



System Automation for OS/390 Sysplex Automation

Version 1 Release 3



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Chapter 1. Introduction

This SPE enables sysplex automation. You can achieve most of the enabled sysplex automation by using the functionality of system operations so that you can issue a new set of commands to automate a sysplex from any NetView console.

This SPE also lets you automate the message IXC102A which is issued by the cross-system coupling facility of the sysplex.

To exploit SA OS/390 sysplex automation, you need a functional processor operations configuration which is required to enable the processor operations focal point to capture the IXC102A message from the sysplex.

When using the CFDRAIN command (see “CFDRAIN Command” on page 21) to drain a coupling facility, APAR OW39409/PTF UW62652/3/4/5 for OS/390 releases R603/5/6/8 is recommended. If a structure that has only FAILED-PERSISTENT connections, is allocated to a coupling facility being drained, the connections will be deleted immediately. The deallocation of the structure is done asynchronously by XCF. In this case the drain of the coupling facility cannot be completed. With APAR OW39409 installed, the structure is also deleted immediately.

Note: The routine that automates the IXC102A message does not support assist mode.

This SPE is available via APAR OW39485/PTF UW99278.

Software Requirements

EMCS support must be available, because OS/390 commands are used in NetView pipes. For more information on EMCS, refer to *System Automation for OS/390 Planning and Installation*.

Chapter 2. How to Set Up a Processor Operations Configuration

You need to have a sysplex established with systems and a functional processor operations configuration with target systems assigned to processors.

Note: The *ProcOps name* field, specified while creating a system, must be equal to the system name (in our example used in the following, FPSYS, respectively TSTSYS). This is the default anyway.

A processor operations configuration consists of target hardware, target systems and connection paths. Verify that all your systems from the sysplex are defined in this processor operations configuration. You define processor operations configuration by using the customization dialog to fill in information into the following entry types:

- *Enterprise*
- *System*
 - Policy item PROCESSOR
 - Policy item PROCESSOR OPERATIONS
- *Processor*
- *Communications Path*
- *Communications Task* (if you have a processor operations PC defined)

For more information on how to specify information for the affected entry types refer to *System Automation for OS/390 Customization*.

The processor operations function must be started on the processor operations focal point system using a valid processor operations configuration. You achieve this by issuing the command:

ISQSTART

The processor operations focal point must have connection to all system and operator consoles of all target systems in the sysplex. For CMOS processors, it is also possible to use the console integration (CI) function instead of a 3270 operator console. This is required to enable the processor operations PC to capture the IXC102A message from the sysplex.

Loss of Focal Point Authorization of a Support Element

The messages BNH021I and DWO345I indicate that the focal point authorization was changed from the current NetView to another one. In case the new NetView is the backup system of the current system or vice versa, no action is required. Otherwise, you have to get back the authority in order to automate the message IXC102A for the affected systems. You achieve this by issuing the command:

GETSPCFP luname

where the *luname* can be found in each of the messages above. If you like to automate this operation, activate the appropriate statements in the DSIPARM member AOFMSGPM.

Chapter 3. How to Customize IXC102A Automation

To enable IXC102A automation, you need to perform a series of steps from the customization dialog to edit your enterprise's policy database and build a new automation control file. These steps are described in the subsequent list using the following scenario:

Scenario: You have a large number of system in your sysplex for which you want to automate message IXC102A. Only on the processor operations focal point system (which is called FPSYS) you do not want any automation and on your test system (TSTSYS) you want to have a certain command executed when this message is trapped.

1. *Go into entry type MVS Component:*

Select the object *MVS_COMPONENT* and select its *MVS MESSAGES* policy item. Enter the information into the columns *Action* and *Message ID* as shown in the following screen:

COMMANDS	ACTIONS	HELP

AOFPISSM	SA OS/390 Message Processing	Row 1 to 20 of 20
Command ==>		SCROLL==> PAGE
Entry Type : MVS Component	PolicyDB Name : SA13	
Entry Name : MVS_COMPONENT	Enterprise Name : SA13	
Resource: MVSESA		
Enter messages issued by this resource that will result in automated actions.		
Actions: CMD = Command REP = Reply CODE = CODE		
Action	Message ID	Description
		Cmd Rep Code
code	ixc102a	automation for all systems

Figure 1. Message Processing Panel (1)

Pressing ENTER will lead you to panel *Code Processing*. Enter the information as shown in Figure 2 on page 6.

COMMANDS		HELP
AOFPISSSE		SA OS/390 Code Processing
Command ==>		Row 1 to 20 of 20 SCROLL==> PAGE
Entry Type : MVS Component	PolicyDB Name : SA13	
Entry Name : MVS_COMPONENT	Enterprise Name : SA13	
Resource: MVSESA		
Message ID: IXC102A		
Enter the value to be passed to the calling CLIST when this resource issues the selected message and the following codes are contained in the message.		
Code 1	Code 2	Code 3
*		
TSTSYS		
		Value Returned
		CLEAR
		FORCE

Figure 2. Code Processing Panel

The * denotes that, in case the IXC102A message is captured, for all systems besides TSTSYS you want to have a command performed which you associate to the action code *CLEAR*. On TSTSYS you want to have a command performed which you associate to the action code *FORCE*. The action codes *CLEAR* and *FORCE* are your free choice. The association between the codes and the commands will be performed in Figure 4 on page 7.

Pressing PF3 (END) will lead you back to panel *Message Processing* from Figure 1 on page 5. However, now you enter **cmd** into the *Action* column.

COMMANDS		ACTIONS	HELP
AOFPISSM		SA OS/390 Message Processing	Row 1 to 20 of 20
Command ==>			SCROLL==> PAGE
Entry Type : MVS Component	PolicyDB Name : SA13		
Entry Name : MVS_COMPONENT	Enterprise Name : SA13		
Resource: MVSESA			
Enter messages issued by this resource that will result in automated actions.			
Actions: CMD = Command REP = Reply CODE = CODE			
Action	Message ID	Description	Cmd Rep Code
cmd	IXC102A	automation for all systems	3

Figure 3. Message Processing Panel (2)

Pressing Enter will now lead you to the *CMD Processing* panel:

COMMANDS HELP

AOFPISSC

SA OS/390 CMD Processing

Row 1 to 12 of 20

Command ==>

SCROLL==> PAGE

Entry Type : MVS Component

PolicyDB Name : SA13

Entry Name : MVS_COMPONENT

Enterprise Name : SA13

Resource: MVSESA

Message ID: IXC102A

Enter commands to be executed when resource issues the selected message.

Pass or Automated

Selection Function

Command Text

CLEAR

ISQCCMD &EHKVAR2 SYSRESET CLEAR(YES) FORCE(NO)

FORCE

ISQCCMD &EHKVAR2 SYSRESET CLEAR(YES) FORCE(YES)

Figure 4. CMD Processing Panel

Note: Use the ISQCCMD command. Note also, that only the common processor operations commands ACTIVATE, DEACTIVATE, LOAD, and SYSRESET are supported together with the ISQCCMD command for CMOS hardware. For BIPOLAR hardware only the LOAD and SYSRESET commands are supported.

Note: If for an action code, no command, two or more commands or an unsupported command are defined, the default action (SYSRESET CLEAR(NO)) is taken. The reason is that the primary intention of the IXC102A message is to clear any pending I/O.

Here you associate commands to the codes defined in Figure 2 on page 6. Pressing the END key saves the data and brings you back to panel *Message Processing* (Figure 1 on page 5).

2. *Go into entry type System:*

Note: This step is only necessary for the processor operations focal point system and its backup system, if available.

Select the focal point system FPSYS and select its policy item *MINOR RESOURCES*. Enter the information as shown in Figure 5 on page 8.

COMMANDS	ACTIONS	HELP

AOFPIMR4	SA OS/390 Minor Resource Selection	Row 1 to 20 of 20
Command ==>		SCROLL==> PAGE
Entry Type : System	PolicyDB Name : SA13	
Entry Name : FPSYS	Enterprise Name : SA13	
Major Resource: MVSESA		
Select minor resource to be altered.		
Action Minor Resource		
s	ixc102a	

Figure 5. Minor Resource Selection Panel (1)

Pressing ENTER will bring you to panel *Flag Automation Specification*:

AOFGFAS2	SA OS/390 Flag Automation Specification		
Command ==>			
Entry Type : System	PolicyDB Name : SA13		
Entry Name : FPSYS	Enterprise Name : SA13		
Resource: MVSESA.IXC102A			
Enter level of automation desired.			
Automation Flags:	YES	NO	EXITS
Assist Flags:	DISPLAY	LOG	NONE
Actions	Flag	Auto	Assist
	Automation .		
	Recovery . .	YES	
Enter or Display times to disable automation . . NO YES NO			

Figure 6. Flag Automation Specification Panel (1)

Enter the information into the field *Recovery* as shown in the previous screen to achieve that message IXC102A will be automated for **all** systems.

Pressing the PF3 key (END) will bring you back to the *Minor Resource Selection* panel where you now type and select the following minor resource:

COMMANDS	ACTIONS	HELP

AOFPIR4	SA OS/390 Minor Resource Selection	Row 1 to 20 of 20
Command ==>		
Entry Type : System	PolicyDB Name : SA13	
Entry Name : FPSYS	Enterprise Name : SA13	
Major Resource: MVSESA		
Select minor resource to be altered.		
Action Minor Resource		
s	ixc102a.fpsys	

Figure 7. Minor Resource Selection Panel (2)

Pressing ENTER will once again bring you to panel **Flag Automation Specification**, but this time you enter **NO** into the field **Recovery** to achieve that message IXC102A will not be automated for FPSYS.

COMMANDS	ACTIONS	HELP

AOFGFAS2	SA OS/390 Flag Automation Specification	
Command ==>		
Entry Type : System	PolicyDB Name : SA13	
Entry Name : FPSYS	Enterprise Name : SA13	
Resource: MVSESA.IXC102A.FPSYS		
Enter level of automation desired.		
Automation Flags: YES	NO	EXITS
Assist Flags: DISPLAY	LOG	NONE
Actions	Flag	Auto Assist
Automation .		
Recovery . . NO		
Enter or Display times to disable automation . . NO YES NO		

Figure 8. Flag Automation Specification Panel (2)

3. Build the automation control file:

To activate IXC102A message automation, you need to build a new automation control file.

Another Scenario

Let us imagine another scenario: If you need to automate a few systems only then, in the panel from Figure 2 on page 6, specify each system that you want to automate with its action code and continue for these systems as shown for TSTSYS in the previous scenario.

Code 1	Code 2	Code 3	Value Returned
SYS1			CLEAR
SYS2			CLEAR
SYS3			FORCE
SYS4			RESET

In the panels from Figure 6 on page 8 and Figure 8 on page 9 you enter the following information:

```
Resource: MVSESA.IXC102A
Recovery . . NO
```

respectively

```
Resource: MVSESA.IXC102A.SYS1(....SYS2, ....SYS3, ....SYS4)
Recovery . . YES
```

Chapter 4. Sysplex Automation Commands

Using the Enhanced Sysplex Support

There are two ways to issue the enhanced sysplex support commands:

- From the AOCHHELP menu. The enhanced DISPCF and DISPCDS commands were already contained in the list. DISPXSYS, DISPCONS, DISPSTR, DISPPATH, and CFDRAIN are the new commands introduced with this SPE. To execute a command, type the number of the command and an x, for example, 17x.
- From the DISPPLEX main menu. If you already know that you want to work with sysplex commands, this is the fast path.

You can select the following four commands:

- DISPXSYS - Display systems (including ETR & signalling paths)
- DISPCF - Display coupling facilities
- DISPCDS - Display couple data sets
- DISPCONS - Display consoles

Example

```
AOFKX000          SA OS/390 - Command Dialogs
Domain ID   = IPSNN      ----- DISPPLEX -----
Operator ID = HUT        Date = 07/01/99
                        Time = 13:21:39

Sysplex . . . . . : KEY1PLEX

Select information to be displayed:

1  DISPXSYS  Display systems (including ETR & signalling paths)
2  DISPCF   Display coupling facilities
3  DISPCDS  Display couple data sets
4  DISPCONS Display consoles

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

Figure 9. DISPPLEX Sample Panel

DISPXSYS Command

The DISPXSYS command displays the target sysplex name, its GRS mode and its member systems. For each system the following details are shown:

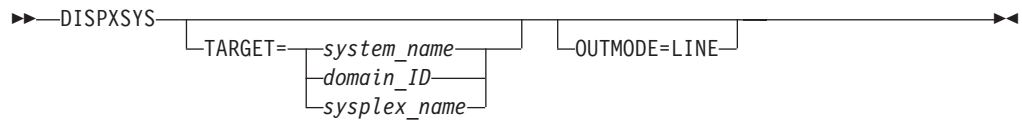
- System name
- System status
- Subsystem unscheduled maintenance (SSUM) action

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- SSUM interval
- SSUM weight
- SFM failure detection interval

Syntax Diagram

DISPXSYS Syntax Diagram



Parameters

TARGET

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

The following values can be specified:

Value	Description
-------	-------------

<i>system_name</i>	Specifies the name of the OS/390 system
<i>domain_ID</i>	Specifies the NetView domain identifier
<i>sysplex_name</i>	Specifies the name of the sysplex

The search sequence 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, it is processed on the local system.

If the target is within the local sysplex, XCF facilities are used to reach it, otherwise the NetView RMTCMD command is used.

OUTMODE

This parameter lets you specify the output mode of a command. If you specify LINE, the output is displayed in line mode, independent of the task type.

Further characteristics are the following:

- Line mode output is shown in a multiline message.

- Line mode output is not processed by the NetView message automation table and is not written to the Netlog. To obtain output from a command such as DISPSTAT in the netlog when it is run under an autotask, use a PIPE command, for example:
PIPE NETV DISPSTAT ! LOG
- Line mode output cannot be processed by a TRAP and WAIT.
- All system operations commands can be issued within a NetView PIPE by using the OUTMODE=LINE parameter.
- If any parameters are missing, no prompt panel is displayed.
- If no value is specified, the decision whether to display the command output by means of a full-screen panel or in line mode is based on the NetView task type the command is running on.

Example

```

AOFKX100          SA OS/390 - Command Dialogs          Line 1    of 4
Domain ID   = IPSNN      ----- DISPXSYS -----      Date = 07/01/99
Operator ID = HUT                Time = 13:24:27

Sysplex . . . . . : KEY1PLEX
GRS Mode  . . . . . : STAR

Display more info: C CPU E ETR I IPL O IOS S STOR/ESTOR
Signalling Path : D device T structure

Cmd  System  Status  Heartbeat  INTERVAL  SSUM Action  ISOLATE  WEIGHT
-----
KEY1  ACTIVE  13:24:17  86400     N/A        N/A        N/A      N/A
KEY2  ACTIVE  13:24:18  86400     N/A        N/A        N/A      N/A
KEY3  ACTIVE  13:24:18  86400     N/A        N/A        N/A      N/A
KEY4  ACTIVE  13:24:16  86400     N/A        N/A        N/A      N/A

Command ==>
F1=Help      F2=End      F3=Return    F6=Roll
F9=Refresh                    F12=Retrieve

```

Figure 10. DISPXSYS Sample Panel

To display specific information for each system, type one of the letters shown in the upper part of the panel in the CMD field:

- 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

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- D** Displays the device number of one or more in- / outbound signalling paths that XCF can use and information about in- / outbound XCF signalling paths to this system
- T** Displays detailed signalling path information for all coupling facility structures

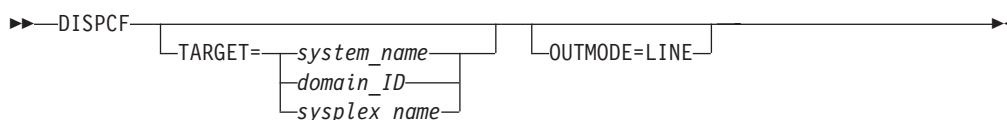
DISPCF Command

The DISPCF command displays the coupling facilities in the sysplex. For each coupling facility the structures and the paths can be displayed, and the coupling facility can be removed as long as one coupling facility is in the sysplex. For each coupling facility the following details are shown:

- Coupling facility name
- CF space utilization (total, used and free in %)
- Volatile (YES|NO)
- CFLEVEL

Syntax Diagram

DISPCF Syntax Diagram



For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Example

```
AOFKX200          SA OS/390 - Command Dialogs          Line 1    of 1
Domain ID   = IPSNN  ----- DISPCF -----          Date = 07/08/99
Operator ID = HUT           Time = 08:50:11

Cmd: P Sender paths D Drain CF S display structures
CMD CF NAME          CF SPACE UTILIZATON INFORMATION
--- ----- -Total - -Used %- -Free %- -VOLATILE- -CFLEVEL-
CF01      372.5 M   63.15   36.71   YES         5
CF02      352.5 M   53.15   46.71   YES         5

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

Figure 11. DISPCF Sample Panel

To display specific information for each system, type one of the letters shown in the upper part of the panel in the CMD field:

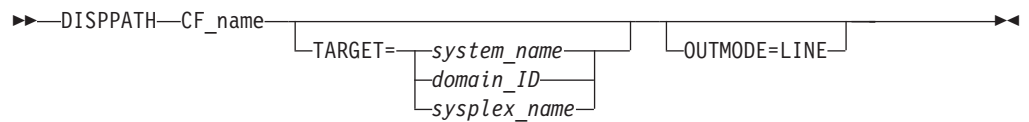
- P** Displays sender paths
- D** Drains the coupling facility
- S** Gets details for the selected structure

DISPPATH Command

The DISPPATH command displays the paths from the connected systems to the specified coupling facilities in the sysplex. For each path the status is displayed.

Syntax Diagram

DISPPATH Syntax Diagram



Parameters

CF_name

Name of the coupling facility for which the paths should be displayed

For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Sysplex Automation Commands

Example

```
AOFKX220          SA OS/390 - Command Dialogs          Line 1 of 8
Domain ID  = IPSNN ----- DISPPATH -----          Date = 07/07/99
Operator ID = HUT                                     Time = 11:02:53

CFname ==> CF01

  SYSTEM   CHIPID   Status
  -----
KEY1      A5       NOT OPERATIONAL
          A9       ONLINE
KEY2      A5       NOT OPERATIONAL
          A9       ONLINE
KEY3      A5       NOT OPERATIONAL
          A9       ONLINE
KEY4      A5       NOT OPERATIONAL
          A9       ONLINE

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

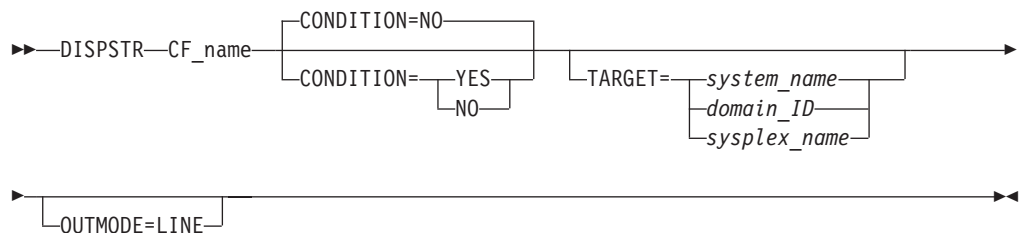
Figure 12. DISPPATH Sample Panel

DISPSTR Command

The structure display shows all structures for the selected coupling facility. If the 'Include Condition' option is selected, the current structure condition is also shown. Selecting this option increases the response time required to build the display.

Syntax Diagram

DISPSTR Syntax Diagram



Parameters

CF_name

Name of the coupling facility for which the structures should be displayed

CONDITION

Specify YES if you want to get the actual condition for each structure. Selecting this option increases the response time required to build the display. The default is NO.

For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Example

```

AOFKX210          SA OS/390 - Command Dialogs          Line 1    of 21
Domain ID  = SC55A ----- DISPSTR -----          Date = 07/07/99
Operator ID = HUT                                     Time = 11:02:15

CFname ==> CF01
Include condition on display Y   (YES/NO - Condition retrieval takes longer)

Cmd: F Force  R Rebuild  S Details
CMD  Structure name      Condition
---  -
DFHXQLS_TSQ1             *No connection exists.
DSNDSGC_GBP0             Duplex rebuild is active.
IMS_LOCK1                No active connection exists.
ISGLOCK
ISTMNPS
IXC_DEFAULT_1
IXC_DEFAULT_2
JES2CHPT_1               *Rebuild is not supported.
LOG_DFHL0G_P01
LOG_DFHL0G_P02
LOG_DFHSUNT_P01
LOG_DFHSUNT_P02          *No alternate coupling facility defined or available.
RRS_ARCHIVE_1
RRS_DELAYEDUR_1
RRS_MAINUR_1
RRS_RESTART_1
RRS_RMDATA_1
SYSTEM_LOGREC            The structure's initial size is less than its actual size.
SYSTEM_OPERLOG

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

```

Figure 13. DISPSTR Sample Panel

To display specific information for each system, type one of the letters shown in the upper part of the panel in the CMD field:

- F** Forces the selected structure
- R** Rebuilds the selected structure
- S** Gets details for the selected structure

DISPCDS Command

The DISPCDS command displays the couple data sets in the sysplex. For each couple data set the following details are shown:

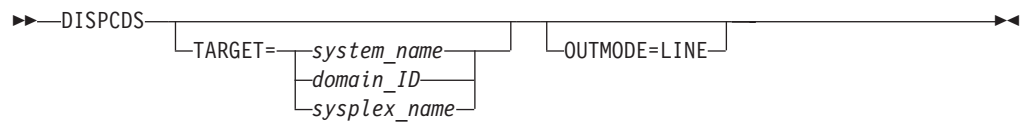
- Primary and alternate data set name
- VOLSER

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- FORMAT TOD
- MAXSYSTEM
- MAXGROUP
- MAXMEMBER

Syntax Diagram

DISPCDS Syntax Diagram



Parameters

For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Example

```

AOFKX300          SA OS/390 - Command Dialogs          Line 1    of 38
Domain ID   = IPSNN      ----- DISPCDS -----      Date = 07/01/99
Operator ID = HUT              Time = 13:25:24

System : KEY2      Interval : 86400      OPNotify : 86400
Maxmsg  : 999999    Cleanup  : 60        Retry    : 255
Classen: 956       Max CFlevel: 7        Couplexx : COUPLE01

                Primary                      Alternate

Couple data set : SYSPLEX
Dataset name    : SYS1.KEY1.PXCFCDS
VOLSER         : KEY1SP
FORMAT TOD     : 02/11/1999 02:11:33
MAXSYSTEM      : 4
MAXGROUP(PEAK) : 50 (50)
MAXMEMBER(PEAK) : 51 (21)

Couple data set : ARM
Dataset name    : SYS1.KEY1.PARMCDS      SYS1.KEY1.AARMCDS
VOLSER         : KEY1SP                  KEYLIB
FORMAT TOD     : 02/11/1999 02:11:56    02/11/1999 02:12:00
MAXSYSTEM      : 8                      8

Couple data set : CFRM
Dataset name    : SYS1.KEY1.PXESCDS
VOLSER         : KEY1SP
FORMAT TOD     : 02/11/1999 02:12:37
MAXSYSTEM      : 32

Couple data set : LOGR
Dataset name    : SYS1.KEY1.PLOGCDS      SYS1.KEY1.ALOGCDS
VOLSER         : KEY1SP                  KEYLIB
FORMAT TOD     : 02/11/1999 02:12:11    02/11/1999 02:12:13
MAXSYSTEM      : 32                    32

Couple data set : SFM
Dataset name    : SYS1.KEY1.PSFMCDs      SYS1.KEY1.ASFMCDS
VOLSER         : KEY1SP                  KEYLIB

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

```

Figure 14. DISPCDS Sample Panel

DISPCONS Command

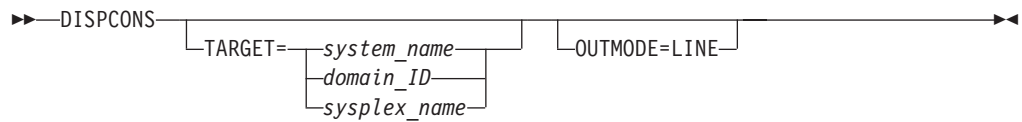
The DISPCONS command displays the following information for the target sysplex:

- 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)

Sysplex Automation Commands

Syntax Diagram

DISPCONS Syntax Diagram



Parameters

For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Example

```
AOFKX400          SA OS/390 - Command Dialogs          Line 1 of 14
Domain ID   = SC47A          ----- DISPCONS -----          Date = 07/08/99
Operator ID = HUT                                Time = 03:02:28

Sysplex . . . . . : WTSCPLX1          Master Console . . . : M01
Message Buffer Usage : 0 / 1500          Reply Buffer Usage . : 0 / 999
Awaiting Replies . . : 4                Eventual Action . . : 0
Immediate Action . . : 34              Awaiting Mounts . . : 0
Critical Action . . : 38              Operator Requests . . : 0

Display more info: D Details R requests
Cmd Console Status AUTH NBUF UD Device System ALTGRP
---
M01 MASTER MASTER 0 N 08B0 SC47 MASTER
M02 INACTIVE MASTER N/A Y -none- --none-- MASTER
M03 ACTIVE MASTER 0 N 09E0 SC55 MASTER
M04 INACTIVE MASTER N/A N -none- --none-- MASTER
M06 ACTIVE MASTER 0 N 08B2 SC47 MASTER
M11 ACTIVE MASTER 0 Y 28E0 SC52 MASTER
M12 ACTIVE MASTER 0 N 0830 SC04 MASTER
M13 ACTIVE MASTER 0 N 0831 SC04 MASTER
M14 INACTIVE MASTER N/A N -none- --none-- MASTER
X05 INACTIVE MASTER N/A N -none- --none-- MASTER
X07 INACTIVE MASTER N/A N -none- --none-- MASTER
X08 INACTIVE MASTER N/A N -none- --none-- MASTER
X09 INACTIVE MASTER N/A N -none- --none-- MASTER
X10 INACTIVE MASTER N/A N -none- SC55 MASTER

Command ==>
F1=Help      F2=End      F3=Return      F6=Roll
F9=Refresh   F10=Next     F12=Retrieve
```

Figure 15. DISPCONS Sample Panel

To display specific information for each console, type one of the letters shown in the upper part of the panel in the CMD field:

D Displays console's status

- R** Displays outstanding messages requiring operator action (displaying system requests)

CFDRAIN Command

The CFDRAIN command releases a coupling facility (CF) from its structures and connections in order to remove it from the sysplex for maintenance. The CFDRAIN command can handle the following three instances:

- Structures supporting rebuild
- Structures having FAILED-PERSISTENT connections only
- Structures with no connections

Depending on the status of the coupling facility and its allocated structures, you can execute one of three following actions via the program function key:

DRAIN

Disconnects the coupling facility from its connected systems by setting the sender path(s) OFFLINE

FORCE

Forces the deletion of structures (that have either no connection or FAILED-PERSISTENT connections only) before disconnecting the coupling facility

REBUILD

Starts the rebuild process of structures supporting rebuild

Each action must be confirmed before it is executed.

To avoid performance degradation due to multiple rebuild processes, or unpredictable results due to multiple executions of an action, all actions are executed on the dedicated autotask "AUTXCF" of a dedicated NetView¹. Therefore, an action is rejected as long as this autotask is busy. Since the action can take a long time, it is also executed asynchronously to prevent the operator from being blocked. To check the progress, use the refresh function.

The status of the coupling facility can be as follows:

DRAIN

The coupling facility is being disconnected from the connected systems.

DRAINED

The coupling facility has no connection to any system and can be removed from the sysplex.

FORCE

The allocated structures are being deleted from the coupling facility.

NORMAL

The coupling facility may have allocated structures that have at least one connection to a system.

REBUILD

Either all allocated structures that have REBUILD capability are being removed from the coupling facility by the XCF rebuild process, or one particular structure is being removed.

1. The dedicated NetView is the first NetView of the alphabetically sorted list of active NetViews running SA OS/390.

Sysplex Automation Commands

The condition of an allocated structure can be:

Structure is pending allocation

XCF accepted a deletion command of the structure but does the real deallocation later.

Rebuild is not supported

The structure does not allow for a rebuild.

No connection exists

Since no connection exists, it cannot be determined if the structure supports rebuild. However, the structure can be forced to be deleted.

No alternate coupling facility defined

The structure supports rebuild but has no alternate coupling facility defined where it can be rebuilt.

Insufficient space detected for rebuild

No alternate coupling facility has space to rebuild the structure.

The structure's initial size is less than its actual size

The application did not change the policy size. On rebuild, the structure is only rebuilt to its initial size. Then, the size is altered. However, the application has to change the policy size.

Structure is being rebuilt

The structure is being rebuilt to another coupling facility.

Duplex rebuild is being stopped

The application is being disconnected from the one of the two structures that is allocated on this coupling facility. After disconnecting, the structure is deleted.

Duplex rebuild is active

The application is connected to two structures of the same content but on different coupling facilities.

No active connection exists

The structure has only DISCONNECTING, FAILED, or FAILED-PERSISTENT connections.

Structure is awaiting rebuild

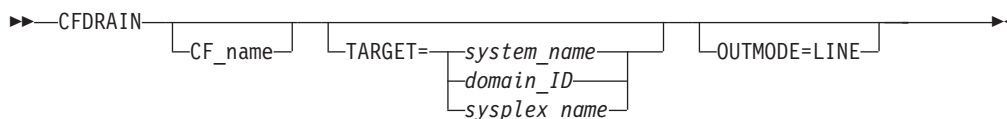
The structure has been selected for rebuild but has not been processed yet.

b_l_a_n_k

The structure is allocated and has at least one active connection.

Syntax Diagram

CFDRAIN Syntax Diagram



Parameters

CF_name

Name of the coupling facility for which the structures should be displayed.
The default is a selection panel that shows all available coupling facilities.

For a description of the TARGET and OUTMODE parameters, refer to the description of the DISPXSYS command.

Examples

```

AOFLX900          SA OS/390 - Command Dialogs          Line 1 of 19
Domain ID  = SC55A      ----- CFDRAIN -----          Date = 09/17/99
Operator ID = AXEL                      Time = 13:55:45

Coupling Facility ==> CF01          Status . . . . . : NORMAL
Sysplex . . . . . ==> WTSCPLX1
-----
Structure      Condition
DFHXQLS_TSQ1   *No connection exists.
DSNDSGC_GBP0   Duplex rebuild is active.
IMS_LOCK1      No active connection exists.
ISGLOCK
ISTMNPS
IXC_DEFAULT_1
IXC_DEFAULT_2
JES2CHPT_1     *Rebuild is not supported.
LOG_DFHL0G_P01
LOG_DFHL0G_P02
LOG_DFHSUNT_P01
LOG_DFHSUNT_P02 *No alternate coupling facility defined or available.
RRS_ARCHIVE_1
RRS_DELAYEDUR_1
RRS_MAINUR_1
RRS_RESTART_1
RRS_RMDATA_1
SYSTEM_LOGREC  The structure's initial size is less than its actual size.
SYSTEM_OPERLOG

Command ==>
F1=Help      F2=End      F3=Return      F6=Roll
              F9=Refresh  F10=Rebuild   F12=Retrieve

```

Figure 16. CFDRAIN Sample Panel (1)

Sysplex Automation Commands

```
AOFLX900          SA OS/390 - Command Dialogs          Line 1 of 19
Domain ID   = SC55A          ----- CFDRAIN -----          Date = 09/17/99
Operator ID = AXEL                                     Time = 13:58:32

Coupling Facility ==> CF01          Status . . . . . : REBUILD
Sysplex . . . . . ==> WTSCPLX1
-----
Structure      Condition
DFHXQLS_TSQ1    *No connection exists.
DSNDSGC_GBP0    Duplex rebuild is being stopped.
IMS_LOCK1       *Structure is pending deallocation.
ISGLOCK         Structure is awaiting rebuild.
ISTMNPS         Structure is awaiting rebuild.
IXC_DEFAULT_1   Structure is being rebuilt.
IXC_DEFAULT_2   Structure is being rebuilt.
JES2CHPT_1      *Rebuild is not supported.
LOG_DFHL0G_P01  Structure is awaiting rebuild.
LOG_DFHL0G_P02  Structure is awaiting rebuild.
LOG_DFHSUNT_P01 Structure is awaiting rebuild.
LOG_DFHSUNT_P02 *No alternate coupling facility defined or available.
RRS_ARCHIVE_1   Structure is awaiting rebuild.
RRS_DELAYEDUR_1 Structure is awaiting rebuild.
RRS_MAINUR_1    Structure is awaiting rebuild.
RRS_RESTART_1   Structure is awaiting rebuild.
RRS_RMDATA_1    Structure is awaiting rebuild.
SYSTEM_LOGREC   Structure is awaiting rebuild.
SYSTEM_OPERLOG  Structure is awaiting rebuild.

Command ==>
F1=Help      F2=End      F3=Return      F6=Roll
              F9=Refresh      F12=Retrieve
```

Figure 17. CFDRAIN Sample Panel (2)

GETSPCFP Command

The GETSPCFP command gains or regains the active system console for the target hardware identified by an LU name.

Syntax Diagram

GETSPCFP Syntax Diagram



netid.

The network name where the LU name is defined

nuname

The LU name of the target hardware

Chapter 5. Sysplex Automation Messages

The following messages can occur:

AOF900I **At least one structure is still allocated to the CF format**

Explanation: The process was started disconnecting the coupling facility *cfname* from its connected systems. But at least one structure that is still allocated was detected by the DRAIN command. Or, one allocated structure that has a connection to an application was detected by the FORCE command.

System Action: Processing terminates.

Operator Response: Check the allocated structures of the coupling facility. Rebuild the structures to another coupling facility if possible before issuing the command again.

System Programmer Response: None.

Classes: 40 43.

AOF901I **Path *chpid* from system to CF *cfname* could not be set to *status***

Explanation: The program received an unexpected message in response to the CF CHP command setting a sender path from a connected system to a coupling facility to OFFLINE or ONLINE.

System Action: Processing terminates.

Operator Response: None.

System Programmer Response: Check the NetLog for related messages to determine the cause of the error.

Classes: 40 43.

AOF902I **Draining the CF *cfname* did not complete successfully**

Explanation: The program received an unexpected message in response to the CF CHP command setting a sender path from a connected system to a coupling facility to OFFLINE or ONLINE.

System Action: Processing terminates.

Operator Response: None.

System Programmer Response: Check the NetLog for related messages to determine the cause of the error.

Classes: 40 43.

AOF903I **Either no CF is defined or the specified CF is not defined**

Explanation: Either the command was executed in a sysplex that does not use any coupling facility or the name of the coupling facility is not known in the sysplex.

System Action: Processing terminates.

Operator Response: Specify a valid coupling facility name.

System Programmer Response: None.

AOF904I **Task *taskname* on system *sysname* is busy. Action *action cfname* is rejected**

Explanation: While the task is busy, new actions are rejected. This avoids performance degradation due to multiple rebuild processes, or unpredictable results due to multiple executions of an action.

System Action: Processing terminates.

Operator Response: Retry the action later.

System Programmer Response: None.

AOF905I ***action* of structure *strname* failed**

Explanation: The program received an unexpected message in response to a SETXCF command. The action that is related to the structure did not complete successfully.

System Action: Processing terminates except when rebuilding all structures of a coupling facility. In this case processing continues with the next structure.

Operator Response: None.

System Programmer Response: Check the NetLog for related messages to determine the cause of the error.

Classes: 40 43.

AOF906I **Time-out occurred on command *command***

Explanation: The MVS command did not respond in time. Especially XCF commands can time-out more often because they are processed by one single task.

System Action: Processing terminates except when rebuilding all structures of a coupling facility. In this case processing continues with the next structure.

Operator Response: Before you execute your action

Sysplex Automation Messages

again, check the NetLog and the system activities to determine the cause of the time-out.

System Programmer Response: None.

Classes: 40 43.

AOF907I Structure *strname* has connections other than FAILED-PERSISTENT

Explanation: The program detected at least one connection to the structure that does not have the status FAILED-PERSISTENT. Since XCF does not allow to delete such a structure, the program rejects the action.

System Action: Processing terminates.

Operator Response: Make sure that the structure has either no connections, or only FAILED-PERSISTENT connections before you force the deletion of the structure again.

System Programmer Response: None.

Classes: 40 43.

AOF908I Start of autotask *taskname* failed. RC = *rc*

Explanation: Any action that is related to a coupling facility is performed on a dedicated autotask. If the task is not active, it is started via the AUTOTASK command. However, the command failed with the return code *rc*.

System Action: Processing terminates.

Operator Response: Inform your system programmer.

System Programmer Response: Analyse the return code and correct the error. Refer to the description of the %AUTOTASK command in the *NetView Command Reference*.

Classes: 40 44

AOF920I No signalling paths match the specified criteria *criteria*

Explanation: The program set up the commands MVS DISPLAY XCF,PATHIN,DEVICE=ALL and MVS DISPLAY XCF,PATHOUT,DEVICE=ALL. However, message AOF920I was returned.

The variable *criteria* shows the path type (either PATHIN or PATHOUT).

System Action: Processing terminates.

Operator Response: None.

System Programmer Response: None.

AOF921I Console :*console* is INACTIVE

Explanation: The DISPLAY R,LIST,T,CN=*console_name* command was issued. However, no data was returned because the console is INACTIVE. Therefore, no requests can be displayed.

The variable *console* shows the name of the console.

System Action: Processing terminates.

Operator Response: None.

System Programmer Response: None.

AOF923I No active target system found on target hardware *target* (LU=*luname*)

Explanation: The operator issued the command GETSPCFP *luname*. Either the target hardware has not been initialized yet, or the luname of the Support Element has changed.

System Action: Processing terminates.

Operator Response: Use the processor operations command ISQXDST to verify that at least one target system is initialized. If not, issue the command ISQXIII *target* where *target* is one of the target system names in the list. When the command completes successfully retry the GETSPCFP command.

System Programmer Response: If the luname has changed, correct the name in the processor operations control file and restart processor operations.

Classes: 40 43.

AOF924A Automation of message IXC102A terminated. Reason *reason*, processor operations command RC = *rc*

Explanation: XCF is removing a system from the sysplex and waits for the reply to proceed. The reply could not be automated for one of the following reasons:

- 10 The message is not the IXC102A message.
- 11 The same message is being processed by another task. This can happen when the focal point has connections to the target via the processor operations PC and the Support Element.
- 12 Two or more commands have been defined in the customization dialogs for message IXC102A. However, only one ISQCCMD can be issued.
- 13 The command defined for IXC102A message is not an ISQCCMD command.
- 14 The target system name of the ISQ900I message could not be obtained.
- 15 The WTOR was already replied to.

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- 30** A processor operations command failed. Refer to the corresponding command description.
- 31** A time-out occurred while waiting for the response of the ISQSEND command.

System Action: Processing terminates.

Operator Response: None.

System Programmer Response: Correct the problem. For reason codes 11 and 15 no action is required.

Classes: 40 43.

AOF925I Automation of message IXC102A for *system* completed successfully

Explanation: The automation of message IXC102A for system *system* completed successfully. The system is no longer part of the sysplex.

System Action: None.

Operator Response: None.

System Programmer Response: None.

AOF926I Error *error* detected during automation of message IXC102A

Explanation: The routine responsible for the automation of message IXC102A detected one of the following error conditions:

- 10** The message is not the IXC102A message.
- 11** The same message is being processed by another task.
- 12** Two or more commands have been defined in the customization dialogs for message IXC102A. However, only one ISQCCMD can be issued.
- 13** The command defined for IXC102A message is not an ISQCCMD command.
- 14** The reply is no longer outstanding.
- 15** Incorrect call of a subsequent clist.

System Action: Processing terminates for conditions 10, 11, 14, and 15. In case of condition 12 and 13 the default ISQCCMD command is taken.

Operator Response: None.

System Programmer Response: In case of condition 12 and 13, correct the definitions and reload the automation control file.



Program Number: 5645-005



Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.

Spine information:



System Automation for OS/390
Sysplex Automation

Version 1 Release 3