

IBM Education Assistant

Solution Name: Dynamic I/O for standalone CF

Element(s)/Component(s): HCD/HCM



Agenda

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Trademarks

- See url <http://www.ibm.com/legal/copytrade.shtml> for a list of trademarks.
- Additional Trademarks:
 - None.

Session Objectives

- Many customers have standalone coupling facilities
- A true standalone coupling facility cannot change the I/O configuration dynamically because of a missing HCD running on the server
- Changing I/O configuration for such a server is cumbersome, error prone, and requires a POR of the server
- Dynamic configuration capabilities for standalone coupling facilities are added together with z14 GA2 firmware
 - Learn how to activate the feature
 - See improvements for the activation process

Overview

- Who (Audience)
 - Any customer with a standalone coupling facility (SACF)
- What (Solution)
 - Perform dynamically I/O configuration changes on the SACF
- Wow (Benefit / Value, Need Addressed)
 - Get increased availability of the coupling facility
 - Without any additional resources at no additional cost

Usage & Invocation

- Preparation
 - Firmware update to z14 GA2 for system running z/OS, standalone coupling facility, and HMC
 - Install z/OS APAR and update processor definition of the coupling facility to new support level
 - Define Partition 'B' in highest CSS with name MCS_1 for coupling facility processor
- Activation
 - Write IOCDS with updated configuration to coupling facility processor
 - Perform POR of coupling facility
- Dynamic activation
 - Similar to existing remote dynamic activate but hardware only changes

Usage & Invocation Cont.

- update processor definition of the coupling facility to new support level

```
----- Available Support Levels -----
CBDPPR12                                     Row 1 of 2 More:  >
Command ===> _____

Select the processor support level which provides the processor
capabilities you want to use.

Support Level
3906 support
3906 GA2 support
***** Bottom of data *****

F1=Help      F2=Split    F3=Exit      F7=Backward  F8=Forward
F9=Swap      F12=Cancel  F20=Right   F22=Command
```

- Define Partition 'B' in highest CSS with name MCS_1 for coupling facility processor

```
----- Change Internal Partition Definition -----
CBDPPA31

Specify or revise the following values.

Partition name . . . MCS_1
Partition number . : B      (same as MIF image ID)
Partition usage . : FW
UID uniqueness . . : N      (Y/N)

Description . . . . _____

F1=Help      F2=Split    F3=Exit      F4=Prompt    F5=Reset
F9=Swap      F12=Cancel
```

Usage & Invocation Cont.

- Define Partition 'B' in highest CSS with name MCS_1 for coupling facility processor in HCM



Edit Partition

Partition on COPY2.5

ID: MCS_1

System Name:

Description:

Partition Number: B (same as MIF image ID)

Usage: FW

UID: NO

Info...

Status...

Performance...

OK

Cancel

Help

Usage & Invocation Cont.

- Activation through Processor Cluster List (HCD option 2.11)

```
Goto Query Help
-----
CBDPACF0                      Processor Cluster List                      Row 1 of 18
Command ===> _____ Scroll ===> PAGE

Select one or more CPCs, then press Enter.

-----CPC-----
/ SNA Address      Type  Model  IODF
- IBM390PS.ECL2    2097  E40   ECL2
- IBM390PS.GRY2    2817  M32   GRY2
- IBM390PS.GRY3    2817  M32   GRY3
- IBM390PS.HEL2    2827  H66   HEL2
- IBM390PS.HEL3    2827  H43   HEL3
- IBM390PS.M313    3906  M03   M313
- IBM390PS.M35     3906  M03   M35
/ IBM390PS.M42     3906  M04   M42
# IBM390PS.M46     3906  M04   M46
- IBM390PS.M83     3906  M04   M83
- IBM390PS.P10     2827  H89   P10
- IBM390PS.P23     2827  H43   P23
# IBM390PS.P35     2827  H43   P35
- IBM390PS.P57     2827  H43   P57
- IBM390PS.S311    2964  NE1   S311
- IBM390PS.S38     2964  NC9   S38
- IBM390PS.S42     2964  NC9   S42
- IBM390PS.S83     2964  NC9   S83
***** Bottom of data *****
```

new

```
----- Actions on selected CPCs -----
CBDPACFA

Select by number or action code and press Enter.

1. Work with IOCDSSs . . . . . (s)
2. Work with IPL attributes . . . . . (i)
3. Select other processor configuration (p)
4. Work with CPC images . . . . . (v)
5. Activate hardware changes only . . . (a)
6. View current active configuration . . (c)
7. Download active configuration . . . . (d)

F1=Help  F2=Split  F3=Exit  F9=Swap  F12=Cancel
```

← write IOCDs
before POR

← new options
for SACF activate

Usage & Invocation Cont.

- View current active configuration (HCD option 2.11 'c')

```
View Active Configuration
CBDDPDY60
Currently active IODF . . . . . : SYS4.IODF00
Currently active configuration : M42
HSA token . . . . . : M42      18-05-04 14:14:22 SYS4      IODF00
Recovery required . . . . . : No
Target IODF . . . . . :
Target configuration . . . . . :
F1=Help      F2=Split      F3=Exit      F9=Swap      F12=Cancel
```

- If authorized
- Local and remote processor are at z14 GA2 level
- MCS_1 partition is available on coupling facility

```
e Configuration
SYS4.IODF00
2
18-05-04 14:14:23 SYS4      IODF00
Recovery required . . . . . : Yes
Target IODF . . . . . : SYS4.IODF42
Target configuration . . . . . : M42
F1=Help      F2=Split      F3=Exit      F9=Swap      F12=Cancel
```

Usage & Invocation Cont.

- Activate hardware changes only (HCD option 2.11 'a')
- No recovery required

- If authorized
- Local and remote processor are at z14 GA2 level
- MCS_1 partition is available on coupling facility

```

Activate New Hardware Configuration

CBDPDY50

Specify or revise the values for IODF activation.

Currently active IODF . : SYS4.IODF00
  Processor ID . . . . : M42

IODF to be activated . : SYS4.IODF42
  Processor ID . . . . . M42      +

Test only . . . . . Yes (Yes or No)
Allow hardware deletes (FORCE, FORCE=DEVICE) . . . . No (Yes or No)
Delete partition access to CHPIDs unconditionally
(FORCE=CANDIDATE) . . . . . No (Yes or No)

F1=Help      F2=Split      F3=Exit      F4=Prompt      F5=Reset      F9=Swap
F12=Cancel
```

Usage & Invocation Cont.

- Activate hardware changes only (HCD option 2.11 'a')
- Result

```
----- Message List -----
Save  Query  Help
-----
CBDPMSG0                                     Row 1 of 4
Command ==> _____ Scroll ==> PAGE

Messages are sorted by severity. Select one or more, then press Enter.

/ Sev Msg. ID  Message Text
_ E   CBDA887I  Following devices are to be added to processor M42:
#                                     0.FF84-0.FF8F,1.FF84-1.FF8F
_ E   CBDA889I  Following control units are to be modified for processor
#                                     M42: 0.FFCC,1.FFCC
_ E   CBDD800I  All change requests were successfully executed
***** Bottom of data *****

F1=Help      F2=Split      F3=Exit      F4=Prompt    F5=Reset
F7=Backward  F8=Forward   F9=Swap     F10=Actions  F12=Cancel
F13=Instruct F22=Command
```

- Messages also written to HCD message log and local system log

Usage & Invocation Cont.

- Activate hardware changes only (HCD option 2.11 'a')
- Recovery required

```
----- Recover hardware only activation -----
CBDPDY51

Recovery is required.

Source IODF . . . . . : SYS4.IODF00
Source configuration . . . . . : M42

Target IODF . . . . . : SYS4.IODF42
Target configuration . . . . . : M42

Recovery action . . . . . Continue +

F1=Help      F2=Split      F3=Exit      F9=Swap      F12=Cancel
```

- If authorized
- Local and remote processor are at z14 GA2 level
- MCS_1 partition is available on coupling facility

Usage & Invocation Cont.

- Download active configuration (HCD option 2.11 'd')

Download Active Configuration

CBDPUTA4

Selected SNA address . : NETID.NAU
Currently active IODF : SYS4.IODF00

Specify the following value.

Target IODF name _____ +

F1=Help F2=Split F3=Exit F4=Prompt F5=Reset F9=Swap
F12=Cancel

- If authorized
- Local and remote processor are at z14 GA2 level
- MCS_1 partition is available on coupling facility

Usage & Invocation Cont.

- Activation protected by SAF
 - Profiles CBD.CPC.ACTIVATE.NetId.NAU in class FACILTY
NetId and NAU as defined on the SE and shown in Processor Cluster List panel
 - READ required for
 - View current active configuration
 - Download active configuration
 - UPDATE required for
 - Activate hardware changes only

Interactions & Dependencies

- To exploit this item, all systems in the Plex must be at the new z/OS level: No
- Software Dependencies
 - None
- Hardware Dependencies
 - z14 GA 2 (3906 and/or 3907 models)
- Exploiters
 - None

Migration & Coexistence Considerations

- Requires
 - OA54912 HCD z14 GA 2 support for previous releases
 - IO25603 HCM z14 GA 2 support for previous releases

Installation

- For previous z/OS versions, apply HCD/HCM z14 GA2 support APARs
- Apply security definition
- Dynamic activation of standalone coupling facilities simplifies procedure for activation of configuration changes

Session Summary

- Standalone coupling facilities can now dynamically change I/O configuration if running on a z14 GA2 processor
- Simplifies dynamic activation process
- Requires a last POR to activate the function

Appendix

- Contact:
IBMHCD@de.ibm.com
 - Documentation:
 - Hardware Configuration Definition User's Guide
 - Hardware Configuration Definition Planning
 - Hardware Configuration Definition Messages
- PR/SM Planning Guide