specifies that processing of the command is to continue *even* if the target CPU control program is in the operating state. Specify FORCE(YES) in a situation where disruption of the control program work-in-progress is not important, such as in recovery situations.

The default, if FORCE is not explicitly stated, is FORCE(NO).

FORCE(NO) requires that the associated command *fail* when useful work is taking place. For SYSRESET the formal fail criteria is *operating* when FORCE(NO) is specified or when FORCE defaults to NO. The command will fail whenever the processor is in this state.

Defaults

The SYSRESET command defaults to FORCE(NO) and to CLEAR(NO).

Usage

Issue SYSRESET to recover a processor from a machine stop condition. This command places the processor into the operating state from the check-stop state.

If you do not specify FORCE(YES), the SYSRESET command checks to make sure it will not be disruptive by performing the following processing:

- If the target system runs in a logical partition and the same logical partition name is initialized to another target system in the same target hardware, the SYSRESET command is rejected and processing of the command halts.

- On a non-partitioned target system, if the target hardware has another target system initialized to it, the SYSRESET command is rejected and processing of the command halts.

Restrictions and Limitations

This command is not supported for coupling facility target systems.

For SNMP-connected target hardware, the CLEAR parameter is supported by the IBM Z hardware family..

Return Codes

The ISQCCMD command (see) generates the return codes for common command processing.

SYSRESET of a VM Guest System

Purpose

For a guest machine the CP SYSTEM RESET command is entered.

Parameters

CLEAR
> If CLEAR(YES) is specified for a guest machine, a CP SYSTEM CLEAR is issued.

FORCE(NO)
> Guest status is checked. If NOT OPERATING then a CP SYSTEM RESET command is issued.
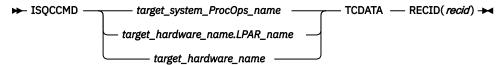
TCDATA

Purpose

The TCDATA common command allows you to query the status and settings for a specific temporary capacity record.

Syntax

```
►►─ ISQCCMD ─┬─ target_system_ProcOps_name ───┬─ TCDATA ── RECID( recid ) ─►◄
             ├─ target_hardware_name.LPAR_name ─┤
             └─ target_hardware_name ──────────┘
```

Requirements

The requirements for the TCDATA command to complete successfully are:

* On/Off Capacity on Demand (ooCoD) or Capacity Backup Unit (CBU) records, or both, must be installed on the addressed target hardware.
* The required temporary capacity record must be available on the addressed target hardware.

Processor Operations environment

* Processor operations must be active.
* The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.

LPAR Management environment

* SA z/OS must be fully initialized.
* The processor hardware of the addressed target system or target hardware LPAR must be configured for connection type INTERNAL in the SA z/OS customization dialogs.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

RECID
Defines the ooCoD or CBU record that TCDATA query should be executed for. If you specify a record ID of 'LIST', the TCDATA command will display a list of the installed capacity record IDs.

Defaults

None.

Usage

Use this command to query the status and settings for a specific temporary capacity record.

The data is returned in an AOFA0023 multiline report. For more information about this report format, see the appendix, "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the processor hardware are available as ProcOps ISQ900I messages with a console indicator of SC. Note that the message originator following the message identifier is either a ProcOps target system name, or a target hardware name together with an LPAR

name. To get a copy of such hardware messages on your screen as ISQ901I messages, use the ISQXMON command.

This common command can also be used for processors or systems that you have configured with a BCP Internal Interface connection in your SA z/OS policy. If ProcOps is active, and your common command targets a processor or system that has the same name in your ProcOps and BCP Internal Interface configuration, ProcOps is always preferred. To avoid this, you must either stop ProcOps or use names that are uniquely assigned to either ProcOps or the BCP Internal Interface.

Additional Programming Information

On command completion, the immediate HW response report messages are also available in a PIPE KEEP with the name 'ISQ.SNMP'. You can directly access this HW data when using this KEEP as your first Pipe stage. See "Using Immediate ISQCCMD Common Command Responses " on page 289.

Restrictions and Limitations

The TCDATA common command applies only to Series z10 hardware and later. The command fails for older hardware.

The TCDATA common command is only supported for SNMP connections and BCP Internal Interface connections configured for LPAR Management. When issuing a TCDATA request for another ProcOps connection type, it is rejected.

If parameter RECID should be passed in mixed case, you must use the 'NetVasis ISQQCMD' form to make sure that the data is passed without uppercase translation. Failure to do so may result in TCDATA command errors (invalid record id).

Condition Codes

The following condition codes are returned in the form 00B000*xx*, where *xx* is the condition code:

90
>   No temporary capacity record list was found.

91
>   Object not found. In this case, the temporary capacity record object was not found.

92
>   No matching record found for provided record ID.

93
>   Error found while parsing temporary capacity record XML data.

Return Codes

The ISQCCMD command (see "ISQCCMD" on page 287) generates the return codes for common command processing.

TCM

Purpose

The TCM common command allows you to add or remove temporary capacity resources (processors) for specific target hardware.

Syntax

Requirements

The requirements for the TCM command to complete successfully are:

- Processor operations must be active.
- The addressed target system must be initialized, or, if the target hardware is addressed, at least one target system on that hardware must be initialized.
- On/Off Capacity on Demand (ooCoD) or Capacity Backup Unit (CBU) records, or both, must be installed on the addressed target hardware.
- The required resources (processors) must be available on the addressed target hardware.
- With Console Workplace 2.10 and later versions, for ADD and REMOVE, the flag 'Allow capacity change API requests' must be set in 'Customize API Settings' on the SE.

Parameters

For a definition of *target_system_ProcOps_name*, *target_hardware_name.LPAR_name*, and *target_hardware_name*, see "ISQCCMD" on page 287.

CMD
> Possible commands are:
>
> **ADD**
> > Add processor resources to the addressed target hardware.
>
> **REMOVE**
> > Remove processor resources from the addressed target hardware.

TEST
> Only applicable for CMD(ADD). It is used to indicate whether the activation of additional processors should be done on a test basis. The default is NO, that is, real activation.
>
> **Note:** TEST(YES) is only supported for CBU records.

PRIO
> Only applicable for CMD(ADD). It is used to indicate whether the activation of additional processors should be handled with priority. The default is NO, that is, no priority activation.

RECID
> Defines the ooCoD or CBU record that the add or remove command should be executed for. The value consists of 8 alphanumeric characters.

SWMDL
    Defines the Software Model that the add or remove command should result in. It is used to add or remove General Purpose Processors. The value consists of three alphanumeric characters.

PROC
    Used to define up to six Special Purpose Processors, using the following variables:

    type
        Defines the processor type. The following values are allowed:

        AAP
            Application Assist Processor

        IFL
            Integrated Facility for Linux processor

        ICF
            Internal Coupling Facility processor

        IIP
            Integrated Information Processor

        SAP
            System Assist Processor

        CBP
            Container Based Processor

    step
        Defines the number of processors that should be added or removed. The valid value range for *step* is 0–9999.

    Note: The two values must be separated with the / character.

Defaults

The PRIO and TEST parameters for CMD(ADD) default to NO.

Restrictions and Limitations

The TCM common command applies only to Series z10 hardware and later. The command fails for older hardware. The number of PROC parameters must not exceed five.

The TCM common command is only supported for SNMP connections. If a TCM request is issued for another processor operations connection type, it is rejected.

If parameter RECID should be passed in mixed case, you must use the 'NetVasis ISQQCMD' form to make sure that the data is passed without uppercase translation. Failure to do so may result in TCM command errors (invalid record id).

Condition Codes

The following condition code is returned in the form 00B000*xx*, where *xx* is the condition code:

94
    Error found while composing temporary capacity add or remove XML data.

Return Codes

The ISQCCMD command (see) generates the return codes for common command processing.

Chapter 8. Ensemble Commands
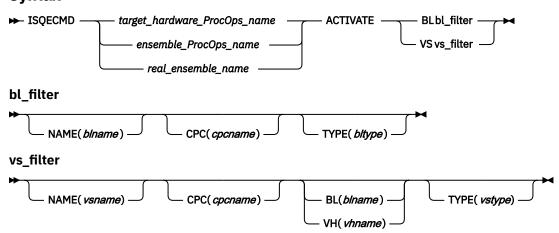
This information describes the ensemble commands provided by SA z/OS processor operations. Ensemble commands provide a single operator interface and API to monitor and control the resources of a zEnterprise Blade Extension HW.

ACTIVATE

Purpose

The ACTIVATE command accepts a request to perform asynchronously a complete initialization of the identified resource (virtual server or blade).

Syntax

Requirements

The requirements for the ACTIVATE command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- ACTIVATE VS command, virtual servers must be discovered to the Processor operations data model for the session using DISCOVERY VS ensemble command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

*_filter
Is a set of parameters allowing unambiguous identification of a target resource. Only full specification of all *_filter parameters ensures selection of a single object. Depending on the complexity of your ensemble, you may not need all the parameters; in most cases it is enough to specify NAME and CPC parameters to identify a target resource. If more than one resource corresponds to the selected filter, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

NAME
The name of the resource to ACTIVATE. The name is case-sensitive.

CPC
>   Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
>   Defines the Unified Resource Manager-assigned name of the blade.

VH
>   Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
>   Defines the type of the objects to be activated. Values are:
>
>   For ACTIVATE BL command:
>
>   **power**
>   >   the System z Power blade
>
>   **system-x**
>   >   the System x blade
>
>   **isaopt**
>   >   the IBM Smart Analytics Optimizer blade
>
>   **dpxi50z**
>   >   the DataPower® XI50 blade
>
>   For ACTIVATE VS command:
>
>   **power-vm**
>   >   a virtual server running on a Power blade
>
>   **x-hyp**
>   >   a virtual server running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtualization hosts and virtual servers of the types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

The ACTIVATE command can be very disruptive and FORCE(NO) is not yet supported for the command so use this command carefully.

Usage

Use ACTIVATE BL command to activate a blade. This command also activates a virtualization host, hosted on the blade as a consequence of activating the hosting environment. If "auto-start-virtual-servers" is true, the virtualization host activation will also activate all virtual servers on the virtualization host whose auto-start property is true.

Use ACTIVATE VS command to activate a virtual server.

Once the activation request is accepted, the command returns with an AOFB0001 report showing activation job initiation status and adds the "activate vs" request to internal list of submitted asynchronous commands. You may use LIST JOB command to see all successfully submitted asynchronous commands.

Once the activation job has completed on the target ensemble HMC, a job-completion notification is sent with the activation completion report as an AOFB0300 report and removes the activation request from the list of submitted asynchronous commands. The session should have a subscription for type JOB for appropriated resource classes (BL or VS) in order to receive job completion notifications and correctly

manage the list of submitted asynchronous commands. For more information about AOFB* reports refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports and notifications from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

BCDATA

Purpose

The BCDATA ensemble command collects configuration and status information about addressed blade center and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the BCDATA command to complete successfully are:

* Processor operations must be active.

* Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

CPC
Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BC
Defines the Unified Resource Manager-assigned name of the single zBX blade center.

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get a snapshot of a single BC object properties. The data is returned as an AOFB0012 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have more than one blade center in your ensemble, use BC and CPC parameters to limit the query to the single BC object. You may use the LIST BC ensemble command to see names and managing CPCs of all blade centers objects discovered for the target ensemble. Only a full specification of command parameters ensures selection of a single object. If more than one resource corresponds to the selected parameters, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.
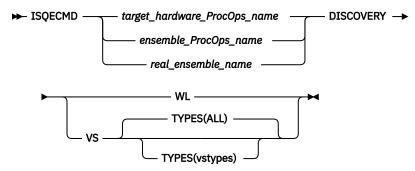
Return Codes
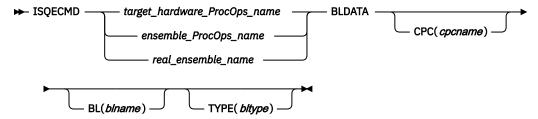
The ISQECMD command generates the return codes for common command processing.

BLDATA

Purpose

The BLDATA ensemble command collects configuration and status information about addressed zBX blade and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the BLDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

CPC
  Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
  Defines the Unified Resource Manager-assigned name of the blade.

TYPE

Defines the type of a blade. Values are:

power

the System z Power blade

system-x

the System x blade

isaopt

the IBM Smart Analytics Optimizer blade

dpxi50z

the DataPower XI50 blade

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get a snapshot of the blade properties. The data is returned as an AOFB0016 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have more than one blade in your ensemble, use BL, TYPE and CPC parameters to limit the query to the single blade object. You may use the LIST BL ensemble command to see names, types and managing CPCs of all blade objects discovered for the target ensemble. Only a full specification of command parameters ensures selection of a single object. If more than one resource corresponds to the selected parameters, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

CONDATA

Purpose

The CONDATA ensemble command collects basic information about the zEnterprise Hardware Management Console (HMC) managing the target ensemble and presents this information in a multi-line report.

Syntax

▶▶─ ISQECMD ──┬─ *target_hardware_ProcOps_name* ─┬─ CONDATA ─▶◀
              ├─ *ensemble_ProcOps_name* ────────┤
              └─ *real_ensemble_name* ───────────┘

Requirements

The requirements for the CONDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get basic information about a console. The data is returned in an AOFB0022 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

DEACTIVATE

Purpose
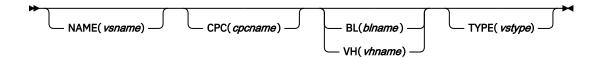
The DEACTIVATE command accepts a request to deactivate asynchronously the identified resource (virtual server or blade).

Syntax

bl_filter

vs_filter

```
►►─┬─────────────────────┬─┬──────────────────────┬─┬────────────────────┬─┬────────────────────┬─►◄
   └─ NAME( vsname) ─┘     └─ CPC( cpcname ) ─┘      ├─ BL( blname ) ─┤       └─ TYPE( vstype) ─┘
                                                     └─ VH( vhname ) ─┘
```

Requirements

The requirements for the DEACTIVATE to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- For DEACTIVATE VS command, virtual servers must be discovered to the Processor operations data model for the session using DISCOVERY VS ensemble command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

*_filter
Is a set of parameters allowing unambiguous identification of a target resource. Only full specification of all *_filter parameters ensures selection of a single object. Depending on the complexity of your ensemble, you may not need all the parameters; in most cases it is enough to specify NAME and CPC parameters to identify a target resource. If more than one resource corresponds to the selected filter, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

NAME
The name of the resource to DEACTIVATE. The name is case-sensitive.

CPC
Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
Defines the Unified Resource Manager-assigned name of the blade.

VH
Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
Defines the type of the objects to be activated. Values are:

For DEACTIVATE BL command:

power
the System z Power blade

system-x
the System x blade

isaopt
the IBM Smart Analytics Optimizer blade

dpxi50z
the DataPower XI50 blade

For DEACTIVATE VS command:

power-vm
a virtual server running on a Power blade

x-hyp
a virtual server running on a System x blade

> **FORCE**
>> Requests conditional processing of commands that are disruptive to the operating system and application work that is in progress. Use of this operand is based on the operating state of the target resource.
>
>> **NO**
>>> Specifies that processing of the command is to continue only if the target resource (blade or virtual server) is not in the operating state. Specify FORCE(NO) in a situation where you would not want to disrupt the operating environment.
>
>> **YES**
>>> Specifies that processing of the command is to continue even if the target resource (blade or virtual server) is in the operating state. Specify FORCE(YES) in a situation where disruption of the operating environment is not important, such as in recovery situations.

Defaults

The DEACTIVATE command defaults to FORCE(NO).

Restrictions and Limitations

Virtualization hosts and virtual servers of the types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

Use DEACTIVATE BL command to deactivate a blade. This command also deactivates a virtualization host, hosted on the blade as a side effect of deactivating the hosting environment. The virtualization host deactivation will also deactivate all virtual servers on the virtualization host.

Use DEACTIVATE VS command to deactivate a virtual server.

If you do not specify FORCE(YES), the DEACTIVATE command checks to make sure it will not be disruptive by querying and validating the resource status.

Once the deactivation request is accepted, the command returns with an AOFB0001 report showing deactivation job initiation status and adds the "de-activate bl/vs" request to internal list of submitted asynchronous commands. You may use LIST JOB command to see all successfully submitted asynchronous commands.

Once the activation job has completed on the target ensemble HMC, a job-completion notification is sent with the deactivation completion report as an AOFB0300 report and removes the deactivation request from the list of submitted asynchronous commands.

The session should have a subscription for type JOB for appropriated resource classes (BL or VS) in order to receive job completion notifications and correctly manage the list of submitted asynchronous commands. For more information about AOFB* reports refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports and notifications from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

DISCOVERY

Purpose

Use this command to get a snapshot of basic properties of the virtual servers managed by the ensemble or the workload resource groups within the target ensemble and add the discovered data to the ProcOps data model.

Syntax

```
►►── ISQECMD ──┬── target_hardware_ProcOps_name ──┬── DISCOVERY ──►
               ├── ensemble_ProcOps_name ─────────┤
               └── real_ensemble_name ────────────┘

   ┌──────────────── WL ────────────────┐
►──┤                                    ├──►◄
   │       ┌── TYPES(ALL) ──┐           │
   └── VS ─┤                ├───────────┘
           └── TYPES(vstypes) ──┘
```

Requirements

The requirements for the DISCOVERY command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

TYPES
>   A comma-separated list of the VS types to be discovered. Supported values are:

>   **POWER-VM**
>>   Virtual servers of type "power-vm"

>   **X-HYP**
>>   Virtual servers of type "x-hyp"

>   **ALL**
>>   All Virtual Servers of the types "power-vm"and "x-hyp" should be discovered.

Defaults

TYPES(ALL)

Restrictions and Limitations

Virtual servers of the types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

ProcOps session to an ensemble manages internal data model allowing identification of ensemble objects based on their names, types, logical parents and managing CPCs. The data model can be extended for dynamic resources using DISCOVERY VS and DISCOVERY WL ensemble commands.

Only objects discovered and available in the data model can be managed using ensemble commands and monitored for notifications.

- Use DISCOVERY VS command to add the virtual servers managed by the target ensemble to the data model. Only virtual servers physically residing on the zBX blade centers managed by the CPCs selected for the ensemble in the customization dialogs of SA z/OS are added to the data model.
- Use DISCOVERY WL command to add the workloads defined within the target ensemble to the data model.

The objects discovered using the command can be removed later from the data model using DROP ensemble command. You may use LIST command to show objects available in the data model and identify criteria for DISCOVERY/DROP commands.

DISCOVERY command just adds new objects and replaces existing objects with new data. The command does not delete any objects from the data model. It is recommended to use DROP and DISCOVERY commands in a sequence in case of inventory changes related to the VS and WL.

The number of discovered objects is returned in an AOFB0030 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
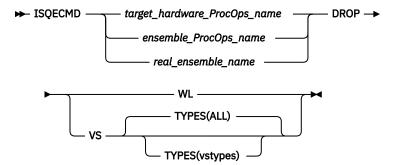
The ISQECMD command generates the return codes for common command processing.

DROP

Purpose

Use this command to delete specified objects from the ProcOps data model.

Syntax

Requirements

The requirements for the DROP command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

TYPES

A comma-separated list of the VS types to be deleted from data model. Supported values are:

POWER-VM

Virtual servers of type "power-vm".

X-HYP

Virtual servers of type "x-hyp".

ALL

All Virtual Servers of the types "power-vm" and "x-hyp" should be deleted.

Defaults

TYPES(ALL)

Restrictions and Limitations

Virtual servers of the types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

ProcOps session to an ensemble manages internal data model allowing identification of ensemble objects based on their names, types, logical parents and managing CPCs.

Only objects discovered and available in the data model can be managed using ensemble commands and monitored for notifications.

- Use the DROP VS command to delete the virtual servers from the data model. The servers deleted from the data model are not available for further ensemble commands and the session will not receive any further notification related to the deleted objects.

- Use the DROP WL command to delete the workload resource groups from the data model. The workloads deleted from the data model are not available for further ensemble commands and the session will not receive any further notification related to the deleted objects.

The objects deleted with the command can be discovered later again using the DISCOVERY command. You may use the LIST command to show objects available in the data model and identify criteria for DISCOVERY/DROP commands.

It is recommended to use the DROP and DISCOVERY commands in a sequence in case of inventory changes related to the VS and WL to rediscover the data and keep the data model in sync with the ensemble definitions on the HMC.

The number of deleted objects is returned in an AOFB0030 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.
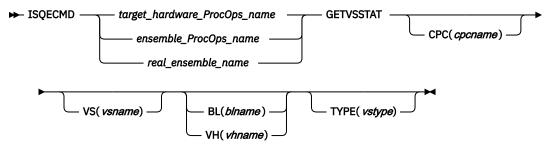
Return Codes
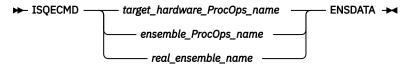
The ISQECMD command generates the return codes for common command processing.

ENSDATA

Purpose

The ENSDATA ensemble command collects basic information about the target ensemble and presents this information in a multi-line report.

Syntax

▶▶─ ISQECMD ─┬─ *target_hardware_ProcOps_name* ─┬─ ENSDATA ─▶◀

      ├─ *ensemble_ProcOps_name* ─┤

      └─ *real_ensemble_name* ─┘

Requirements

The requirements for the ENSDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get basic information about the ensemble. The data is returned in an AOFB0017 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
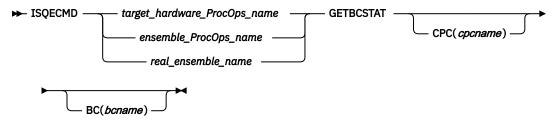
The ISQECMD command generates the return codes for common command processing.

GETBCSTAT

Purpose

The GETBCSTAT ensemble command retrieves the current status of target blade centers and presents this information in a multi-line report.

Syntax

▶▶─ ISQECMD ─┬─ *target_hardware_ProcOps_name* ─┬─ GETBCSTAT ─┬──────────────────┬──▶

      ├─ *ensemble_ProcOps_name* ─┤   └─ CPC(*cpcname*) ─┘

      └─ *real_ensemble_name* ─┘

▶─┬──────────────────┬─▶◀

 └─ BC(*bcname*) ─┘

Requirements

The requirements for the GETBCSTAT command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
> Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BC
> Defines the Unified Resource Manager-assigned name of the single zBX blade center.

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to retrieve status of one ore more blade centers. The data is returned in an AOFB0020 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have multiple blade centers in your ensemble, use BC and CPC parameters to limit the query to specific blade centers. You may use the LIST BC ensemble command to see names and managing CPCs of all blade center objects discovered for the target ensemble.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
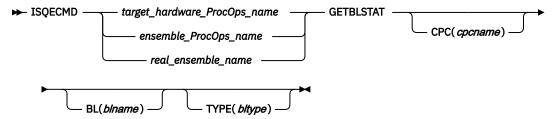
The ISQECMD command generates the return codes for common command processing.

GETBLSTAT

Purpose

The GETBLSTAT ensemble command retrieves the current status of target blades and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the GETBLSTAT command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
  Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
  Defines the Unified Resource Manager-assigned name of the blade.

TYPE
  Defines the type of a blade. Values are:

  power
    the System z Power blade

  system-x
    the System x blade

  isaopt
    the IBM Smart Analytics Optimizer blade

  dpxi50z
    the DataPower XI50 blade

Defaults

None

Restrictions and Limitations

None

Usage

Use this command to retrieve the status of one or more blades. The data is returned in an AOFB0020 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have multiple blades in your ensemble, use BL, TYPE and CPC parameters to limit the query to specific blades. You may use the LIST BL ensemble command to see names, types and managing CPCs of all blades discovered for the target ensemble.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
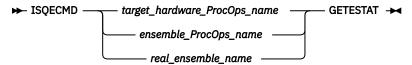
The ISQECMD command generates the return codes for common command processing.

GETESTAT

Purpose

The GETESTAT ensemble command retrieves the current ensemble communication status and presents this information in a single-line report.

Syntax

Requirements

The requirements for the GETESTAT command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to retrieve an ensemble communication status representing the current communication status between the primary and alternate HMC. The data is returned in an AOFB0020 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
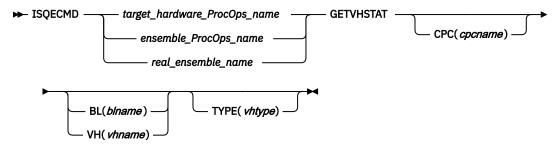
The ISQECMD command generates the return codes for common command processing.

GETVHSTAT

Purpose

The GETVHSTAT ensemble command retrieves the current status of target virtualization hosts (hypervisors) and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the GETVHSTAT command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

Parameters

CPC
Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
Defines the Unified Resource Manager-assigned name of the blade.

VH
Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
Defines the type of a hypervisor. Values are:

power-vm
a virtualization host running on a Power blade

x-hyp
a virtualization host running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtualization Hosts of types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

Use this command to retrieve status of one or more virtualization hosts. The data is returned in an AOFB0020 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have multiple hypervisors in your ensemble, use VH, BL, TYPE and CPC parameters to limit the query to specific virtualization hosts. You may use the LIST VH ensemble command to see names, types and managing CPCs of all virtualization hosts discovered for the target ensemble.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

GETVSSTAT

Purpose

The GETVSSTAT ensemble command retrieves the current status of target virtual servers and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the GETVSSTAT command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- Virtual Servers must be discovered to the Processor operations data model for the ensemble session using DISCOVERY VS ensemble command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
    Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

VS
    Defines the name of the virtual server. The name is unique to other existing virtual servers on the virtualization host/blade. The name is case-sensitive.

BL
> Defines the Unified Resource Manager-assigned name of the blade.

VH
> Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
> Defines the type of the server. Values are:

> **power-vm**
>> a virtual server running on a Power blade

> **x-hyp**
>> a virtual server running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtual servers of types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

Use this command to retrieve the status of one or more discovered virtual servers. The data is returned in an AOFB0020 report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have multiple hypervisors in your ensemble, use VS, VH/BL, TYPE and CPC parameters to limit the query to specific virtual server objects. You may use the LIST VS ensemble command to see names, types and managing CPCs of all virtual servers discovered for the target ensemble. Only servers discovered using the DISCOVERY VS ensemble command and available in the ProcOps data model can be queried.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
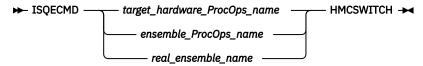
The ISQECMD command generates the return codes for common command processing.

HMCSWITCH

Purpose

The HMCSWITCH ensemble command initiates a primary/alternative Hardware Management Console (HMC) role switch. The command is directed at a HMC that is currently operating in an alternative role and defined as the alternative HMC in the automation policy. As this command causes both consoles to be rebooted, any active sessions (GUI-based or ProcOps-based) are terminated. Processor operations session recovery recovers the session after a successful HMC switch in environments supporting IP address swapping for the HMCs.

Syntax

►► ISQECMD ─┬─ *target_hardware_ProcOps_name* ─┬─ HMCSWITCH ►◄
　　　　　　　├─ *ensemble_ProcOps_name* ─────┤
　　　　　　　└─ *real_ensemble_name* ───────┘

Requirements

The requirements for the HMCSWITCH command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- TCP/IP Address or Hostname of alternative HMC should be defined in the policy for the ensemble.
- Both primary and the alternative HMC should use the same userid and password as defined in the policy for the ensemble.
- TCP/IP Address of the alternative HMC should be defined in the AT-TLS policy and loaded by the Policy Agent (PAGENT) in your z/OS environment.

Parameters

For a definition of *target_hardware_ProcOps_name,ensemble_ProcOps_name,* and*real_ensemble_name,* refer to ISQECMD in *IBM System Automation for z/OS Operator's Commands*.

Defaults

None.

Restrictions and Limitations

HMCSWITCH command requires IP address swapping configured for the ensemble HMCs. In this case the current primary HMC IP addresses is moved when making the alternative HMC the new primary. Otherwise, ProcOps does not recover the current ensemble session. You may verify your configuration using the ISQECMD CONDATA ensemble command. AOFB0022 multi-line report provides you with a property IPSWP showing IP swapping support.

When configured as recommended by IBM, the process of recovering from the failure of the primary HMC by a takeover of the alternative HMC includes the movement of the IP address from the former primary HMC to the new primary HMC. When this occurs, explicit redirection of API requests to the newly HMC Web Services API designated primary HMC is not needed.

However, if the IP address swapping is not possible in your network configuration, do not use the HMCSWITCH command.

Usage

Use this command to initiate a primary/alternative HMC role switch for the ensemble.

Return Codes
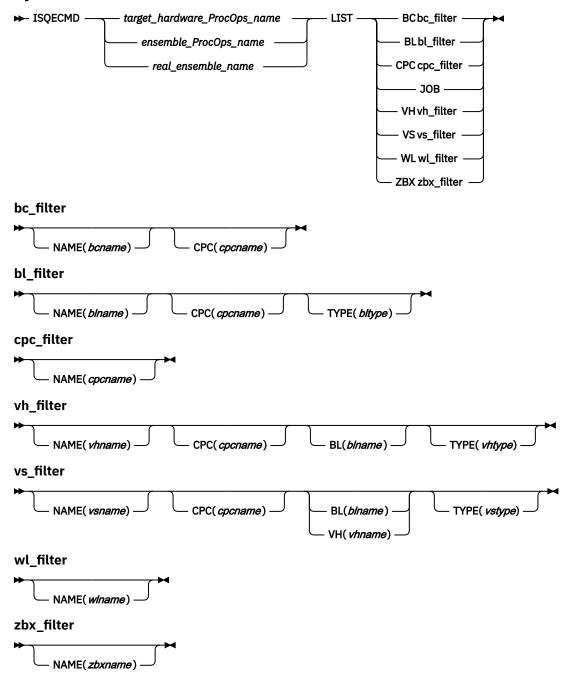
The ISQECMD command generates the return codes for common command processing.

LIST

Purpose

The LIST ensemble command allows you to query the ProcOps internal data discovered for target ensemble session. The list of discovered objects is presented as a multi-line report. The command does not interact with the HMC.

Syntax

```
▶▶─ ISQECMD ──┬─ target_hardware_ProcOps_name ─┬── LIST ──┬─ BC bc_filter ──┬──▶◀
              ├─ ensemble_ProcOps_name ────────┤          ├─ BL bl_filter ──┤
              └─ real_ensemble_name ───────────┘          ├─ CPC cpc_filter ┤
                                                          ├─ JOB ───────────┤
                                                          ├─ VH vh_filter ──┤
                                                          ├─ VS vs_filter ──┤
                                                          ├─ WL wl_filter ──┤
                                                          └─ ZBX zbx_filter ┘
```

bc_filter

```
▶▶─┬──────────────────┬─┬─────────────────┬─▶◀
   └─ NAME(bcname) ────┘ └─ CPC(cpcname) ──┘
```

bl_filter

```
▶▶─┬──────────────────┬─┬─────────────────┬─┬─────────────────┬─▶◀
   └─ NAME(blname) ────┘ └─ CPC(cpcname) ──┘ └─ TYPE(bltype) ──┘
```

cpc_filter

```
▶▶─┬──────────────────┬─▶◀
   └─ NAME(cpcname) ───┘
```

vh_filter

```
▶▶─┬──────────────────┬─┬─────────────────┬─┬───────────────┬─┬─────────────────┬─▶◀
   └─ NAME(vhname) ────┘ └─ CPC(cpcname) ──┘ └─ BL(blname) ──┘ └─ TYPE(vhtype) ──┘
```

vs_filter

```
▶▶─┬──────────────────┬─┬─────────────────┬─┬───────────────┬─┬─────────────────┬─▶◀
   └─ NAME(vsname) ────┘ └─ CPC(cpcname) ──┘ ├─ BL(blname) ──┤ └─ TYPE(vstype) ──┘
                                             └─ VH(vhname) ──┘
```

wl_filter

```
▶▶─┬──────────────────┬─▶◀
   └─ NAME(wlname) ────┘
```

zbx_filter

```
▶▶─┬──────────────────┬─▶◀
   └─ NAME(zbxname) ───┘
```

Requirements

The requirements for the LIST command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- For LIST VS and LIST WL commands, Virtual Servers and Workloads must be discovered to the Processor operations data model for the ensemble session using DISCOVERY VS and DISCOVERY WL ensemble commands.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to .

*_filter
   Is a set of parameters limiting the command to a subset of objects of the required object type. Only full specification of all *_filter parameters ensures selection of a single object.

NAME
   The name of the object(s) to be selected for LIST report. The name is case-sensitive.

CPC
   Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
   Defines the Unified Resource Manager-assigned name of the blade.

VH
   Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
   Defines the type of the objects(s) to be selected for LIST report. Values are:

   For LIST BL command:

   power
      the System z Power blade

   system-x
      the System x blade

   isaopt
      the IBM Smart Analytics Optimizer blade

   dpxi50z
      the DataPower XI50 blade

   For LIST VH and LIST VS commands:

   power-vm
      a virtual server running on a Power blade

   x-hyp
      a virtual server running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtualization hosts and virtual servers of the types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

ProcOps session to an ensemble manages internal data model allowing identification of ensemble objects based on their names, types, logical parents and managing CPCs. The data model is filled in during initialization of the session using ISQXIII command and extended using DISCOVERY VS and DISCOVERY WL ensemble commands.

The following objects are discovered during initialization of the session:

- Ensemble
- Ensemble nodes (CPCs). Only CPCs selected for the ensemble in the customization dialogs of SA z/OS are added to the data model.
- IBM zEnterprise BladeCenter Extension (zBX) managed by the selected CPCs.
- zBX blade centers (BC), blades (BL) and virtualization hosts (VH)

Only objects discovered and available in the data model can be managed using ensemble commands and monitored for notifications. The LIST commands allow you to query the data model and identify objects for any other ensemble commands. LIST does not require communication to the ensemble HMC and generates no external IP traffic.

- Use LIST BC command to see one or more discovered blade centers.
- Use LIST BL command to see one or more discovered blades.
- Use LIST CPC command to see one or more discovered CPCs.
- Use LIST JOB command to see all the active asynchronous commands executed for the ensemble session using ACTIVATE and DEACTIVATE ensemble commands which are not yet completed.
- Use LIST VH command to see one or more discovered virtualization hosts (hypervisors).
- Use LIST VS command to see one or more discovered virtual servers discovered using DISCOVERY VS commands.
- Use LIST WL command to see one or more discovered workload resource groups discovered using DISCOVERY WL commands.
- Use LIST ZBX command to see one or more discovered zBXs.

The data is returned in an AOFB0020 multiline report. If no objects are available in the data model for specified *_filter, the commands return empty report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
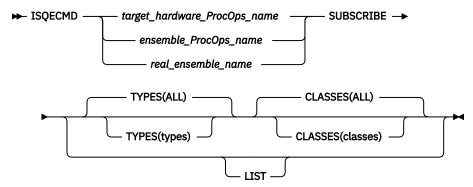
The ISQECMD command generates the return codes for common command processing.

SUBSCRIBE

Purpose

The SUBSCRIBE/UNSUBSCRIBE ensemble commands provide a filtering mechanism for event notifications received from the ensemble HMC for a session. The SUBSCRIBE command permits registration of a session to an ensemble for specific notification types and object classes.

Syntax

```
►►─ ISQECMD ─┬─ target_hardware_ProcOps_name ─┬─ SUBSCRIBE ─►
             ├─ ensemble_ProcOps_name ────────┤
             └─ real_ensemble_name ───────────┘
```

```
        ┌─ TYPES(ALL) ─┐        ┌─ CLASSES(ALL) ─┐
►─┬──────┴──────────────┴──┬────┴──────────────────┴──►◄
  └─ TYPES(types) ─┘     └─ CLASSES(classes) ─┘
              └─ LIST ─┘
```

Requirements

The requirements for the SUBSCRIBE command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name, ensemble_ProcOps_name* and *real_ensemble_name* refer to .

TYPES
A comma-separated list of the notification types. Supported values are:

STATUS
the status change notifications

PROPERTY
the property change notifications

INVENTORY
the inventory change notifications

JOB
the asynchronous commands completion notifications

ALL
all of the above

NONE
leaves the list of notification lists unchanged

CLASSES
A comma-separated list of the object classes requiring notifications. Supported values are:

ENS
the notifications for the ensemble

CPC
the notifications for the CPCs

ZBX
the notifications for the zBXs

RACK
the notifications for the racks

BC
the notifications for the blade centers

> **BL**
>> the notifications for the blades
>
> **VH**
>> the notifications for the virtualization hosts (hypervisors)
>
> **VS**
>> the notifications for the virtual servers
>
> **WL**
>> the notifications for the workload resource groups
>
> **ALL**
>> all of the above
>
> **NONE**
>> leaves the list of object classes unchanged

LIST
> When specified, report AOFB0019, containing the current subscription information for the selected ensemble session is returned. The parameter cannot be combined with TYPES and CLASSES.

Defaults

TYPES(ALL)

CLASSES(ALL)

Restrictions and Limitations

The TYPES and CLASSES are treated independently, just adding/removing subscriptions to internal types and classes lists. For example:

```
SUBSCRIBE TYPES(PROPERTY) CLASSES(BC)
SUBSCRIBE TYPES(STATUS) CLASSES(BL)
```

results in a subscription for PROPERTY and STATUS for both BC and BL managed objects.

Usage

The IBM zEnterprise Unified Resource Manager includes an asynchronous notification facility by which client applications may subscribe to and receive notification messages regarding a set of predefined management events. These events include:

- Addition and removal of managed objects to/from the inventory of resources that are managed by the HMC (INVENTORY change notification).
- Changes to specified properties of managed object instances (PROPERTY change notification).
- Changes to the operational status of managed objects (STATUS change notification).
- Completion of asynchronously processed jobs (JOB completion notification).

The SUBSCRIBE command allows the ProcOps ensemble session to subscribe to these notifications for specific managed objects. The command is session-wide and affects all interested operators registered using ISQXMON command for a target ensemble, so use this command carefully. A session initialization using ISQXIII command performs initial subscription for the STATUS and JOB notifications for ALL classes. You may use SUBSCRIBE command to subscribe to additional notifications required for your automation procedures.

You may use SUBSCRIBE LIST command to query your current subscription for an ensemble session.

The notifications are delivered in a set of AOFB* reports:

- AOFB0100 for STATUS change
- AOFB0200 for PROPERTY change

- AOFB0300 for COMPLETION
- AOFB0400 for INVENTORY

For more information about these reports refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The notification reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such notifications on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
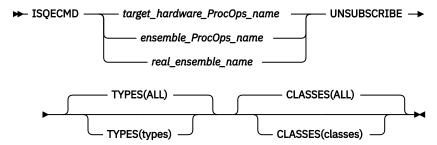
The ISQECMD command generates the return codes for common command processing.

UNSUBSCRIBE

Purpose

The SUBSCRIBE/UNSUBSCRIBE ensemble commands provide a filtering mechanism for event notifications received from the ensemble HMC for a session. The UNSUBSCRIBE command permits the de-registering of the session to an ensemble for specific notification types and object classes.

Syntax

▶▶─ ISQECMD ─┬─ *target_hardware_ProcOps_name* ─┬─ UNSUBSCRIBE ─▶
            ├─ *ensemble_ProcOps_name* ─────────┤
            └─ *real_ensemble_name* ────────────┘

▶─┬─ TYPES(ALL) ───┬─┬─ CLASSES(ALL) ─────┬─▶◀
  └─ TYPES(types) ─┘ └─ CLASSES(classes) ─┘

Requirements

The requirements for the UNSUBSCRIBE command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

TYPES
    A comma-separated list of the notification types. Supported values are:

    STATUS
        the status change notifications

    PROPERTY
        the property change notifications

    INVENTORY
        the inventory change notifications

    JOB
        the asynchronous commands completion notifications

ALL
all of the above

NONE
leaves the list of notification lists unchanged

CLASSES
A comma-separated list of the object classes requiring notifications. Supported values are:

ENS
the notifications for the ensemble

CPC
the notifications for the CPCs

ZBX
the notifications for the zBXs

RACK
the notifications for the racks

BC
the notifications for the blade centers

BL
the notifications for the blades

VH
the notifications for the virtualization hosts (hypervisors)

VS
the notifications for the virtual servers

WL
the notifications for the workload resource groups

ALL
all of the above

NONE
leaves the list of object classes unchanged

Defaults

TYPES(ALL)

CLASSES(ALL)

Restrictions and Limitations

The TYPES and CLASSES are treated independently, just adding/removing subscriptions to internal types and classes lists. For example:

```
UNSUBSCRIBE TYPES(PROPERTY) CLASSES(BC)
```

removes subscription to PROPERTY change notifications for ALL managed objects and removes subscription to ALL notification types for the blade centers.

Usage

The IBM zEnterprise Unified Resource Manager includes an asynchronous notification facility by which client applications may subscribe to and receive notification messages regarding a set of predefined management events. These events include:

- Addition and removal of managed objects to/from the inventory of resources that are managed by the HMC (INVENTORY change notification).
- Changes to specified properties of managed object instances (PROPERTY change notification).

- Changes to the operational status of managed objects (STATUS change notification).
- Completion of asynchronously processed jobs (JOB completion notification).

The UNSUBSCRIBE command allows the ProcOps ensemble session to remove a subscription for particular notification types and managed objects. The command is session wide and affects all interested operators for a target ensemble, so use this command carefully.

Return Codes
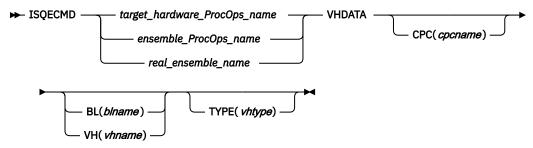
The ISQECMD command generates the return codes for common command processing.

VHDATA

Purpose

The VHDATA ensemble command collects configuration and status information about addressed zBX virtualization host (hypervisor) and presents this information in a multi-line report.

Syntax

```
►►─ ISQECMD ─┬─ target_hardware_ProcOps_name ─┬─ VHDATA ─┬──────────────────┬─►
             ├─ ensemble_ProcOps_name ────────┤          └─ CPC( cpcname ) ─┘
             └─ real_ensemble_name ───────────┘

►─┬────────────────────┬─┬──────────────────┬─►◄
  ├─ BL( blname ) ──────┤ └─ TYPE( vhtype ) ─┘
  └─ VH( vhname ) ──────┘
```

Requirements

The requirements for the VHDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
  Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

BL
  Defines the Unified Resource Manager-assigned name of the blade.

VH
  Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
  Defines the type of a hypervisor. Values are:

  power-vm
      a virtualization host running on a Power blade

  x-hyp
      a virtualization host running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtualization Hosts of types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

Use this command to get a snapshot of the virtualization host properties. The data is returned as an AOFB0013 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*. If you have more than one blade/virtualization host in your ensemble, use BL, VH, TYPE and CPC parameters to limit the query to the single hypervisor object. You may use the LIST VH ensemble command to see names, types and managing CPCs of all virtualization hosts discovered for the target ensemble. Only full specification of command parameters ensures selection of a single object. If more than one resource corresponds to the selected parameters, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
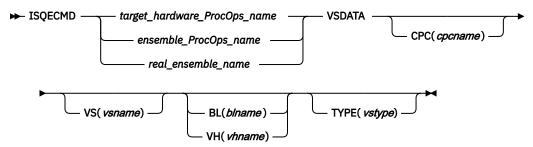
The ISQECMD command generates the return codes for common command processing.

VSDATA

Purpose

The VSDATA ensemble command collects configuration and status information about addressed zBX virtual server and presents this information in a multi-line report.

Syntax

Requirements

The requirements for the VSDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- Virtual Servers must be discovered to the Processor operations data model for the ensemble session using the DISCOVERY VS ensemble command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
> Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

VS
> Defines the name of the virtual server. The name is unique to other existing virtual servers on the virtualization host/blade. The name is case-sensitive.

BL
> Defines the Unified Resource Manager-assigned name of the blade.

VH
> Defines the Unified Resource Manager-assigned name of the virtualization host. The name is equal to the blade name.

TYPE
> Defines the type of the server. Values are:

> **power-vm**
>> a virtual server running on a Power blade

> **x-hyp**
>> a virtual server running on a System x blade

Defaults

None.

Restrictions and Limitations

Virtual servers of types "zvm" and "prsm" supported by the IBM zEnterprise Unified Resource Manager are not supported by the ISQECMD command.

Usage

Use this command to get a snapshot of the virtual server properties. The data is returned as an AOFB0014 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have more than one virtual server in your ensemble, use VS, BL, VH, TYPE and CPC parameters to limit the query to the single server object. You may use the LIST VS ensemble command to see names, types, hosting blades and managing CPCs of all virtual servers discovered for the target ensemble. Only a full specification of command parameters ensures selection of a single object. If more than one resource corresponds to the selected parameters, the command is rejected with condition code "00B6001B". For more information about the condition codes refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

Only servers discovered using DISCOVERY VS ensemble command and available in the ProcOps data model can be queried.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
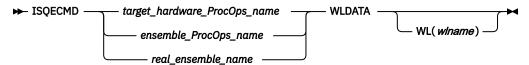
The ISQECMD command generates the return codes for common command processing.

WLDATA

Purpose

The WLDATA ensemble command collects basic configuration about a workload resource group object and presents this information in a multi-line report.

Syntax

```
►►─ ISQECMD ─┬─ target_hardware_ProcOps_name ─┬─ WLDATA ─┬───────────────┬─►◄
             ├─ ensemble_ProcOps_name ────────┤          └─ WL(wlname) ──┘
             └─ real_ensemble_name ───────────┘
```

Requirements

The requirements for the WLDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.
- Workloads must be discovered to the Processor operations data model for the ensemble session using DISCOVERY WL ensemble command.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

WL
    Defines the display name specified for the workload resource group. The name is case-sensitive.

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get basic information about workload resource group and list of virtual servers assigned to the workload. The data is returned as an AOFB0015 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have more than one workload defined in your ensemble, use WL parameter to limit the query to the single workload object. You may use the LIST WL ensemble command to see names of all workloads discovered for the target ensemble.

Only workloads discovered using the DISCOVERY WL ensemble command and available in the ProcOps data model can be queried.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes
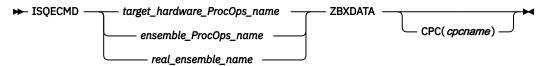
The ISQECMD command generates the return codes for common command processing.

ZBXDATA

Purpose

The ZBXDATA ensemble command collects configuration information about addressed IBM zEnterprise BladeCenter Extension (zBX) and presents this information in a multi-line report.

Syntax

```
►►── ISQECMD ──┬── target_hardware_ProcOps_name ──┬── ZBXDATA ──┬──────────────────┬──►◄
               ├── ensemble_ProcOps_name ─────────┤             └── CPC( cpcname ) ─┘
               └── real_ensemble_name ────────────┘
```

Requirements

The requirements for the ZBXDATA command to complete successfully are:

- Processor operations must be active.
- Processor operations must be in session with the ensemble that has the targeted resource in its scope.

Parameters

For a definition of *target_hardware_ProcOps_name*, *ensemble_ProcOps_name* and *real_ensemble_name* refer to "ISQECMD" on page 292.

CPC
> Defines the name (NAU) of a single zEnterprise Central Processor Complex (CPC) controlling appropriate IBM zEnterprise BladeCenter Extension (zBX).

Defaults

None.

Restrictions and Limitations

None.

Usage

Use this command to get a snapshot of a single zBX object. The data is returned as an AOFB0011 multiline report. For more information about this report format refer to the appendix "Response Messages, Error Strings, Condition Codes" in *IBM System Automation for z/OS Messages and Codes*.

If you have more than one zBX in your ensemble, use CPC parameter to limit the query to a single ZBX object. You may use the LIST zBX ensemble command to see all zBX objects with their managing CPCs for the target ensemble.

The command response reports from the ensemble HMC are available as ProcOps ISQ800I messages with a console indicator of SC. In order to get a copy of such hardware messages on your screen as ISQ801I messages, use the ISQXMON command.

Return Codes

The ISQECMD command generates the return codes for common command processing.

Chapter 9. PSM Commands - Special Requests

The following special requests can be executed by the ProcOps Service Machine (PSM) Command Server. To issue these requests you must be logged on to the PSM.

Requests can either only be entered directly from the PSM console or be used with the ISQXPSM command as well as being entered from the PSM console:

- PSM commands that operate with ISQXPSM are:
  - "ISQACT" on page 479
  - "ISQCLEAR" on page 479
  - "ISQQUERY" on page 480
  - "ISQSTATUS" on page 480
  - "ISQTRACE" on page 480
- PSM console commands that can only be entered from the console are:
  - "ISQMSG" on page 479
  - "ISQPSM" on page 480
  - "STOPALL" on page 481

ISQACT

►►— ISQACT —— MH —►◄

ISQACT is used to activate a thread after it has stopped.
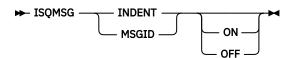
MH indicates that the Message Handler thread is to be reactivated. This is useful in cases where the MH thread fails or terminates itself.

ISQCLEAR

►►— ISQCLEAR ——— M ———►◄
                 └— C —┘

ISQCLEAR empties the Messages Queue or Commands Queue. All entries are emptied. The queue itself is not deleted.

ISQMSG

►►— ISQMSG ——— INDENT ———————►◄
             └— MSGID —┘└— ON —┘
                        └— OFF —┘

ISQMSG is used to change the way that messages are displayed to the console user that is logged on the PSM. If these messages are also routed to NetView it also alters the form of the messages.

If INDENT ON is specified this alters the indentation of each message. Messages that are issued by different threads are indented by different amounts. This makes it easier to see the flow of a thread because all its messages are indented by the same amount. Trace messages (activated by an ISQTRACE request) are also indented. Messages from the Main Thread are not indented. Messages that are issued as responses to PSM requests are not indented. If an indented message continues on further lines, the continuation lines are not indented.

INDENT OFF causes all non-trace messages to be displayed without indentation. The initial setting for the PSM is INDENT OFF. This initial setting is set each time the PSM Control Program is started.

If MSGID OFF is specified, this causes each non-trace message to be displayed without its message ID. This may be useful when INDENT ON is in effect, because it reduces the length of each message and reduces the continuation of message text on subsequent lines.

MSGID ON causes all non-trace messages to be displayed with their message IDs. The initial setting for the PSM is ON. Trace messages do not have message IDs.

Restrictions and Limitations

The ISQMSG command can only be entered directly from the console of the PSM.

ISQPSM
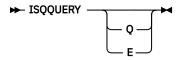
►►— ISQPSM —►◄

The ISQPSM command starts the PSM server. This command should only be entered after the PSM server has been stopped successfully with a STOPALL command and the PSM virtual machine is in CMS mode.

Restrictions and Limitations

The ISQPSM command can only be entered directly from the console of the PSM.

ISQQUERY

►►— ISQQUERY ─┬─────┬─►◄
              ├─ Q ─┤
              └─ E ─┘

ISQQUERY displays:

Q
　　How many entries are in the Message Queue.

E
　　A list of current events and event monitors.
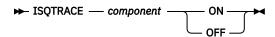
Listing the current events and event monitors is useful in problem determination.

ISQSTATUS

►►— ISQSTATUS —►◄

ISQSTATUS gives the status of important components of the PSM operation.

ISQTRACE

►►— ISQTRACE ── *component* ─┬─ ON ──┬─►◄
                            └─ OFF ─┘

ISQTRACE is used to start or stop PSM tracing of a component of the PSM. Trace messages are always written to the VM console.

The value of *component* can be one of:

MSERV

Message server thread.

CSERV

Command server thread.

MH

Message handler thread.

LOGGER

Logger thread.

CNSERVER

Console server thread.

TCPIP

Selected TCPIP requests within the Message Server and Command Server threads.

If any trace is set on, regular messages issued to the VM console as part of the VMCONIO stream are sent to the VM console and are no longer routed back to ProcOps NetView.

Trace settings are maintained when a PSM is stopped. If the PSM is then restarted (without a re-logon of the CMS machine) the previous trace settings are retained.

When a PSM virtual machine is started all traces are set off.

STOPALL

▶▶── STOPALL ──▶◀

STOPALL stops all threads and terminates the PSM control program. The PSM virtual machine remains active.

Restrictions and Limitations

The STOPALL command can only be entered directly from the console of the PSM.

Appendix A. Notices

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Glossary

This glossary includes terms and definitions from:

- The *IBM Dictionary of Computing* New York: McGraw-Hill, 1994.

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Copies can be purchased from the American National Standards Institute, 1430 Broadway, New York, New York 10018. Definitions are identified by the symbol (A) after the definition.

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The following cross-references are used in this glossary:

Contrast with. This refers to a term that has an opposed or substantively different meaning.
Deprecated term for. This indicates that the term should not be used. It refers to a preferred term, which is defined in its proper place in the glossary.
See. This refers the reader to multiple-word terms in which this term appears.
See also. This refers the reader to terms that have a related, but not synonymous, meaning.
Synonym for. This indicates that the term has the same meaning as a preferred term, which is defined in the glossary.
Synonymous with. This is a backward reference from a defined term to all other terms that have the same meaning.

A

ACF

See automation configuration file.

ACF/NCP

Advanced Communications Function for the Network Control Program. See Advanced Communications Function and Network Control Program.

ACF/VTAM

Advanced Communications Function for the Virtual Telecommunications Access Method. Synonym for VTAM. See Advanced Communications Function and Virtual Telecommunications Access Method.

active monitoring

In SA z/OSautomation control file, the acquiring of resource status information by soliciting such information at regular, user-defined intervals. See also passive monitoring.

adapter

Hardware card that enables a device, such as a workstation, to communicate with another device, such as a monitor, a printer, or some other I/O device.

adjacent hosts

Systems connected in a peer relationship using adjacent NetView sessions for purposes of monitoring and control.

adjacent NetView

In SA z/OS, the system defined as the communication path between two SA z/OS systems that do not have a direct link. An adjacent NetView is used for message forwarding and as a communication link between two SA z/OS systems. For example, the adjacent NetView is used when sending responses from a focal point to a remote system.

Advanced Communications Function (ACF)
A group of IBM licensed programs (principally VTAM, TCAM, NCP, and SSP) that use the concepts of Systems Network Architecture (SNA), including distribution of function and resource sharing.

advanced program-to-program communication (APPC)
A set of inter-program communication services that support cooperative transaction processing in a Systems Network Architecture (SNA) network. APPC is the implementation, on a given system, of SNA's logical unit type 6.2.

Advanced Workload Analysis Reporter (zAware)
IBM analytics appliance running in a z Systems® partition, activated in zACI mode. Customers can use the appliance to monitor the console message streams of other LPARs running in the same System z cluster and create trend reports. Exploiting zAware and these trend reports can help to better predict OS outages or performance degradations and initiate proactive clusters.

alert
In SNA, a record sent to a system problem management focal point or to a collection point to communicate the existence of an alert condition.

In NetView, a high-priority event that warrants immediate attention. A database record is generated for certain event types that are defined by user-constructed filters.

alert condition
A problem or impending problem for which some or all of the process of problem determination, diagnosis, and resolution is expected to require action at a control point.

alert threshold
An application or volume service value that determines the level at which SA z/OS changes the associated icon in the graphical interface to the alert color. SA z/OS may also issue an alert. See warning threshold.

AMC
See Automation Manager Configuration.

American Standard Code for Information Interchange (ASCII)
A standard code used for information exchange among data processing systems, data communication systems, and associated equipment. ASCII uses a coded character set consisting of 7-bit coded characters (8-bit including parity check). The ASCII set consists of control characters and graphic characters. See also Extended Binary Coded Decimal Interchange Code.

APF
See authorized program facility.

API
See application programming interface.

APPC
See advanced program-to-program communication.

application
In SA z/OS, applications refer to z/OS subsystems, started tasks, or jobs that are automated and monitored by SA z/OS. On SNMP-capable processors, application can be used to refer to a subsystem or process.

Application entry
A construct, created with the customization dialogs, used to represent and contain policy for an application.

application group
A named set of applications. An application group is part of an SA z/OS enterprise definition and is used for monitoring purposes.

application program
A program written for or by a user that applies to the user's work, such as a program that does inventory or payroll.

A program used to connect and communicate with stations in a network, enabling users to perform application-oriented activities.

application programming interface (API)
An interface that allows an application program that is written in a high-level language to use specific data or functions of the operating system or another program.

ApplicationGroup entry
A construct, created with the customization dialogs, used to represent and contain policy for an application group.

ARM
See automatic restart management.

ASCB
Address space control block.

ASCB status
An application status derived by SA z/OS running a routine (the ASCB checker) that searches the z/OS address space control blocks (ASCBs) for address spaces with a particular job name. The job name used by the ASCB checker is the job name defined in the customization dialog for the application.

ASCII
See American Standard Code for Information Interchange.

ASF
See automation status file.

authorized program facility (APF)
A facility that permits identification of programs that are authorized to use restricted functions.

automated console operations (ACO)
The use of an automated procedure to replace or simplify the action that an operator takes from a console in response to system or network events.

automated function
SA z/OS automated functions are automation operators, NetView autotasks that are assigned to perform specific automation functions. However, SA z/OS defines its own synonyms, or *automated function names*, for the NetView autotasks, and these function names are referred to in the sample policy databases provided by SA z/OS. For example, the automation operator AUTBASE corresponds to the SA z/OS automated function BASEOPER.

automatic restart management (ARM)
A z/OS recovery function that improves the availability of specified subsystems and applications by automatically restarting them under certain circumstances. Automatic restart management is a function of the Cross-System Coupling Facility (XCF) component of z/OS.

automatic restart management element name
In MVS 5.2 or later, z/OS automatic restart management requires the specification of a unique sixteen character name for each address space that registers with it. All automatic restart management policy is defined in terms of the element name, including the SA z/OS interface with it.

automation
The automatic initiation of actions in response to detected conditions or events. SA z/OS provides automation for z/OS applications, z/OS components, and remote systems that run z/OS. SA z/OS also provides tools that can be used to develop additional automation.

automation agent
In SA z/OS, the automation function is split up between the automation manager and the automation agents. The observing, reacting and doing parts are located within the NetView address space, and are known as the *automation agents*. The automation agents are responsible for:

- Recovery processing
- Message processing
- Active monitoring: they propagate status changes to the automation manager

automation configuration file
The SA z/OS customization dialogs must be used to build the automation configuration file. It consists of:

- The automation manager configuration file (AMC)
- The NetView automation table (AT)
- The NetView message revision table (MRT)
- The MPFLSTxx member

automation control file (ACF)
In SA z/OS, a file that contains system-level automation policy information. There is one master automation control file for each NetView system that SA z/OS is installed on. Additional policy information and all resource status information is contained in the policy database (PDB). The SA z/OS customization dialogs must be used to build the automation control files. They must not be edited manually.

automation flags
In SA z/OS, the automation policy settings that determine the operator functions that are automated for a resource and the times during which automation is active. When SA z/OS is running, automation is controlled by automation flag policy settings and override settings (if any) entered by the operator. Automation flags are set using the customization dialogs.

automation manager
In SA z/OS, the automation function is split up between the automation manager and the automation agents. The coordination, decision making and controlling functions are processed by each sysplex's *automation manager*.

The automation manager contains a model of all of the automated resources within the sysplex. The automation agents feed the automation manager with status information and perform the actions that the automation manager tells them to.

The automation manager provides **sysplex-wide** automation.

Automation Manager Configuration
The Automation Manager Configuration file (AMC) contains an image of the automated systems in a sysplex or of a standalone system. See also automation configuration file.

Automation NetView
In SA z/OS the NetView that performs routine operator tasks with command procedures or uses other ways of automating system and network management, issuing automatic responses to messages and management services units.

automation operator
NetView automation operators are NetView autotasks that are assigned to perform specific automation functions. See also automated function. NetView automation operators may receive messages and process automation procedures. There are no logged-on users associated with automation operators. Each automation operator is an operating system task and runs concurrently with other NetView tasks. An automation operator could be set up to handle JES2 messages that schedule automation procedures, and an automation statement could route such messages to the automation operator. Similar to *operator station task*. SA z/OS message monitor tasks and target control tasks are automation operators.

automation policy
The policy information governing automation for individual systems. This includes automation for applications, z/OS subsystems, z/OS data sets, and z/OS components.

automation policy settings
The automation policy information contained in the automation control file. This information is entered using the customization dialogs. You can display or modify these settings using the customization dialogs.

automation procedure
A sequence of commands, packaged as a NetView command list or a command processor written in a high-level language. An automation procedure performs automation functions and runs under NetView.

automation routines
  In SA z/OS, a set of self-contained automation routines that can be called from the NetView automation table, or from user-written automation procedures.

automation status file (ASF)
  In SA z/OS, a file containing status information for each automated subsystem, component or data set. This information is used by SA z/OS automation when taking action or when determining what action to take. In Release 2 and above of AOC/MVS, status information is also maintained in the operational information base.

automation table (AT)
  See NetView automation table.

autotask
  A NetView automation task that receives messages and processes automation procedures. There are no logged-on users associated with autotasks. Each autotask is an operating system task and runs concurrently with other NetView tasks. An autotask could be set up to handle JES2 messages that schedule automation procedures, and an automation statement could route such messages to the autotasks. Similar to *operator station task*. SA z/OS message monitor tasks and target control tasks are autotasks. Also called *automation operator*.

available
  In VTAM programs, pertaining to a logical unit that is active, connected, enabled, and not at its session limit.

B

Base Control Program (BCP)
  A program that provides essential services for the MVS and z/OS operating systems. The program includes functions that manage system resources. These functions include input/output, dispatch units of work, and the z/OS UNIX System Services kernel. See also Multiple Virtual Storage and z/OS.

basic mode
  A central processor mode that does not use logical partitioning. Contrast with logically partitioned mode.

BCP
  See Base Control Program.

BCP Internal Interface
  Processor function of System z processor families. It allows for communication between basic control programs such as z/OS and the processor support element in order to exchange information or to perform processor control functions. Programs using this function can perform hardware operations such as ACTIVATE or SYSTEM RESET.

beaconing
  The repeated transmission of a frame or messages (beacon) by a console or workstation upon detection of a line break or outage.

blade
  A hardware unit that provides application-specific services and components. The consistent size and shape (or form factor) of each blade allows it to fit in a BladeCenter chassis.

BladeCenter chassis
  A modular chassis that can contain multiple blades, allowing the individual blades to share resources such as management, switch, power, and blower modules.

BookManager®
  An IBM product that lets users view softcopy documents on their workstations.

C

central processor (CP)
  The part of the computer that contains the sequencing and processing facilities for instruction execution, initial program load (IPL), and other machine operations.

central processor complex (CPC)
A physical collection of hardware that consists of central storage, (one or more) central processors, (one or more) timers, and (one or more) channels.

central site
In a distributed data processing network, the central site is usually defined as the focal point for alerts, application design, and remote system management tasks such as problem management.

channel
A path along which signals can be sent; for example, data channel, output channel. See also link.

channel path identifier
A system-unique value assigned to each channel path.

channel-attached
Attached directly by I/O channels to a host processor (for example, a channel-attached device).

Attached to a controlling unit by cables, rather than by telecommunication lines. Contrast with link-attached. Synonymous with local.

CHPID
In SA z/OS, channel path ID; the address of a channel.

CHPID port
A label that describes the system name, logical partitions, and channel paths.

CI
See console integration.

CICS/VS
Customer Information Control System for Virtual Storage. See Customer Information Control System.

CLIST
See command list.

clone
A set of definitions for application instances that are derived from a basic application definition by substituting a number of different system-specific values into the basic definition.

clone ID
A generic means of handling system-specific values such as the MVS SYSCLONE or the VTAM subarea number. Clone IDs can be substituted into application definitions and commands to customize a basic application definition for the system that it is to be instantiated on.

command
A request for the performance of an operation or the execution of a particular program.

command facility
The component of NetView that is a base for command processors that can monitor, control, automate, and improve the operation of a network. The successor to NCCF.

command list (CLIST)
A list of commands and statements, written in the NetView command list language or the REXX language, designed to perform a specific function for the user. In its simplest form, a command list is a list of commands. More complex command lists incorporate variable substitution and conditional logic, making the command list more like a conventional program. Command lists are typically interpreted rather than being compiled.

In SA z/OS, REXX command lists that can be used for automation procedures.

command procedure
In NetView, either a command list or a command processor.

command processor
A module designed to perform a specific function. Command processors, which can be written in assembler or a high-level language (HLL), are issued as commands.

Command Tree/2
An OS/2-based program that helps you build commands on an OS/2 window, then routes the commands to the destination you specify (such as a 3270 session, a file, a command line, or an

application program). It provides the capability for operators to build commands and route them to a specified destination.

common commands
The SA z/OS subset of the CPC operations management commands.

Common User Access (CUA) architecture
Guidelines for the dialog between a human and a workstation or terminal.

communication controller
A type of communication control unit whose operations are controlled by one or more programs stored and executed in the unit or by a program executed in a processor to which the controller is connected. It manages the details of line control and the routing of data through a network.

communication line
Deprecated term for telecommunication line.

connectivity view
In SA z/OS, a display that uses graphic images for I/O devices and lines to show how they are connected.

console automation
The process of having NetView facilities provide the console input usually handled by the operator.

console connection
In SA z/OS, the 3270 or ASCII (serial) connection between a PS/2 computer and a target system. Through this connection, the workstation appears (to the target system) to be a console.

console integration (CI)
A hardware facility that if supported by an operating system, allows operating system messages to be transferred through an internal hardware interface for display on a system console. Conversely, it allows operating system commands entered at a system console to be transferred through an internal hardware interface to the operating system for processing.

consoles
Workstations and 3270-type devices that manage your enterprise.

couple data set
A data set that is created through the XCF couple data set format utility and, depending on its designated type, is shared by some or all of the z/OS systems in a sysplex. See also sysplex couple data setand XCF couple data set.

coupling facility
The hardware element that provides high-speed caching, list processing, and locking functions in a sysplex.

CP
See central processor.

CPC
See central processor complex.

CPC operations management commands
A set of commands and responses for controlling the operation of System/390 CPCs.

CPC subset
All or part of a CPC. It contains the minimum *resource* to support a single control program.

CPU
Central processing unit. Deprecated term for processor.

cross-system coupling facility (XCF)
A component of z/OS that provides functions to support cooperation between authorized programs running within a sysplex.

Customer Information Control System (CICS)
A general-purpose transactional program that controls online communication between terminal users and a database for a large number of end users on a real-time basis.

customization dialogs
  The customization dialogs are an ISPF application. They are used to customize the enterprise policy, like, for example, the enterprise resources and the relationships between resources, or the automation policy for systems in the enterprise. How to use these dialogs is described in *IBM System Automation for z/OS Customizing and Programming*.

D

DataPower X150z
  See IBM Websphere DataPower Integration Appliance X150 for zEnterprise (DataPower X150z).

DASD
  See direct access storage device.

data services task (DST)
  The NetView subtask that gathers, records, and manages data in a VSAM file or a network device that contains network management information.

data set
  The major unit of data storage and retrieval, consisting of a collection of data in one of several prescribed arrangements and described by control information to which the system has access.

data set members
  Members of partitioned data sets that are individually named elements of a larger file that can be retrieved by name.

DBCS
  See double-byte character set.

DCCF
  See disabled console communication facility.

DCF
  See Document Composition Facility.

DELAY Report
  An RMF report that shows the activity of each job in the system and the hardware and software resources that are delaying each job.

device
  A piece of equipment. Devices can be workstations, printers, disk drives, tape units, remote systems or communications controllers. You can see information about all devices attached to a particular switch, and control paths and jobs to devices.

DEVR Report
  An RMF report that presents information about the activity of I/O devices that are delaying jobs.

dialog
  Interactive 3270 panels.

direct access storage device (DASD)
  A device that allows storage to be directly accessed, such as a disk drive.

disabled console communication facility (DCCF)
  A z/OS component that provides limited-function console communication during system recovery situations.

disk operating system (DOS)
  An operating system for computer systems that use disks and diskettes for auxiliary storage of programs and data.

  Software for a personal computer that controls the processing of programs. For the IBM Personal Computer, the full name is Personal Computer Disk Operating System (PCDOS).

display
  To present information for viewing, usually on the screen of a workstation or on a hardcopy device.

  Deprecated term for panel.

distribution manager

The component of the NetView program that enables the host system to use, send, and delete files and programs in a network of computers.

Document Composition Facility (DCF)

An IBM licensed program used to format input to a printer.

domain

An access method and its application programs, communication controllers, connecting lines, modems, and attached workstations.

In SNA, a system services control point (SSCP) and the physical units (PUs), logical units (LUs), links, link stations, and associated resources that the SSCP can control with activation requests and deactivation requests.

double-byte character set (DBCS)

A character set, such as Kanji, in which each character is represented by a 2-byte code.

DP enterprise

Data processing enterprise.

DSIPARM

This file is a collection of members for NetView customization.

DST

Data Services Task.

E

EBCDIC

See Extended Binary Coded Decimal Interchange Code.

ECB

See event control block.

EMCS

Extended multiple console support. See also multiple console support.

ensemble

A collection of one or more zEnterprise nodes (including any attached zBX) that are managed as a single logical virtualized system by the Unified Resource Manager, through the Hardware Management Console.

ensemble member

A zEnterprise node that has been added to an ensemble.

enterprise

The composite of all operational entities, functions, and resources that form the total business concern and that require an information system.

Enterprise Systems Architecture (ESA)

A hardware architecture that reduces the effort required for managing data sets and extends addressability for system, subsystem, and application functions.

entries

Resources, such as processors, entered on panels.

entry type

Resources, such as processors or applications, used for automation and monitoring.

environment

Data processing enterprise.

error threshold

An automation policy setting that specifies when SA z/OS should stop trying to restart or recover an application, subsystem or component, or offload a data set.

ESA

See Enterprise Systems Architecture.

event

In NetView, a record indicating irregularities of operation in physical elements of a network.

An occurrence of significance to a task; for example, the completion of an asynchronous operation, such as an input/output operation.

Events are part of a trigger condition, such that if all events of a trigger condition have occurred, a startup or shutdown of an application is performed.

event control block (ECB)
A control block used to represent the status of an event.

exception condition
An occurrence on a system that is a deviation from normal operation. SA z/OS monitoring highlights exception conditions and allows an SA z/OS enterprise to be managed by exception.

Extended Binary Coded Decimal Interchange Code (EBCDIC)
A coded character set of 256 8-bit characters developed for the representation of textual data. See also American Standard Code for Information Interchange.

extended recovery facility (XRF)
A facility that minimizes the effect of failures in z/OS, VTAM, the host processor, or high availability applications during sessions between high availability applications and designated terminals. This facility provides an alternate subsystem to take over sessions from the failing subsystem.

F

fallback system
See secondary system.

field
A collection of bytes within a record that are logically related and are processed as a unit.

file manager commands
A set of SA z/OS commands that read data from or write data to the automation control file or the operational information base. These commands are useful in the development of automation that uses SA z/OS facilities.

focal point
In NetView, the focal-point domain is the central host domain. It is the central control point for any management services element containing control of the network management data.

focal point system
A system that can administer, manage, or control one or more target systems. There are a number of different focal point system associated with IBM automation products.

SA z/OS Processor Operations focal point system. This is a NetView system that has SA z/OS host code installed. The SA z/OS Processor Operations focal point system receives messages from the systems and operator consoles of the machines that it controls. It provides full systems and operations console function for its target systems. It can be used to IPL these systems. Note that some restrictions apply to the Hardware Management Console for an S/390 microprocessor cluster.

SA z/OS SDF focal point system. The SA z/OS SDF focal point system is an SA z/OS NetView system that collects status information from other SA z/OS NetViews within your enterprise.

Status focal point system. In NetView, the system to which STATMON, VTAM and NLDM send status information on network resources.

Hardware Management Console. Although not listed as a focal point, the Hardware Management Console acts as a focal point for the console functions of an S/390 microprocessor cluster. Unlike all the other focal points in this definition, the Hardware Management Console runs on a LAN-connected workstation,

frame
For a System/390 microprocessor cluster, a frame contains one or two central processor complexes (CPCs), support elements, and AC power distribution.

full-screen mode
In NetView, a form of panel presentation that makes it possible to display the contents of an entire workstation screen at once. Full-screen mode can be used for fill-in-the-blanks prompting. Contrast with line mode.

G

gateway session

An NetView-NetView Task session with another system in which the SA z/OS outbound gateway operator logs onto the other NetView session without human operator intervention. Each end of a gateway session has both an inbound and outbound gateway operator.

generic alert

Encoded alert information that uses code points (defined by IBM and possibly customized by users or application programs) stored at an alert receiver, such as NetView.

group

A collection of target systems defined through configuration dialogs. An installation might set up a group to refer to a physical site or an organizational or application entity.

group entry

A construct, created with the customization dialogs, used to represent and contain policy for a group.

group entry type

A collection of target systems defined through the customization dialog. An installation might set up a group to refer to a physical site or an organizational entity. Groups can, for example, be of type STANDARD or SYSPLEX.

H

Hardware Management Console (HMC)

A user interface through which data center personnel configure, control, monitor, and manage System z hardware and software resources. The HMC communicates with each central processor complex (CPC) through the Support Element. On an IBM zEnterprise 196 (z196), using the Unified Resource Manager on the HMCs or Support Elements, personnel can also create and manage an ensemble.

Hardware Management Console Application (HWMCA)

A direct-manipulation object-oriented graphical user interface that provides a single point of control and single system image for hardware elements. The HWMCA provides grouping support, aggregated and real-time system status using colors, consolidated hardware messages support, consolidated operating system messages support, consolidated service support, and hardware commands targeted at a single system, multiple systems, or a group of systems.

help panel

An online panel that tells you how to use a command or another aspect of a product.

hierarchy

In the NetView program, the resource types, display types, and data types that make up the organization, or levels, in a network.

high-level language (HLL)

A programming language that provides some level of abstraction from assembler language and independence from a particular type of machine. For the NetView program, the high-level languages are PL/I and C.

HLL

See high-level language.

host (primary processor)

The processor that you enter a command at (also known as the *issuing processor*).

host system

In a coupled system or distributed system environment, the system on which the facilities for centralized automation run. SA z/OS publications refer to target systems or focal-point systems instead of hosts.

HWMCA

See Hardware Management Console Application.

Hypervisor

A program that allows multiple instances of operating systems or virtual servers to run simultaneously on the same hardware device. A hypervisor can run directly on the hardware, can run within an operating system, or can be imbedded in platform firmware. Examples of hypervisors include PR/SM, z/VM, and PowerVM® Enterprise Edition.

I

IBM blade
> A customer-acquired, customer-installed select blade to be managed by IBM zEnterprise Unified Resource Manager. One example of an IBM blade is a POWER7® blade.

IBM Secure Service Container (SSC)
> IBM Z partitions, activated to run in SSC operating mode, provide the basic infrastructure runtime and deployment support for firmware or software based appliances, such as zAware or z/VSE VNA.

IBM Smart Analyzer for DB2 for z/OS
> An optimizer that processes certain types of data warehouse queries for DB2 for z/OS.

IBM System z Application Assist Processor (zAAP)
> A specialized processor that provides a Java™ execution environment, which enables Java-based web applications to be integrated with core z/OS business applications and backend database systems.

IBM System z Integrated Information Processor (zIIP)
> See Integrated Information Processor (IIP).

IBM Websphere DataPower Integration Appliance X150 for zEnterprise (DataPower X150z)
> A purpose-built appliance that simplifies, helps secure, and optimizes XML and Web services processing.

IBM Workload Scheduler (IWS)
> A family of IBM licensed products (formerly known as Tivoli Workload Scheduler or OPC/A) that plan, execute, and track jobs on several platforms and environments.

IBM zEnterprise 196 (z196)
> The newest generation of System z family of servers built on a new processor chip, with enhanced memory function and capacity, security, and on demand enhancements to support existing mainframe workloads and large scale consolidation.

IBM zEnterprise BladeCenter Extension (zBX)
> A heterogeneous hardware infrastructure that consists of a BladeCenter chassis attached to an IBM zEnterprise 196 (z196). A BladeCenter chassis can contain IBM blades or optimizers.

IBM zEnterprise BladeCenter Extension (zBX) blade
> Generic name for all blade types supported in an IBM zEnterprise BladeCenter Extension (zBX). This term includes IBM blades and optimizers.

IBM zEnterprise System (zEnterprise)
> A heterogeneous hardware infrastructure that can consist of an IBM zEnterprise 196 (z196) and an attached IBM zEnterprise BladeCenter Extension (zBX) Model 002, managed as a single logical virtualized system by the Unified Resource Manager.

IBM zEnterprise Unified Resource Manager
> Licensed Internal Code (LIC), also known as firmware, that is part of the Hardware Management Console. The Unified Resource Manager provides energy monitoring and management, goal-oriented policy management, increased security, virtual networking, and data management for the physical and logical resources of a given ensemble.

I/O resource number
> Combination of channel path identifier (CHPID), device number, etc. See internal token.

images
> A grouping of processors and I/O devices that you define. You can define a single-image mode that allows a multiprocessor system to function as one central processor image.

IMS
> See Information Management System.

IMS/VS
> See Information Management System/Virtual Storage.

inbound
> In SA z/OS, messages sent to the focal-point system from the PC or target system.

inbound gateway operator
The automation operator that receives incoming messages, commands, and responses from the outbound gateway operator at the sending system. The inbound gateway operator handles communications with other systems using a gateway session.

Information Management System (IMS)
Any of several system environments available with a database manager and transaction processing that are capable of managing complex databases and terminal networks.

Information Management System/Virtual Storage (IMS/VS)
A database/data communication (DB/DC) system that can manage complex databases and networks. Synonymous with Information Management System.

initial microprogram load
The action of loading microprograms into computer storage.

initial program load (IPL)
The initialization procedure that causes an operating system to commence operation.

The process by which a configuration image is loaded into storage at the beginning of a workday or after a system malfunction.

The process of loading system programs and preparing a system to run jobs.

initialize automation
SA z/OS-provided automation that issues the correct z/OS start command for each subsystem when SA z/OS is initialized. The automation ensures that subsystems are started in the order specified in the automation control files and that prerequisite applications are functional.

input/output configuration data set (IOCDS)
A configuration definition built by the I/O configuration program (IOCP) and stored on disk files associated with the processor controller.

input/output support processor (IOSP)
The hardware unit that provides I/O support functions for the primary support processor and maintenance support functions for the processor controller.

Integrated Information Processor (IIP)
A specialized processor that provides computing capacity for selected data and transaction processing workloads and for selected network encryption workloads.

Interactive System Productivity Facility (ISPF)
An IBM licensed program that serves as a full-screen editor and dialog manager. Used for writing application programs, it provides a means of generating standard screen panels and interactive dialogs between the application programmer and the terminal user. See also Time Sharing Option.

interested operator list
The list of operators who are to receive messages from a specific target system.

internal token
A *logical token* (LTOK); name by which the I/O resource or object is known; stored in IODF.

IOCDS
See input/output configuration data set.

IOSP
See input/output support processor..

IPL
See initial program load.

ISPF
See Interactive System Productivity Facility.

ISPF console
You log on to ISPF from this 3270-type console to use the runtime panels for SA z/OS customization panels.

issuing host
The base program that you enter a command for processing with. See primary host.

J

JCL

See job control language.

JES

See job entry subsystem.

JES2

An MVS subsystem that receives jobs into the system, converts them to internal format, selects them for execution, processes their output, and purges them from the system. In an installation with more than one processor, each JES2 processor independently controls its job input, scheduling, and output processing. See also job entry subsystem and JES3

JES3

An MVS subsystem that receives jobs into the system, converts them to internal format, selects them for execution, processes their output, and purges them from the system. In complexes that have several loosely coupled processing units, the JES3 program manages processors so that the global processor exercises centralized control over the local processors and distributes jobs to them using a common job queue. See also job entry subsystem and JES2.

job

A set of data that completely defines a unit of work for a computer. A job usually includes all necessary computer programs, linkages, files, and instructions to the operating system.

An address space.

job control language (JCL)

A problem-oriented language designed to express statements in a job that are used to identify the job or describe its requirements to an operating system.

job entry subsystem (JES)

An IBM licensed program that receives jobs into the system and processes all output data that is produced by jobs. In SA z/OS publications, JES refers to JES2 or JES3, unless otherwise stated. See also JES2 and JES3.

K

Kanji

An ideographic character set used in Japanese. See also double-byte character set.

L

LAN

See local area network.

line mode

A form of screen presentation in which the information is presented a line at a time in the message area of the terminal screen. Contrast with full-screen mode.

link

In SNA, the combination of the link connection and the link stations joining network nodes; for example, a System/370 channel and its associated protocols, a serial-by-bit connection under the control of synchronous data link control (SDLC). See synchronous data link control.

In SA z/OS, link connection is the physical medium of transmission.

link-attached

Describes devices that are physically connected by a telecommunication line. Contrast with channel-attached.

Linux on z Systems

UNIX-like open source operating system conceived by Linus Torvalds and developed across the internet.

local

Pertaining to a device accessed directly without use of a telecommunication line. Synonymous with channel-attached.

local area network (LAN)

A network in which a set of devices is connected for communication. They can be connected to a larger network. See also token ring.

A network that connects several devices in a limited area (such as a single building or campus) and that can be connected to a larger network.

logical partition (LP)

A subset of the processor hardware that is defined to support an operating system. See also logically partitioned mode.

logical token (LTOK)

Resource number of an object in the IODF.

logical unit (LU)

In SNA, a port through which an end user accesses the SNA network and the functions provided by system services control points (SSCPs). An LU can support at least two sessions, one with an SSCP and one with another LU, and may be capable of supporting many sessions with other LUs. See also physical unit and system services control point.

logical unit 6.2 (LU 6.2)

A type of logical unit that supports general communications between programs in a distributed processing environment. LU 6.2 is characterized by:

- A peer relationship between session partners
- Efficient use of a session for multiple transactions
- A comprehensive end-to-end error processing
- A generic application program interface (API) consisting of structured verbs that are mapped to a product implementation

Synonym for advanced program-to-program communication.

logically partitioned (LPAR) mode

A central processor mode that enables an operator to allocate system processor hardware resources among several logical partitions. Contrast with basic mode.

LOGR

The sysplex logger.

LP

See logical partition.

LPAR

See logically partitioned mode.

LU

See logical unit.

LU 6.2

See logical unit 6.2.

LU 6.2 session

A session initiated by VTAM on behalf of an LU 6.2 application program, or a session initiated by a remote LU in which the application program specifies that VTAM is to control the session by using the APPCCMD macro. See logical unit 6.2.

LU-LU session

In SNA, a session between two logical units (LUs) in an SNA network. It provides communication between two end users, or between an end user and an LU services component.

M

MAT

Deprecated term for NetView automation table.

MCA

See Micro Channel architecture.

MCS

See multiple console support.

member

A specific function (one or more modules or routines) of a multisystem application that is defined to XCF and assigned to a group by the multisystem application. A member resides on one system in the sysplex and can use XCF services to communicate (send and receive data) with other members of the same group.

message automation table (MAT)

Deprecated term for NetView automation table.

message class

A number that SA z/OS associates with a message to control routing of the message. During automated operations, the classes associated with each message issued by SA z/OS are compared to the classes assigned to each notification operator. Any operator with a class matching one of the message's classes receives the message.

message forwarding

The SA z/OS process of sending messages generated at an SA z/OS target system to the SA z/OS focal-point system.

message group

Several messages that are displayed together as a unit.

message monitor task

A task that starts and is associated with a number of communications tasks. Message monitor tasks receive inbound messages from a communications task, determine the originating target system, and route the messages to the appropriate target control tasks.

message processing facility (MPF)

A z/OS table that screens all messages sent to the z/OS console. The MPF compares these messages with a customer-defined list of messages (based on this message list, messages are automated and/or suppressed from z/OS console display), and marks messages to automate or suppress. Messages are then broadcast on the subsystem interface (SSI).

message suppression

The ability to restrict the amount of message traffic displayed on the z/OS console.

Micro Channel architecture

The rules that define how subsystems and adapters use the Micro Channel bus in a computer. The architecture defines the services that each subsystem can or must provide.

microprocessor

A processor implemented on one or a small number of chips.

migration

Installation of a new version or release of a program to replace an earlier version or release.

MP

Multiprocessor.

MPF

See message processing facility.

MPFLSTxx

The MPFLST member that is built by SA z/OS.

multi-MVS environment

physical processing system that is capable of operating more than one MVS image. See also MVS image.

multiple console support (MCS)

A feature of MVS that permits selective message routing to multiple consoles.

Multiple Virtual Storage (MVS)

An IBM operating system that accesses multiple address spaces in virtual storage. The predecessor of z/OS.

multiprocessor (MP)
A CPC that can be physically partitioned to form two operating processor complexes.

multisystem application
An application program that has various functions distributed across z/OS images in a multisystem environment.

multisystem environment
An environment in which two or more systems reside on one or more processors. Or one or more processors can communicate with programs on the other systems.

MVS
See Multiple Virtual Storage.

MVS image
A single occurrence of the MVS operating system that has the ability to process work. See also multi-MVS environment and single-MVS environment.

MVS/ESA
Multiple Virtual Storage/Enterprise Systems Architecture. See z/OS.

MVS/JES2
Multiple Virtual Storage/Job Entry System 2. A z/OS subsystem that receives jobs into the system, converts them to an internal format, selects them for execution, processes their output, and purges them from the system. In an installation with more than one processor, each JES2 processor independently controls its job input, scheduling, and output processing.

N

NAU
See network addressable unit.

See network accessible unit.

NCCF
See Network Communications Control Facility..

NCP
See network control program (general term).

See Network Control Program (an IBM licensed program). Its full name is Advanced Communications Function for the Network Control Program. Synonymous with ACF/NCP.

NCP/token ring interconnection
A function used by ACF/NCP to support token ring-attached SNA devices. NTRI also provides translation from token ring-attached SNA devices (PUs) to switched (dial-up) devices.

NetView
An IBM licensed program used to monitor a network, manage it, and diagnose network problems. NetView consists of a command facility that includes a presentation service, command processors, automation based on command lists, and a transaction processing structure on which the session monitor, hardware monitor, and terminal access facility (TAF) network management applications are built.

NetView (NCCF) console
A 3270-type console for NetView commands and runtime panels for system operations and processor operations.

NetView automation procedures
A sequence of commands, packaged as a NetView command list or a command processor written in a high-level language. An automation procedure performs automation functions and runs under the NetView program.

NetView automation table (AT)
A table against which the NetView program compares incoming messages. A match with an entry triggers the specified response. SA z/OS entries in the NetView automation table trigger an SA z/OS response to target system conditions. Formerly known as the message automation table (MAT).

NetView command list language
An interpretive language unique to NetView that is used to write command lists.

NetView hardware monitor

The component of NetView that helps identify network problems, such as hardware, software, and microcode, from a central control point using interactive display techniques. Formerly called *network problem determination application*.

NetView log

The log that NetView records events relating to NetView and SA z/OS activities in.

NetView message table

See NetView automation table.

NetView paths via logical unit (LU 6.2)

A type of network-accessible port (VTAM connection) that enables end users to gain access to SNA network resources and communicate with each other. LU 6.2 permits communication between processor operations and the workstation. See logical unit 6.2.

NetView-NetView task (NNT)

The task that a cross-domain NetView operator session runs under. Each NetView program must have a NetView-NetView task to establish one NNT session. See also operator station task.

NetView-NetView task session

A session between two NetView programs that runs under a NetView-NetView task. In SA z/OS, NetView-NetView task sessions are used for communication between focal point and remote systems.

network

An interconnected group of nodes.

In data processing, a user application network. See SNA network.

network accessible unit (NAU)

In SNA networking, any device on the network that has a network address, including a logical unit (LU), physical unit (PU), control point (CP), or system services control point (SSCP). It is the origin or the destination of information transmitted by the path control network. Synonymous with network addressable unit.

network addressable unit (NAU)

Synonym for network accessible unit.

Network Communications Control Facility (NCCF)

The operations control facility for the network. NCCF consists of a presentation service, command processors, automation based on command lists, and a transaction processing structure on which the network management applications NLDM are built. NCCF is a precursor to the NetView command facility.

Network Control Program (NCP)

An IBM licensed program that provides communication controller support for single-domain, multiple-domain, and interconnected network capability. Its full name is Advanced Communications Function for the Network Control Program.

network control program (NCP)

A program that controls the operation of a communication controller.

A program used for requests and responses exchanged between physical units in a network for data flow control.

Networking NetView

In SA z/OS the NetView that performs network management functions, such as managing the configuration of a network. In SA z/OS it is common to also route alerts to the Networking NetView.

NIP

See nucleus initialization program.

NNT

See NetView-NetView task.

notification message

An SA z/OS message sent to a human notification operator to provide information about significant automation actions. Notification messages are defined using the customization dialogs.

notification operator

A NetView console operator who is authorized to receive SA z/OS notification messages. Authorization is made through the customization dialogs.

NTRI

See NCP/token ring interconnection.

nucleus initialization program (NIP)

The program that initializes the resident control program; it allows the operator to request last-minute changes to certain options specified during system generation.

O

objective value

An average Workflow or Using value that SA z/OS can calculate for applications from past service data. SA z/OS uses the objective value to calculate warning and alert thresholds when none are explicitly defined.

OCA

In SA z/OS, operator console A, the active operator console for a target system. Contrast with OCB.

OCB

In SA z/OS, operator console B, the backup operator console for a target system. Contrast with OCA.

OPC/A

See Operations Planning and Control/Advanced.

OPC/ESA

See Operations Planning and Control/Enterprise Systems Architecture.

operating system (OS)

Software that controls the execution of programs and that may provide services such as resource allocation, scheduling, input/output control, and data management. Although operating systems are predominantly software, partial hardware implementations are possible. (T)

operations

The real-time control of a hardware device or software function.

Operations Planning and Control/Advanced (OPC/A)

A set of IBM licensed programs that automate, plan, and control batch workload. OPC/A analyzes system and workload status and submits jobs accordingly.

Operations Planning and Control/Enterprise Systems Architecture (OPC/ESA)

A set of IBM licensed programs that automate, plan, and control batch workload. OPC/ESA analyzes system and workload status and submits jobs accordingly. The successor to OPC/A.

operator

A person who keeps a system running.

A person or program responsible for managing activities controlled by a given piece of software such as z/OS, the NetView program, or IMS.

A person who operates a device.

In a language statement, the lexical entity that indicates the action to be performed on operands.

operator console

A functional unit containing devices that are used for communications between a computer operator and a computer. (T)

A display console used for communication between the operator and the system, used primarily to specify information concerning application programs and to monitor system operation.

In SA z/OS, a console that displays output from and sends input to the operating system (z/OS, LINUX, VM, VSE). Also called *operating system console*. In the SA z/OS operator commands and configuration dialogs, OC is used to designate a target system operator console.

operator station task (OST)

The NetView task that establishes and maintains the online session with the network operator. There is one operator station task for each network operator who logs on to the NetView program.

operator view
   A set of group, system, and resource definitions that are associated together for monitoring purposes. An operator view appears as a graphic display in the graphical interface showing the status of the defined groups, systems, and resources.

OperatorView entry
   A construct, created with the customization dialogs, used to represent and contain policy for an operator view.

optimizer
   A special-purpose hardware component or appliance that can perform a limited set of specific functions with optimized performance when compared to a general-purpose processor. Because of its limited set of functions, an optimizer is an integrated part of a processing environment, rather than a stand-alone unit. One example of an optimizer is the IBM Smart Analytics Optimizer for DB2 for z/OS.

OS
   See operating system.

OST
   See operator station task.

outbound
   In SA z/OS, messages or commands from the focal-point system to the target system.

outbound gateway operator
   The automation operator that establishes connections to other systems. The outbound gateway operator handles communications with other systems through a gateway session. The automation operator sends messages, commands, and responses to the inbound gateway operator at the receiving system.

P

page
   The portion of a panel that is shown on a display surface at one time.

   To transfer instructions, data, or both between real storage and external page or auxiliary storage.

panel
   A formatted display of information that appears on a terminal screen. Panels are full-screen 3270-type displays with a monospaced font, limited color and graphics.

   By using SA z/OS panels you can see status, type commands on a command line using a keyboard, configure your system, and passthru to other consoles. See also help panel.

   In computer graphics, a display image that defines the locations and characteristics of display fields on a display surface. Contrast with screen.

parameter
   A variable that is given a constant value for a specified application and that may represent an application, for example.

   An item in a menu for which the user specifies a value or for which the system provides a value when the menu is interpreted.

   Data passed to a program or procedure by a user or another program, specifically as an operand in a language statement, as an item in a menu, or as a shared data structure.

partition
   A fixed-size division of storage.

   In VSE, a division of the virtual address area that is available for program processing.

   On an IBM Personal Computer fixed disk, one of four possible storage areas of variable size; one can be accessed by DOS, and each of the others may be assigned to another operating system.

partitionable CPC
   A CPC that can be divided into 2 independent CPCs. See also physical partition, single-image mode, MP, and side.

partitioned data set (PDS)
> A data set in direct access storage that is divided into partitions, called *members*, each of which can contain a program, part of a program, or data.

passive monitoring
> In SA z/OS, the receiving of unsolicited messages from z/OS systems and their resources. These messages can prompt updates to resource status displays. See also active monitoring

PCE
> A processor controller. Also known as the support processor or service processor in some processor families.

PDB
> See policy database.

PDS
> See partitioned data set.

physical partition
> Part of a CPC that operates as a CPC in its own right, with its own copy of the operating system.

physical unit (PU)
> In SNA, the component that manages and monitors the resources (such as attached links and adjacent link stations) of a node, as requested by a system services control point (SSCP) through an SSCP-PU session. An SSCP activates a session with the physical unit to indirectly manage, through the PU, resources of the node such as attached links.

physically partitioned (PP) configuration
> A mode of operation that allows a multiprocessor (MP) system to function as two or more independent CPCs having separate power, utilities, and maintenance boundaries. Contrast with single-image mode.

PLEXID group
> PLEXID group or "extended XCF communication group" is a term used in conjunction with a sysplex. The PLEXID group includes System Automation Agents for a subset of a sysplex or for the entire sysplex. It is used to provide XCF communication beyond the SAplex boundaries. For a detailed description, refer to "Defining the Extended XCF Communication Group" in *IBM System Automation for z/OS Planning and Installation*.

POI
> See program operator interface.

policy
> The automation and monitoring specifications for an SA z/OS enterprise. See *IBM System Automation for z/OS Defining Automation Policy*.

policy database
> The automation definitions (automation policy) that the automation administrator specifies using the customization dialog is stored in the policy database. Also known as the PDB. See also automation policy.

POR
> See power-on reset.

port
> System hardware that the I/O devices are attached to.

> An access point (for example, a logical unit) for data entry or exit.

> A functional unit of a node that data can enter or leave a data network through.

> In data communication, that part of a data processor that is dedicated to a single data channel for the purpose of receiving data from or transmitting data to one or more external, remote devices.

power-on reset (POR)
> A function that re-initializes all the hardware in a CPC and loads the internal code that enables the CPC to load and run an operating system. See initial microprogram load.

PP
> See physical partition.

PPI

See program to program interface.

PPT

See primary POI task.

PR/SM

See Processor Resource/Systems Manager.

primary host

The base program that you enter a command for processing at.

primary POI task (PPT)

The NetView subtask that processes all unsolicited messages received from the VTAM program operator interface (POI) and delivers them to the controlling operator or to the command processor. The PPT also processes the initial command specified to execute when NetView is initialized and timer request commands scheduled to execute under the PPT.

primary system

A system is a primary system for an application if the application is normally meant to be running there. SA z/OS starts the application on all the primary systems defined for it.

problem determination

The process of determining the source of a problem; for example, a program component, machine failure, telecommunication facilities, user or contractor-installed programs or equipment, environment failure such as a power loss, or user error.

processor

A device for processing data from programmed instructions. It may be part of another unit.

In a computer, the part that interprets and executes instructions. Two typical components of a processor are a control unit and an arithmetic logic unit.

processor controller

Hardware that provides support and diagnostic functions for the central processors.

processor operations

The part of SA z/OS that monitors and controls processor (hardware) operations. Processor operations provides a connection from a focal-point system to a target system. Through NetView on the focal-point system, processor operations automates operator and system consoles for monitoring and recovering target systems. Also known as ProcOps.

Processor Resource/Systems Manager (PR/SM)

The feature that allows the processor to use several operating system images simultaneously and provides logical partitioning capability. See also logically partitioned mode.

ProcOps

See processor operations.

ProcOps Service Machine (PSM)

The PSM is a CMS user on a VM host system. It runs a CMS multitasking application that serves as "virtual hardware" for ProcOps. ProOps communicates via the PSM with the VM guest systems that are defined as target systems within ProcOps.

product automation

Automation integrated into the base of SA z/OS for the products CICS, DB2, IMS, IBM Workload Scheduler (formerly called *features*).

program operator interface (POI)

A NetView facility for receiving VTAM messages.

program to program interface (PPI)

A NetView function that allows user programs to send or receive data buffers from other user programs and to send alerts to the NetView hardware monitor from system and application programs.

protocol

In SNA, the meanings of, and the sequencing rules for, requests and responses used for managing the network, transferring data, and synchronizing the states of network components.

proxy resource
A resource defined like an entry type APL representing a processor operations target system.

PSM
See ProcOps Service Machine.

PU
See physical unit.

R

RACF®
See Resource Access Control Facility.

remote system
A system that receives resource status information from an SA z/OS focal-point system. An SA z/OS remote system is defined as part of the same SA z/OS enterprise as the SA z/OS focal-point system to which it is related.

requester
A workstation from that user can log on to a domain from, that is, to the servers belonging to the domain, and use network resources. Users can access the shared resources and use the processing capability of the servers, thus reducing hardware investment.

resource
Any facility of the computing system or operating system required by a job or task, and including main storage, input/output devices, the processing unit, data sets, and control or processing programs.

In NetView, any hardware or software that provides function to the network.

In SA z/OS, any z/OS application, z/OS component, job, device, or target system capable of being monitored or automated through SA z/OS.

Resource Access Control Facility (RACF)
A program that can provide data security for all your resources. RACF protects data from accidental or deliberate unauthorized disclosure, modification, or destruction.

resource group
A physically partitionable portion of a processor. Also known as a *side*.

Resource Measurement Facility (RMF)
A feature of z/OS that measures selected areas of system activity and presents the data collected in the format of printed reports, System Management Facility (SMF) records, or display reports.

restart automation
Automation provided by SA z/OS that monitors subsystems to ensure that they are running. If a subsystem fails, SA z/OS attempts to restart it according to the policy in the automation configuration file.

Restructured Extended Executor (REXX)
A general-purpose, high-level, programming language, particularly suitable for EXEC procedures or programs for personal computing, used to write command lists.

return code
A code returned from a program used to influence the issuing of subsequent instructions.

REXX
See Restructured Extended Executor.

REXX procedure
A command list written with the Restructured Extended Executor (REXX), which is an interpretive language.

RMF
See Resource Measurement Facility.

S

SAF
See Security Authorization Facility.

SA IOM

See System Automation for Integrated Operations Management.

SAplex

SAplex or "SA z/OS Subplex" is a term used in conjuction with a sysplex. In fact, a SAplex is a subset of a sysplex. However, it can also be a sysplex. For a detailed description, refer to "Using SA z/OS Subplexes" in *IBM System Automation for z/OS Planning and Installation*.

SA z/OS

See System Automation for z/OS.

SA z/OS customization dialogs

An ISPF application through which the SA z/OS policy administrator defines policy for individual z/OS systems and builds automation control data.

SA z/OS customization focal point system

See focal point system.

SA z/OS data model

The set of objects, classes and entity relationships necessary to support the function of SA z/OS and the NetView automation platform.

SA z/OS enterprise

The group of systems and resources defined in the customization dialogs under one enterprise name. An SA z/OS enterprise consists of connected z/OS systems running SA z/OS.

SA z/OS focal point system

See focal point system.

SA z/OS policy

The description of the systems and resources that make up an SA z/OS enterprise, together with their monitoring and automation definitions.

SA z/OS policy administrator

The member of the operations staff who is responsible for defining SA z/OS policy.

SA z/OS SDF focal point system

See focal point system.

SCA

In SA z/OS, system console A, the active system console for a target hardware. Contrast with SCB.

SCB

In SA z/OS, system console B, the backup system console for a target hardware. Contrast with SCA.

screen

Deprecated term for panel.

screen handler

In SA z/OS, software that interprets all data to and from a full-screen image of a target system. The interpretation depends on the format of the data on the full-screen image. Every processor and operating system has its own format for the full-screen image. A screen handler controls one PS/2 connection to a target system.

SDF

See status display facility.

SDLC

See synchronous data link control.

SDSF

See System Display and Search Facility.

secondary system

A system is a secondary system for an application if it is defined to automation on that system, but the application is not normally meant to be running there. Secondary systems are systems to which an application can be moved in the event that one or more of its primary systems are unavailable. SA z/OS does not start the application on its secondary systems.

Security Authorization Facility (SAF)
An MVS interface with which programs can communicate with an external security manager, such as RACF.

server
A server is a workstation that shares resources, which include directories, printers, serial devices, and computing powers.

service language command (SLC)
The line-oriented command language of processor controllers or service processors.

service period
Service periods allow the users to schedule the availability of applications. A service period is a set of time intervals (service windows), during which an application should be active.

service processor (SVP)
The name given to a processor controller on smaller System/370 processors.

service threshold
An SA z/OS policy setting that determines when to notify the operator of deteriorating service for a resource. See also alert threshold and warning threshold.

session
In SNA, a logical connection between two network addressable units (NAUs) that can be activated, tailored to provide various protocols, and deactivated, as requested. Each session is uniquely identified in a transmission header by a pair of network addresses identifying the origin and destination NAUs of any transmissions exchanged during the session.

session monitor
The component of the NetView program that collects and correlates session-related data and provides online access to this information. The successor to NLDM.

shutdown automation
SA z/OS-provided automation that manages the shutdown process for subsystems by issuing shutdown commands and responding to prompts for additional information.

side
A part of a partitionable CPC that can run as a physical partition and is typically referred to as the A-side or the B-side.

Simple Network Management Protocol (SNMP)
A set of protocols for monitoring systems and devices in complex networks. Information about managed devices is defined and stored in a Management Information Base (MIB).

single image
A processor system capable of being physically partitioned that has not been physically partitioned. Single-image systems can be target hardware processors.

single-MVS environment
An environment that supports one MVS image. See also MVS image.

single-image (SI) mode
A mode of operation for a multiprocessor (MP) system that allows it to function as one CPC. By definition, a uniprocessor (UP) operates in single-image mode. Contrast with physically partitioned (PP) configuration.

SLC
See service language command.

SMP/E
See System Modification Program/Extended.

SNA
See Systems Network Architecture.

SNA network
In SNA, the part of a user-application network that conforms to the formats and protocols of systems network architecture. It enables reliable transfer of data among end users and provides protocols

for controlling the resources of various network configurations. The SNA network consists of network addressable units (NAUs), boundary function components, and the path control network.

SNMP
See Simple Network Management Protocol.

solicited message
An SA z/OS message that directly responds to a command. Contrast with unsolicited message.

SSCP
See system services control point.

SSI
See subsystem interface.

start automation
Automation provided by SA z/OS that manages and completes the startup process for subsystems. During this process, SA z/OS replies to prompts for additional information, ensures that the startup process completes within specified time limits, notifies the operator of problems, if necessary, and brings subsystems to an UP (or ready) state.

startup
The point in time that a subsystem or application is started.

status
The measure of the condition or availability of the resource.

status display facility (SDF)
The system operations part of SA z/OS that displays status of resources such as applications, gateways, and write-to-operator messages (WTORs) on dynamic color-coded panels. SDF shows spool usage problems and resource data from multiple systems.

steady state automation
The routine monitoring, both for presence and performance, of subsystems, applications, volumes and systems. Steady state automation may respond to messages, performance exceptions and discrepancies between its model of the system and reality.

structure
A construct used by z/OS to map and manage storage on a coupling facility.

subgroup
A named set of systems. A subgroup is part of an SA z/OS enterprise definition and is used for monitoring purposes.

SubGroup entry
A construct, created with the customization dialogs, used to represent and contain policy for a subgroup.

subplex
See SAplex.

subsystem
A secondary or subordinate system, usually capable of operating independent of, or asynchronously with, a controlling system.

In SA z/OS, an z/OS application or subsystem defined to SA z/OS.

subsystem interface (SSI)
The z/OS interface over which all messages sent to the z/OS console are broadcast.

support element
A hardware unit that provides communications, monitoring, and diagnostic functions to a central processor complex (CPC).

support processor
Another name given to a processor controller on smaller System/370 processors. See service processor.

SVP
See service processor.

symbolic destination name (SDN)
Used locally at the workstation to relate to the VTAM application name.

synchronous data link control (SDLC)
A discipline for managing synchronous, code-transparent, serial-by-bit information transfer over a link connection. Transmission exchanges may be duplex or half-duplex over switched or nonswitched links. The configuration of the link connection may be point-to-point, multipoint, or loop. SDLC conforms to subsets of the Advanced Data Communication Control Procedures (ADCCP) of the American National Standards Institute and High-Level Data Link Control (HDLC) of the International Standards Organization.

SYSINFO Report
An RMF report that presents an overview of the system, its workload, and the total number of jobs using resources or delayed for resources.

SysOps
See system operations.

sysplex
A set of z/OS systems communicating and cooperating with each other through certain multisystem hardware components (coupling devices and timers) and software services (couple data sets).

In a sysplex, z/OS provides the coupling services that handle the messages, data, and status for the parts of a multisystem application that has its workload spread across two or more of the connected processors, sysplex timers, coupling facilities, and couple data sets (which contains policy and states for automation).

A Parallel Sysplex® is a sysplex that includes a coupling facility.

sysplex application group
A sysplex application group is a grouping of applications that can run on any system in a sysplex.

sysplex couple data set
A couple data set that contains sysplex-wide data about systems, groups, and members that use XCF services. All z/OS systems in a sysplex must have connectivity to the sysplex couple data set. See also couple data set.

Sysplex Timer
An IBM unit that synchronizes the time-of-day (TOD) clocks in multiple processors or processor sides. External Time Reference (ETR) is the z/OS generic name for the IBM Sysplex Timer (9037).

system
In SA z/OS, system means a focal point system (z/OS) or a target system (MVS, VM, VSE, LINUX, or CF).

System Automation for Integrated Operations Management
An outboard automation solution for secure remote access to mainframe/distributed systems. Tivoli System Automation for Integrated Operations Management, previously Tivoli AF/REMOTE, allows users to manage mainframe and distributed systems from any location.

The full name for SA IOM.

System Automation for z/OS
The full name for SA z/OS.

system console
A console, usually having a keyboard and a display screen, that is used by an operator to control and communicate with a system.

A logical device used for the operation and control of hardware functions (for example, IPL, alter/display, and reconfiguration). The system console can be assigned to any of the physical displays attached to a processor controller or support processor.

In SA z/OS, the hardware system console for processor controllers or service processors of processors connected using SA z/OS. In the SA z/OS operator commands and configuration dialogs, SC is used to designate the system console for a target hardware processor.

System Display and Search Facility (SDSF)
An IBM licensed program that provides information about jobs, queues, and printers running under JES2 on a series of panels. Under SA z/OS you can select SDSF from a pull-down menu to see the resources' status, view the z/OS system log, see WTOR messages, and see active jobs on the system.

System entry
A construct, created with the customization dialogs, used to represent and contain policy for a system.

System Modification Program/Extended (SMP/E)
An IBM licensed program that facilitates the process of installing and servicing an z/OS system.

system operations
The part of SA z/OS that monitors and controls system operations applications and subsystems such as NetView, SDSF, JES, RMF, TSO, ACF/VTAM, CICS, IMS, and OPC. Also known as SysOps.

system services control point (SSCP)
In SNA, the focal point within an SNA network for managing the configuration, coordinating network operator and problem determination requests, and providing directory support and other session services for end users of the network. Multiple SSCPs, cooperating as peers, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the physical units and logical units within its domain.

System/390 microprocessor cluster
A configuration that consists of central processor complexes (CPCs) and may have one or more integrated coupling facilities.

Systems Network Architecture (SNA)
The description of the logical structure, formats, protocols, and operational sequences for transmitting information units through, and controlling the configuration and operation of, networks.

T

TAF
See terminal access facility.

target
A processor or system monitored and controlled by a focal-point system.

target control task
In SA z/OS, target control tasks process commands and send data to target systems and workstations through communications tasks. A target control task (a NetView autotask) is assigned to a target system when the target system is initialized.

target hardware
In SA z/OS, the physical hardware on which a target system runs. It can be a single-image or physically partitioned processor. Contrast with target system.

target system
In a distributed system environment, a system that is monitored and controlled by the focal-point system. Multiple target systems can be controlled by a single focal-point system.

In SA z/OS, a computer system attached to the focal-point system for monitoring and control. The definition of a target system includes how remote sessions are established, what hardware is used, and what operating system is used.

task
A basic unit of work to be accomplished by a computer.

In the NetView environment, an operator station task (logged-on operator), automation operator (autotask), application task, or user task. A NetView task performs work in the NetView environment. All SA z/OS tasks are NetView tasks. See also message monitor task, and target control task.

telecommunication line
Any physical medium, such as a wire or microwave beam, that is used to transmit data.

terminal access facility (TAF)
　　A NetView function that allows you to log onto multiple applications either on your system or other systems. You can define TAF sessions in the SA z/OS customization panels so you don't have to set them up each time you want to use them.

　　In NetView, a facility that allows a network operator to control a number of subsystems. In a full-screen or operator control session, operators can control any combination of subsystems simultaneously.

terminal emulation
　　The capability of a microcomputer or personal computer to operate as if it were a particular type of terminal linked to a processing unit to access data.

threshold
　　A value that determines the point at which SA z/OS automation performs a predefined action. See alert threshold, warning threshold, and error threshold.

time of day (TOD)
　　Typically refers to the time-of-day clock.

Time Sharing Option (TSO)
　　An optional configuration of the operating system that provides conversational time sharing from remote stations. It is an interactive service on z/OS, MVS/ESA, and MVS/XA.

Time-Sharing Option/Extended (TSO/E)
　　An option of z/OS that provides conversational timesharing from remote terminals. TSO/E allows a wide variety of users to perform many different kinds of tasks. It can handle short-running applications that use fewer sources as well as long-running applications that require large amounts of resources.

timers
　　A NetView instruction that issues a command or command processor (list of commands) at a specified time or time interval.

TOD
　　Time of day.

token ring
　　A network with a ring topology that passes tokens from one attaching device to another; for example, the IBM Token-Ring Network product.

TP
　　See transaction program.

transaction program
　　In the VTAM program, a program that performs services related to the processing of a transaction. One or more transaction programs may operate within a VTAM application program that is using the VTAM application program interface (API). In that situation, the transaction program would request services from the applications program using protocols defined by that application program. The application program, in turn, could request services from the VTAM program by issuing the APPCCMD macro instruction.

transitional automation
　　The actions involved in starting and stopping subsystems and applications that have been defined to SA z/OS. This can include issuing commands and responding to messages.

translating host
　　Role played by a host that turns a resource number into a token during a unification process.

trigger
　　Triggers, in combination with events and service periods, are used to control the starting and stopping of applications in a single system or a parallel sysplex.

TSO
　　See Time Sharing Option.

TSO console
From this 3270-type console you are logged onto TSO or ISPF to use the runtime panels for SA z/OS customization panels.

TSO/E
See Time-Sharing Option/Extended.

TWS
See IBM Workload Scheduler (IWS).

U

unsolicited message
An SA z/OS message that is not a direct response to a command.

uniform resource identifier (URI)
A uniform resource identifier is a string of characters used to identify a name of a web resource. Such identification enables interaction with representations of the web resource over the internet, using specific protocols.

user task
An application of the NetView program defined in a NetView TASK definition statement.

Using
An RMF Monitor III definition. Jobs getting service from hardware resources (processors or devices) are **using** these resources. The use of a resource by an address space can vary from 0% to 100% where 0% indicates no use during a Range period, and 100% indicates that the address space was found using the resource in every sample during that period.

V

view
In the NetView Graphic Monitor Facility, a graphical picture of a network or part of a network. A view consists of nodes connected by links and may also include text and background lines. A view can be displayed, edited, and monitored for status information about network resources.

Virtual Server
A logical construct that appears to comprise processor, memory, and I/O resources conforming to a particular architecture. A virtual server can support an operating system, associated middleware, and applications. A hypervisor creates and manages virtual servers.

Virtual Server Collection
A set of virtual servers that supports a workload. This set is not necessarily static. The constituents of the collection at any given point are determined by virtual servers involved in supporting the workload at that time.

virtual Server Image
A package containing metadata that describes the system requirements, virtual storage drives, and any goals and constraints for the virtual machine {for example, isolation and availability). The Open Virtual Machine Format (OVF) is a Distributed Management Task Force (DMTF) standard that describes a packaging format for virtual server images.

Virtual Server Image Capture
The ability to store metadata and disk images of an existing virtual server. The metadata describes the virtual server storage, network needs, goals and constraints. The captured information is stored as a virtual server image that can be referenced and used to create and deploy other similar images.

Virtual Server Image Clone
The ability to create an identical copy (clone) of a virtual server image that can be used to create a new similar virtual server.

Virtual Storage Extended (VSE)
A system that consists of a basic operating system (VSE/Advanced Functions), and any IBM supplied and user-written programs required to meet the data processing needs of a user. VSE and the hardware that it controls form a complete computing system. Its current version is called VSE/ESA.

Virtual Telecommunications Access Method (VTAM)

An IBM licensed program that controls communication and the flow of data in an SNA network. It provides single-domain, multiple-domain, and interconnected network capability. Its full name is Advanced Communications Function for the Virtual Telecommunications Access Method. Synonymous with ACF/VTAM.

VM Second Level Systems Support

With this function, Processor Operations is able to control VM second level systems (VM guest systems) in the same way that it controls systems running on real hardware.

VM/ESA

Virtual Machine/Enterprise Systems Architecture. Its current version is called z/VM.

volume

A direct access storage device (DASD) volume or a tape volume that serves a system in an SA z/OS enterprise.

VSE

See Virtual Storage Extended.

VTAM

See Virtual Telecommunications Access Method.

W

warning threshold

An application or volume service value that determines the level at which SA z/OS changes the associated icon in the graphical interface to the warning color. See alert threshold.

workstation

In SA z/OS workstation means the *graphic workstation* that an operator uses for day-to-day operations.

write-to-operator (WTO)

A request to send a message to an operator at the z/OS operator console. This request is made by an application and is handled by the WTO processor, which is part of the z/OS supervisor program.

write-to-operator-with-reply (WTOR)

A request to send a message to an operator at the z/OS operator console that requires a response from the operator. This request is made by an application and is handled by the WTO processor, which is part of the z/OS supervisor program.

WTO

See write-to-operator.

WTOR

See write-to-operator-with-reply.

WWV

The US National Institute of Standards and Technology (NIST) radio station that provides standard time information. A second station, known as WWVB, provides standard time information at a different frequency.

X

XCF

See cross-system coupling facility.

XCF couple data set

The name for the sysplex couple data set prior to MVS/ESA System Product Version 5 Release 1. See also sysplex couple data set.

XCF group

A set of related members that a multisystem application defines to XCF. A member is a specific function, or instance, of the application. A member resides on one system and can communicate with other members of the same group across the sysplex.

XRF

See extended recovery facility.

Z

z/OS
An IBM mainframe operating system that uses 64-bit real storage. See also Base Control Program.

z/OS component
A part of z/OS that performs a specific z/OS function. In SA z/OS, component refers to entities that are managed by SA z/OS automation.

z/OS subsystem
Software products that augment the z/OS operating system. JES and TSO/E are examples of z/OS subsystems. SA z/OS includes automation for some z/OS subsystems.

z/OS system
A z/OS image together with its associated hardware, which collectively are often referred to simply as a system, or z/OS system.

z196
See IBM zEnterprise 196 (z196).

zAAP
See IBM System z Application Assist Processor (zAAP).

zBX
See IBM zEnterprise BladeCenter Extension (zBX).

zBX blade
See IBM zEnterprise BladeCenter Extension (zBX) blade.

zCPC
The physical collection of main storage, central processors, timers, and channels within a zEnterprise mainframe. Although this collection of hardware resources is part of the larger zEnterprise central processor complex, you can apply energy management policies to zCPC that are different from those that you apply to any attached IBM zEnterprise BladeCenter Extension (zBX) or blades. See also central processor complex.

zEnterprise
See IBM zEnterprise System (zEnterprise).

Index

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