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Dynamically Managing Hardware I/O Configuration Using VM Traditional z/VM Commands - Examples

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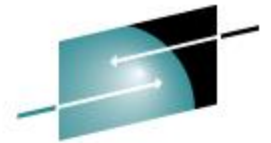


Disclaimer



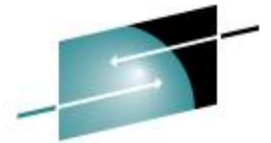
The examples presented here are for demonstration only. While they are based on real experience, there is no assurance that they will be applicable outside the original use at Nationwide Insurance.

Original VM Dynamic I/O Commands Examples



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- Adding an OSA
- Adding a string of DASD
- Adding Channel Paths to DASD and bringing them online
- Removing Devices
- Add a CIP
- Add ESCON CTCs within a processor



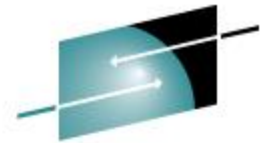
Preparation

- Verify the CHPIDs are not in use

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	+	+	.	.	+	.	+	+	+	+
...																
2x	+	+	.	+	.	+	+	+	+	+	+	-	+	+	+	+
3x	+	.	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	.	+	+	+	+	+	+
...																
Bx	+	.	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	+	+	+	+
...																

+ Available
- Offline
. Not configured



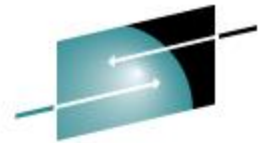
Adding Two OSAs

- IOCP

```
CHPID PATH=(00),SHARED, *  
      PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),TYPE=OSA  
CHPID PATH=(D8),SHARED, *  
      PARTITION=((VM1,VM2),(MVS1,VM1,VM2)),TYPE=OSA  
CNTLUNIT CUNUMBR=8000,PATH=(00),UNIT=OSA  
CNTLUNIT CUNUMBR=8001,PATH=(D8),UNIT=OSA  
IODEVICE ADDRESS=(8000,002),CUNUMBR=(8000),STADET=Y,UNIT=OSA  
IODEVICE ADDRESS=(8002,010),CUNUMBR=(8000),STADET=Y, *  
      PARTITION=(VM1),UNIT=OSA  
IODEVICE ADDRESS=800F,UNITADD=FE,CUNUMBR=(8001),STADET=Y, *  
      UNIT=OSAD  
IODEVICE ADDRESS=(8010,002),UNITADD=00,CUNUMBR=(8001), *  
      STADET=Y,UNIT=OSA  
IODEVICE ADDRESS=801F,UNITADD=FE,CUNUMBR=(8001),STADET=Y, *  
      UNIT=OSAD
```

- Commands to verify syntax

- IOCP NEWIOCP1 (NOWRT DYN LPAR)



Adding Two OSAs

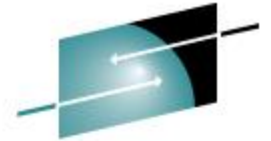
- Commands (in an EXEC)

```
/* Dynamically add an OSA */
Address 'COMMAND'
'CP SPOOL CONSOLE TO * START NAME DYNAMIC IOCP'
Signal On Error
Trace 'C'
'CP DEFINE CHPID 00 TYPE OSA SHARED ACC MVS1 VM1 VM2 INIT MVS1 VM1 VM2'
'CP DEFINE CHPID D8 TYPE OSA SHARED ACC MVS1 VM1 VM2 INIT VM1 VM2'

'CP DEFINE CU 8000 TYPE OSA CHPID 00'
'CP DEFINE CU 8001 TYPE OSA CHPID D8'

'CP DEFINE DEV 8000-8001 UNITADD 00 CU 8000 PART MVS1 VM1 VM2'
'CP DEFINE DEV 8002-800B UNITADD 02 CU 8000 PART VM1'
'CP DEFINE DEF 800F          UNITADD FE CU 8000'
'CP DEFINE DEV 8010-8011 UNITADD 00 CU 8001 PART MVS1 VM1 VM2'
'CP DEFINE DEV 8012-801B UNITADD 02 CU 8001 PART VM1'
'CP DEFINE DEF 801F          UNITADD FE CU 8001'

Signal Off Error
'EXEC IOCP NEWIOCP1 (WRTA3 LPAR DYN IZP DESC1 SYS1 DESC2 IODF01'
Say 'IOCP RC='rc
If rc \> 4 Then Do
  'ERASE NEWIOCP1 LISTING'
  'CP SET IOCD5 A3'
End
Error:
erc = rc
'CP SPOOL CONSOLE STOP CLOSE'
Exit erc
```



Adding Two OSAs

- Verify CHPID status

Query CHPIDS

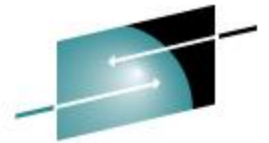
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	-	.	.	.	+	.	+	+	.	.	+	.	+	+	+	+
...																
3x	+	.	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	.	+	+	+	+	+	+
...																
Bx	+	.	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	+	+	+
...																

+ Available
- Offline
. Not configured

- Query the paths to the device

Query PATHS 8000

Device 8000 does not exist



Adding Two OSAs

- Vary the channel path online

`vary on chpid 00`

Channel path 0000 was successfully varied online

Device 8000 is available and online.

Device 8001 is available and online.

Device 8002 is available and online.

Device 8003 is available and online.

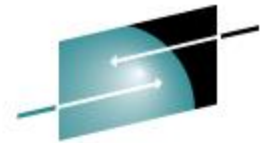
Device 800F is available and online.

- Query the devices

`q 8000-8003 800f`

OSA 8000 FREE , OSA 8001 FREE , OSA 8002 FREE , OSA 8003 FREE

OSA 800F FREE



Adding Two OSAs

- Verify CHPID status

Query CHPIDS

```

      0 1 2 3 4 5 6 7 8 9 A B C D E F
0x + . . . + . + + . . + . + + + +
...

```

+ Available
 - Offline
 . Not configured

- Query CHPID

Query CHPID 00

```

Path 00 online to devices 8000 8001 8002 8003 800F
Path 00 offline to devices 8004 8005 8006 8007 8008 8009 800A 800B

```

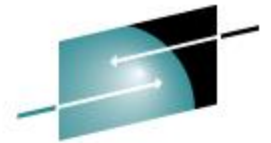
- Query the paths to the device

Query PATHS 8000

```

Device 8000, Status ONLINE
  CHPIDs to Device 8000 (PIM) : 00
  Physically Available (PAM) : +
  Online (LPM) : +
Legend + Yes - No

```



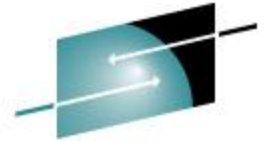
Adding a String of DASD

- IOCP

```
CHPID PATH=( 05 ), SHARED, *  
PARTITION=( (MVS1, VM1, VM2), (MVS1, VM1, VM2) ), SWITCH=01, *  
TYPE=CNC  
CHPID PATH=( 31 ), SHARED, *  
PARTITION=( (MVS1, VM1, VM2), (MVS1, VM1, VM2) ), SWITCH=01, *  
TYPE=CNC  
CHPID PATH=( 89 ), SHARED, *  
PARTITION=( (MVS1, VM1, VM2), (MVS1, VM1, VM2) ), SWITCH=02, *  
TYPE=CNC  
CNTLUNIT CUNUMBR=1340, PATH=( 05, 89 ), UNITADD=( ( 00, 128 ) ), *  
LINK=( A1, A1 ), UNIT=3990  
CNTLUNIT CUNUMBR=1440, PATH=( 31 ), UNITADD=( ( 00, 128 ) ), *  
LINK=( E1 ), UNIT=3990  
IODEVICE ADDRESS=( 4000, 128 ), CUNUMBR=( 1340, 1440 ), STADET=Y, *  
UNIT=3390
```

- Commands to verify syntax

- IOCP NEWIOCP2 (NOWRT DYN LPAR)



Adding a String of DASD

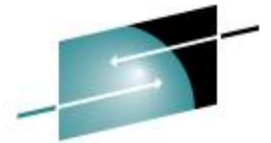
- Commands (in an EXEC)

```
/* Dynamically add a string of DASD */
Address 'COMMAND'
'CP SPOOL CONSOLE TO * START NAME DYNAMIC IOCP'
Signal On Error
Trace 'C'
'CP DEFINE CHPID 05 TYPE CNC SWITCH 01',
      'SHARED ACC MVS1 VM1 VM2 INIT MVS1 VM1 VM2'
'CP DEFINE CHPID 31 TYPE CNC SWITCH 01',
      'SHARED ACC MVS1 VM1 VM2 INIT MVS1 VM1 VM2'
'CP DEFINE CHPID 89 TYPE CNC SWITCH 02',
      'SHARED ACC MVS1 VM1 VM2 INIT MVS1 VM1 VM2'

'CP DEFINE CU 1340 TYPE ESCON UNITADD 00-7F LINK A1 PATH 05 89'
'CP DEFINE CU 1440 TYPE ESCON UNITADD 00-7F LINK E1 PATH 31'

'CP DEFINE DEV 4000-407F UNITADD 00 CU 1340 1440 DASD STAT'

Signal Off Error
'EXEC IOCP NEWIOCP2 (WRTA4 LPAR DYN IZP DESC1 SYS1 DESC2 IODF02'
Say 'IOCP RC='rc
If rc \> 4 Then Do
  'ERASE NEWIOCP2 LISTING'
  'CP SET IOCDS A4'
End
Error:
erc = rc
'CP SPOOL CONSOLE STOP CLOSE'
Exit erc
```



Adding a String of DASD

- Verify CHPID status

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	.	.	+	-	+	+	.	.	+	.	+	+	+	+
...																
3x	+	-	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	-	+	+	+	+	+	+
...																
Bx	+	.	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	.	.	.	+	+	+	+
...																

+ Available
- Offline
. Not configured

- Query the paths to the device

Query PATHS 4000

Device 4000 does not exist

Adding a String of DASD

- Vary the channel path online

`vary on chpid 05`

Channel path 0005 was successfully varied online

Device 4000 is available and online.

Device 4001 is available and online.

...

Device 407F is available and online.

- Query the devices

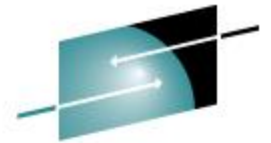
`q 4000-407f`

DASD 4000 IB4000, DASD 4001 IB4001, DASD 4002 IB4002, DASD 4003 IB4003,

DASD 4004 IB4004, DASD 4005 IB4005, DASD 4006 IB4006, DASD 4007 IB4007,

...

DASD 407C IB407C, DASD 407D IB407D, DASD 407E IB407E, DASD 407F IB407F



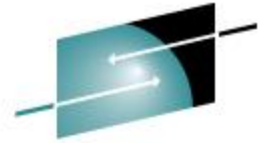
Adding a String of DASD

- Verify CHPID status

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	.	.	+	+	+	.	.	+	.	+	+	+	+	+
...																
3x	+	-	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	-	+	+	+	+	+	+
...																
Bx	+	.	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	.	.	.	+	+	+	+
...																

+ Available
- Offline
. Not configured



Adding a String of DASD

- Query the paths to the device

Query PATHS 4000

Device 4000, Status ONLINE

CHPIDs to Device 4000 (PIM) : 05 31 89

Physically Available (PAM) : + - -

Online (LPM) : + - -

Legend + Yes - No

Adding Another CHPID to the CNTLUNIT



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- IOCP

```
CHPID PATH=(31),SHARED, *  
PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),SWITCH=01, *  
TYPE=CNC  
CNTLUNIT CUNUMBR=1440,PATH=(31,B1),UNITADD=((00,128)), *  
LINK=(E1,E1),UNIT=3990
```

- Commands to verify syntax

- IOCP NEWIOCP3 (NOWRT DYN LPAR)

Adding Another CHPID to the CNTLUNIT



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- Commands (in an EXEC)

```
/* Dynamically add a CHPID to a DASD control unit */
Address 'COMMAND'
'CP SPOOL CONSOLE TO * START NAME DYNAMIC IOCP'
Signal On Error
Trace 'C'
'CP DEFINE CHPID B1 TYPE CNC SWITCH 01',
          'SHARED ACC MVS1 VM1 VM2 INIT MVS1 VM1 VM2'
'CP MODIFY CU 1440 CHPID 31 ADD CHPID B1 LINK E1'

Signal Off Error
'EXEC IOCP NEWIOCP3 (WRTA0 LPAR DYN IZP DESC1 SYS1 DESC2 IODF03'
  Say 'IOCP RC='rc
  If rc \> 4 Then Do
    'ERASE NEWIOCP3 LISTING'
    'CP SET IOCDS A0'
  End
Error:
erc = rc
'CP SPOOL CONSOLE STOP CLOSE'
Exit erc
```

Adding Another CHPID to the CNTLUNIT



- Verify CHPID status

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	.	.	+	+	+	.	.	+	.	+	+	+	+	+
...																
3x	+	-	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	-	+	+	+	+	+	+
...																
Bx	+	-	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	.	.	.	+	+	+	+
...																

+ Available
- Offline
. Not configured

Adding Another CHPID to the CNTLUNIT



- Query the paths to the device

Query PATHS 4000

Device 4000, Status ONLINE

```
CHPIDs to Device 4000 (PIM) : 05 31 89 B1
Physically Available (PAM) : + - - -
Online (LPM) : + - - -
Legend + Yes - No
```

- Vary the other CHPIDs online

vary on chpid 31

Channel path 0031 was successfully varied online

vary on chpid 89

Channel path 0089 was successfully varied online

vary on chpid b1

Channel path 00B1 was successfully varied online

Adding Another CHPID to the CNTLUNIT



- Verify CHPID status

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	.	.	+	+	+	.	.	+	.	+	+	+	+	+
...																
3x	+	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	+	+	+	+	+	+	+
...																
Bx	+	+	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	.	.	.	+	+	+	+
...																

+ Available
- Offline
. Not configured

Adding Another CHPID to the CNTLUNIT



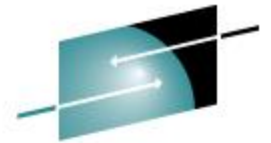
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- Query the paths to the device

Query PATHS 4000

Device 4000, Status ONLINE

```
CHPIDs to Device 4000 (PIM) : 05 31 89 B1
Physically Available (PAM) : + + + +
Online (LPM) : + + + +
Legend + Yes - No
```



Removing Devices

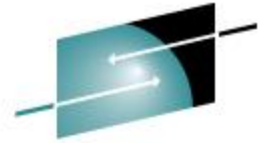
- **IOCP**

Delete the macros for the devices to be removed from the IOCP source

```
CHPID PATH=(05),SHARED, *
      PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),SWITCH=01, *
      TYPE=CNC
CHPID PATH=(31),SHARED, *
      PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),SWITCH=01, *
      TYPE=CNC
CHPID PATH=(89),SHARED, *
      PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),SWITCH=02, *
      TYPE=CNC
CHPID PATH=(B1),SHARED, *
      PARTITION=((MVS1,VM1,VM2),(MVS1,VM1,VM2)),SWITCH=02, *
      TYPE=CNC
CNTLUNIT CUNUMBR=1340,PATH=(05,89),UNITADD=((00,128)), *
      LINK=(A1,A1),UNIT=3990
CNTLUNIT CUNUMBR=1440,PATH=(31,B1),UNITADD=((00,128)), *
      LINK=(E1,E1),UNIT=3990
IODEVICE ADDRESS=(4000,128),CUNUMBR=(1340,1440),STADET=Y, *
      UNIT=3390
```

- **Commands to verify syntax**

- **IOCP NEWIOCP4 (NOWRT DYN LPAR)**



Removing Devices

- Vary the devices offline

```
vary off 4000-407f
```

```
4000 varied offline
```

```
...
```

```
407F varied offline
```

```
128 device(s) specified; 128 device(s) successfully varied offline
```

- Vary the subchannels offline

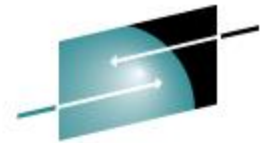
```
vary off subch 4000-407f
```

```
4000 subchannel varied offline
```

```
...
```

```
407F subchannel varied offline
```

```
128 device(s) specified; 128 device(s) successfully varied  
subchannel offline
```



Removing Devices

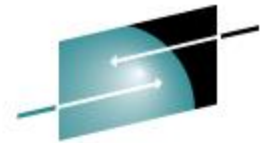
- Commands (in an EXEC)

```
/* Dynamically delete a DASD string */
Address 'COMMAND'
'CP SPOOL CONSOLE TO * START NAME DYNAMIC IOCP'
Signal On Error
Trace 'C'
'CP DELETE DEVICE 4000-407F UNITADD 00 CU 1340'

'CP DELETE CU 1340'
'CP DELETE CU 1440'

'CP DELETE CHPID 05'
'CP DELETE CHPID 31'
'CP DELETE CHPID 89'
'CP DELETE CHPID B1'

Signal Off Error
'EXEC IOCP NEWIOCP4 (WRTA1 LPAR DYN IZP'
Say 'IOCP RC='rc
If rc \> 4 Then Do
  'ERASE NEWIOCP4 LISTING'
  'CP SET IOCD5 A1'
End
Error:
erc = rc
'CP SPOOL CONSOLE STOP CLOSE'
Exit erc
```

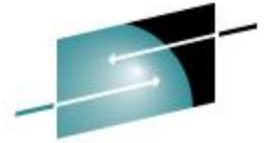
Removing Devices

- Verify CHPID status

Query CHPIDS

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0x	+	.	.	.	+	.	+	+	.	.	+	.	+	+	+	+
...																
3x	+	.	+	+	+	+	+	+	+	+	+	+
...																
8x	+	-	+	+	-	.	.	.	+	.	+	+	+	+	+	+
...																
Bx	+	.	+	+	+	+	+	+	+	+	+	+	+	.	+	.
...																
Dx	.	-	-	.	-	.	.	.	+	+	+	+
...																

+ Available
- Offline
. Not configured

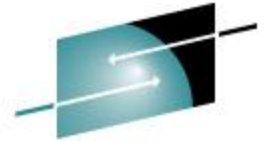


Removing Devices

- Query the paths to the device

Query PATHS 4000

Device 4000 does not exist



Adding a CIP

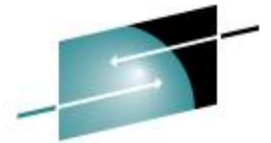
- **IOCP**

Delete the macros for the devices to be removed from the IOCP source

```
ID      MSG1='NEWIOCP5',MSG2='PSYS.IODF09 - 1997-08-22 06:51', *  
        SYSTEM=(9672,6), *  
        TOK=('P3',0000000801909672065156130101261F00000000,00000*  
        000,'97-08-22','06:51:56','PSYS','IODF09')  
RESOURCE PARTITION=((CP1,A),(MVS1,3),(VM1,5),(VM2,6))  
CHPID  PATH=(22),PARTITION=((VM1),(VM1,MVS1,VM2),REC),TYPE=BL  
CNTLUNIT CUNUMBR=B226,PATH=(22),UNITADD=((60,032)),SHARED=N, *  
        PROTOCL=S4,UNIT=3088  
IODEVICE ADDRESS=(8C60,032),CUNUMBR=(B226),TIMEOUT=N,STADET=N,*  
        UNIT=CTC
```

- **Command to verify syntax**

- **IOCP NEWIOCP5 (NOWRT DYN LPAR)**



Adding a CIP

- Commands (in an EXEC)

```
/* Add CISCO CIP (like 3172) at 8C60,32      Upd: 1997-08-22  8:50:48 */
Address 'COMMAND'
Parse Source With . exec_nm .
'CP SPOOL CONSOLE TO * START NAME' exec_nm 'CONLOG'
Signal On Error
Trace 'C'
  'CP DELETE CHPID 22'
  'CP DEFINE CHPID 22 TYPE BLOCK DEDICATED_REC ACC VM1 MTI SYD VM2 INIT VM1'
  'CP DEFINE CU B226 TYPE S4 UNITADD 60-7F PATH 22'
  'CP DEFINE DEV 8C60-8C7F UNITADD 60 CU B226 NOTDASD'

Signal Off Error
fm = 'B'
  'EXEC IOCP P3097234 (WRTA0 LPAR DYN IZP)'
  Say 'IOCP RC='rc
  If rc \> 4 Then Do
    'ERASE P3097234 LISTING' fm
    'CP SET IOCDS A0'
  End
Error:
'CP SPOOL CONS STOP CLOSE TERM'
Exit rc
```

Adding a CIP

- Verify CHPID status

Query CHPIDS

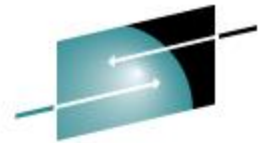
```

      0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
...
2x  +  +  .  +  .  +  +  +  +  +  +  -  +  +  +  +
...
+ Available
- Offline
. Not configured
  
```

- Query the paths to the device

Query PATHS 8C60

```
Device 8C60 does not exist
```



Adding a CIP

- Vary the channel path online

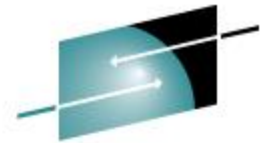
`vary on chpid 22`

```
Channel path 0022 was successfully varied online
Device 8C60 is available and online.
Device 8C61 is available and online.
...
Device 8C7F is available and online.
```

- Query the devices

`q 8c60-8c7f`

```
CTC 8C60 FREE , CTC 8C61 FREE , CTC 8C62 FREE , CTC 8C63 FREE
CTC 8C64 FREE , CTC 8C65 FREE , CTC 8C66 FREE , CTC 8C67 FREE
CTC 8C68 FREE , CTC 8C69 FREE , CTC 8C6A FREE , CTC 8C6B FREE
CTC 8C6C FREE , CTC 8C6D FREE , CTC 8C6E FREE , CTC 8C6F FREE
...
CTC 8C7C FREE , CTC 8C7D FREE , CTC 8C7E FREE , CTC 8C7F FREE
```



Adding a CIP

- Verify CHPID status

Query CHPIDS

```

      0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F
...
2x  +  +  +  +  .  +  +  +  +  +  +  -  +  +  +  +

```

```

...
+ Available
- Offline
. Not configured

```

- Query CHPID

Query CHPID 22

```

Path 22 online to devices 8C60 8C61 8C62 8C63 8C64 8C65 8C66 8C67
Path 22 offline to devices 8C68 8C69 8C6A 8C6B 8C6C 8C6D 8C6E 8C6F
Path 22 offline to devices 8C70 8C71 8C72 8C73 8C74 8C75 8C76 8C77
Path 22 offline to devices 8C78 8C79 8C7A 8C7B 8C7C 8C7D 8C7E 8C7F

```

- Query the paths to the device

Query PATHS 86C0

```

Device 8C60, Status ONLINE
CHPIDs to Device 8C60 (PIM) : 22
Physically Available (PAM) : +
Online (LPM) : +
Legend + Yes - No

```

Add ESCON CTCs within a processor



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- IOCP before change
(note that the CHPIDs are already ESCON CTCs or CNCs)

```
ID      MSG1='OLDIOCP6',MSG2='PSYS.IODF02 - 2002-04-18 05:00', *
        SYSTEM=(2064,1), *
        TOK=('VM-TOKEN',F0F661F1F761F0F2F1F27AF4F77AF1F740404040X
        ,00000000,'06/17/02','12:47:17','PSYS','IODF02')
RESOURCE PARTITION=((CP2,A),(MVS2,8),(VM1,5),(VM2,6))

*

CHPID  PATH=(53),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=01, *
        TYPE=CTC
CHPID  PATH=(71),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=02, *
        TYPE=CTC
CHPID  PATH=(8E),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=02, *
        TYPE=CNC
CHPID  PATH=(AC),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=01, *
        TYPE=CNC

*
```


Add ESCON CTCs within a processor



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- IOCP before change (continued)

```
CNTLUNIT CUNUMBR=1335,PATH=(53),UNITADD=((00,016)),LINK=(9D), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1336,PATH=(53),UNITADD=((10,016)),LINK=(9D), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1535,PATH=(AC),UNITADD=((00,064)),LINK=(97), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1536,PATH=(AC),UNITADD=((00,064)),LINK=(97), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1B35,PATH=(8E),UNITADD=((00,064)),LINK=(9D), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1B36,PATH=(8E),UNITADD=((00,080)),LINK=(9D), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1D35,PATH=(71),UNITADD=((20,048)),LINK=(97), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1D36,PATH=(71),UNITADD=((00,016)),LINK=(97), *
      CUADD=6,UNIT=SCTC
IODEVICE ADDRESS=(C00,013),CUNUMBR=(1B36),STADET=Y, *
      PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(C0D,003),CUNUMBR=(1B36),STADET=Y, *
      PARTITION=(MVS2),UNIT=BCTC
IODEVICE ADDRESS=(C10,013),CUNUMBR=(1536),STADET=Y, *
      PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(C1D,003),CUNUMBR=(1536),STADET=Y, *
      PARTITION=(MVS2),UNIT=BCTC
```

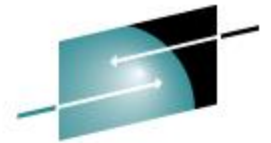
Add ESCON CTCs within a processor



- IOCP before change (continued)

```
IODEVICE ADDRESS=(CC20,013),UNITADD=10,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC20,013),UNITADD=10,CUNUMBR=(1336), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(CC2D,003),UNITADD=1D,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC2D,003),UNITADD=1D,CUNUMBR=(1336), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(CC40,013),CUNUMBR=(1B36),STADET=Y, *
          PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(CC40,013),CUNUMBR=(1D35),STADET=Y, *
          PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC4D,003),CUNUMBR=(1B36),STADET=Y, *
          PARTITION=(VM1),UNIT=BCTC
IODEVICE ADDRESS=(CC4D,003),CUNUMBR=(1D35),STADET=Y, *
          PARTITION=(VM2),UNIT=BCTC
IODEVICE ADDRESS=(CD00,013),UNITADD=20,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(CD0D,003),UNITADD=2D,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(MVS2),UNIT=BCTC
IODEVICE ADDRESS=(CD10,013),UNITADD=30,CUNUMBR=(1D35), *
          STADET=Y,PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(CD1D,003),UNITADD=3D,CUNUMBR=(1D35), *
          STADET=Y,PARTITION=(MVS2),UNIT=BCTC
```

Add ESCON CTCs within a processor



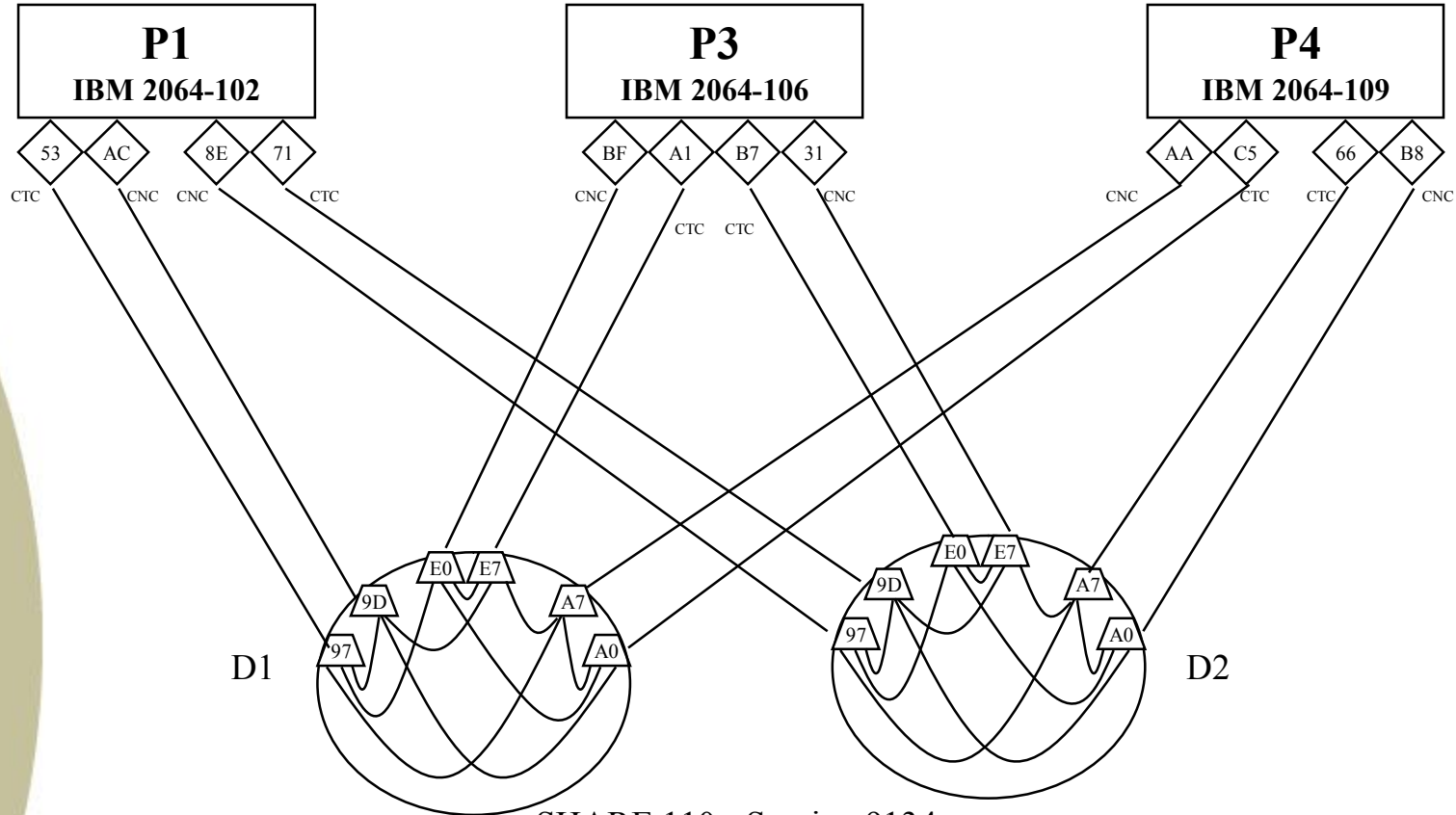
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1531	1331	1B31	1D31	1
1532	1332	1B32	1D32	2
1533	1333	1B33	1D33	3
1534	1334	1B34	1D34	4
1535	1335	1B35	1D35	5
1536	1336	1B36	1D36	6
1538	1338	1B38	1D38	8

3E11	3C31	3831	3C91	1
3E22	3C32	3832	3C92	2
----	3C33	3833	3C93	3
3E14	3C34	383D	3C94	4
3E15	3C35	3835	3C95	5
3E16	3C36	3836	3C96	6
3E18	3C38	383E	3C98	8

4BF1	3D37	3537	43F1	1
4B3A	4CF2	44F2	433A	2
4B3B	4CF3	44F3	433B	3
4BF4	3D38	3538	43F4	4
4B3C	4CF5	44F5	433C	5
4BF6	4CF6	44F6	43F6	6
----	4CF8	44F8	----	8



SHARE 110 - Session 9134

Add ESCON CTCs within a processor



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Technology • Connections • Results

- What changes are needed?
 - Modify 2 CNTLUNITs to change the range of unit addresses
 - Add 8 SCTC on one pair of CHPIDs
 - Add 7 SCTC and 1 BCTC on the other pair of CHPIDs

Add ESCON CTCs within a processor



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Technology • Connections • Results

- IOCP after change

```
ID      MSG1='NEWIOCP6',MSG2='PSYS.IODF02 - 2002-04-18 05:00', *
        SYSTEM=(2064,1), *
        TOK=('VM-TOKEN',F1F061F1F261F0F2F1F87AF1F07AF3F640404040X
        ,00000000,'10/12/02','18:10:36','PSYS','IODF11')
RESOURCE PARTITION=((CP2,A),(MVS2,8),(VM1,5),(VM2,6))
*
CHPID  PATH=(53),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=01, *
        TYPE=CTC
CHPID  PATH=(71),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=02, *
        TYPE=CTC
CHPID  PATH=(8E),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=02, *
        TYPE=CNC
CHPID  PATH=(AC),SHARED, *
        PARTITION=((MVS2,VM1,VM2),(MVS2,VM1,VM2)),SWITCH=01, *
        TYPE=CNC
*
```

Add ESCON CTCs within a processor



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Technology • Connections • Results

- IOCP after change (continued)

```
CNTLUNIT CUNUMBR=1335,PATH=(53),UNITADD=((00,016)),LINK=(9D), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1336,PATH=(53),UNITADD=((10,048)),LINK=(9D), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1535,PATH=(AC),UNITADD=((00,064)),LINK=(97), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1536,PATH=(AC),UNITADD=((00,064)),LINK=(97), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1B35,PATH=(8E),UNITADD=((00,064)),LINK=(9D), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1B36,PATH=(8E),UNITADD=((00,080)),LINK=(9D), *
      CUADD=6,UNIT=SCTC
CNTLUNIT CUNUMBR=1D35,PATH=(71),UNITADD=((20,048)),LINK=(97), *
      CUADD=5,UNIT=SCTC
CNTLUNIT CUNUMBR=1D36,PATH=(71),UNITADD=((10,048)),LINK=(97), *
      CUADD=6,UNIT=SCTC
IODEVICE ADDRESS=(C00,013),CUNUMBR=(1B36),STADET=Y, *
      PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(C0D,003),CUNUMBR=(1B36),STADET=Y, *
      PARTITION=(MVS2),UNIT=BCTC
IODEVICE ADDRESS=(C10,013),CUNUMBR=(1536),STADET=Y, *
      PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(C1D,003),CUNUMBR=(1536),STADET=Y, *
      PARTITION=(MVS2),UNIT=BCTC
```

Add ESCON CTCs within a processor



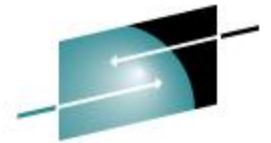
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- IOCP after change (continued)

```
IODEVICE ADDRESS=(BBE0,008),UNITADD=00,CUNUMBR=(1335), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(BBE8,007),UNITADD=28,CUNUMBR=(1B35), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(BBEF,001),UNITADD=2F,CUNUMBR=(1B35), *
          STADET=Y,PARTITION=(VM1),UNIT=BCTC
IODEVICE ADDRESS=(BBF0,008),UNITADD=00,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(BBF8,007),UNITADD=28,CUNUMBR=(1D35), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(BBFF,001),UNITADD=2F,CUNUMBR=(1D35), *
          STADET=Y,PARTITION=(VM1),UNIT=BCTC
IODEVICE ADDRESS=(CC20,013),UNITADD=10,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC20,013),UNITADD=10,CUNUMBR=(1336), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(CC2D,003),UNITADD=1D,CUNUMBR=(1535), *
          STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC2D,003),UNITADD=1D,CUNUMBR=(1336), *
          STADET=Y,PARTITION=(VM1),UNIT=SCTC
```

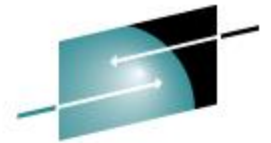
Add ESCON CTCs within a processor



- IOCP after change (continued)

```
IODEVICE ADDRESS=(CC40,013),CUNUMBR=(1B36),STADET=Y, *
PARTITION=(VM1),UNIT=SCTC
IODEVICE ADDRESS=(CC40,013),CUNUMBR=(1D35),STADET=Y, *
PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CC4D,003),CUNUMBR=(1B36),STADET=Y, *
PARTITION=(VM1),UNIT=BCTC
IODEVICE ADDRESS=(CC4D,003),CUNUMBR=(1D35),STADET=Y, *
PARTITION=(VM2),UNIT=BCTC
IODEVICE ADDRESS=(CCE0,008),UNITADD=30,CUNUMBR=(1336), *
STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CCE8,007),UNITADD=38,CUNUMBR=(1B36), *
STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CCEF,001),UNITADD=3F,CUNUMBR=(1B36), *
STADET=Y,PARTITION=(VM2),UNIT=BCTC
IODEVICE ADDRESS=(CCF0,008),UNITADD=30,CUNUMBR=(1536), *
STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CCF8,007),UNITADD=38,CUNUMBR=(1D36), *
STADET=Y,PARTITION=(VM2),UNIT=SCTC
IODEVICE ADDRESS=(CCFF,001),UNITADD=3F,CUNUMBR=(1D36), *
STADET=Y,PARTITION=(VM2),UNIT=BCTC
IODEVICE ADDRESS=(CD00,013),UNITADD=20,CUNUMBR=(1535), *
STADET=Y,PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(CD0D,003),UNITADD=2D,CUNUMBR=(1535), *
STADET=Y,PARTITION=(MVS2),UNIT=BCTC
IODEVICE ADDRESS=(CD10,013),UNITADD=30,CUNUMBR=(1D35), *
STADET=Y,PARTITION=(MVS2),UNIT=SCTC
IODEVICE ADDRESS=(CD1D,003),UNITADD=3D,CUNUMBR=(1D35), *
STADET=Y,PARTITION=(MVS2),UNIT=BCTC
```


Add ESCON CTCs within a processor



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- Command to verify IOCP syntax
 - IOCP NEWIOCP6 (NOWRT DYN LPAR)

Add ESCON CTCs within a processor



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- Commands (in an EXEC)

```
/* Add VM loop-back SCTCs          Updated on: 2002-09-20 at: 14:32:08 */
Address 'COMMAND'
Parse Source With . exec_nm .
'CP SPOOL CONSOLE TO * START NAME' exec_nm 'CONLOG'
Trace 'C'
Signal On Error
'CP MODIFY CU 1336 ADD             UNITADD 20-3F'
'CP MODIFY CU 1D36 ADD             UNITADD 10-3F'
'CP MODIFY CU 1D36 DEL             UNITADD 00-0F'

'CP DEFINE DEV BBE0-BBE7 UNITADD 00 CU 1335 CTCA EXT STAT PART VM1'
'CP DEFINE DEV BBE8-BBEE UNITADD 28 CU 1B35 CTCA EXT STAT PART VM1'
'CP DEFINE DEV BBEF             UNITADD 2F CU 1B35 CTCA BAS STAT PART VM1'
'CP DEFINE DEV BBF0-BBF7 UNITADD 00 CU 1535 CTCA EXT STAT PART VM1'
'CP DEFINE DEV BBF8-BBFE UNITADD 28 CU 1D35 CTCA EXT STAT PART VM1'
'CP DEFINE DEV BBFF             UNITADD 2F CU 1D35 CTCA BAS STAT PART VM1'

'CP DEFINE DEV CCE0-CCE7 UNITADD 30 CU 1336 CTCA EXT STAT PART VM2'
'CP DEFINE DEV CCE8-CCEE UNITADD 38 CU 1B36 CTCA EXT STAT PART VM2'
'CP DEFINE DEV CCEF             UNITADD 3F CU 1B36 CTCA BAS STAT PART VM2'
'CP DEFINE DEV CCF0-CCF7 UNITADD 30 CU 1536 CTCA EXT STAT PART VM2'
'CP DEFINE DEV CCF8-CCFE UNITADD 38 CU 1D36 CTCA EXT STAT PART VM2'
'CP DEFINE DEV CCFF             UNITADD 3F CU 1D36 CTCA BAS STAT PART VM2'

Signal Off Error
```

Add ESCON CTCs within a processor



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- Commands (in an EXEC)

```
iocp_fn = 'NEWIOCP6'  
IOCDS = 'A0'  
token1 = 'PSYS'  
token2 = 'IODF11'  
  
'EXEC CLR' /* get rid of extraneous disks */  
'EXEC VDISK 75000' /* work vdisk as fm B */  
'EXEC PLNK MAINT BBB (C(STACK QUIET' /* R/W IOCP disk as fm C */  
Pull . fm va .  
If rc = 0 Then Do  
  'XCOPY' iocp_fn 'IOCP C = = B (PREER'  
  'EXEC IOCP' iocp_fn '(WRT'IOCDS 'LPAR DYN DESC1' token1 'DESC2' token2  
  Say 'IOCP RC='rc  
  If rc \> 4 Then Do  
    'ERASE' iocp_fn 'LISTING B'  
    'CP SET IOCDS' IOCDS  
    'CP SET TOKEN DESC1' token1 'DESC2' token2  
    'XCOPY' iocp_fn 'IOCP B = = C (PREER OLDD ERASE'  
  End  
End  
'EXEC CLR'  
Error:  
'CP SPOOL CONS STOP CLOSE TERM'  
Exit rc
```

Add ESCON CTCs within a processor



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- No need to take anything Offline/Online for this change
- Devices become available immediately

- Query the devices

Query BBE0-BBFF

CTCA BBE0 FREE , CTCA BBE1 FREE , CTCA BBE2 FREE , CTCA BBE3 FREE

...

CTCA BBFC FREE , CTCA BBFD FREE , CTCA BBFE FREE , CTCA BBFF FREE

Contact Information



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