<http://www-01.ibm.com/support/docview.wss?uid=isg3T1012453>

## Technote (troubleshooting)

## Problem(Abstract)

Failed HBA on Virtual I/0 Server

## Symptom

Errors against HBA

## Environment

For Virtual I/O Servers, we recommend that you have at least two Fibre Channel  
adapters attached for redundant access to FC-attached disks. This allows for  
concurrent maintenance, because the multipathing driver of the attached storage  
subsystem is supposed to handle any outage of a single Fibre Channel adapter.  
This section explains how to hot-plug a Fibre Channel adapter connected to a  
IBM DS4000 series storage device. Depending on the storage subsystem used  
and the multipathing driver installed, your results may be different.  
  
If there are disks mapped to the virtual SCSI adapters, these devices have to be  
unconfigured first because there is no automatic configuration method used to  
define them.

## Resolving the problem

1. Use the **diagmenu**command to unconfigure devices that are dependent on the  
Fibre Channel adapter. Run **diagmenu**and then select **Task Selection**→ **Hot**  
**Plug Task**→ **PCI Hot Plug Manager**→ **Unconfigure a device**.  
  
Select the disk (or disks) in question and set its state to Defined, as shown:  
  
Unconfigure a Device  
  
Device Name  
  
Move cursor to desired item and press Enter. Use arrow keys to scroll.  
[MORE...43]  
hdisk6 Available 04-08-02 3542 (200) Disk Array Device  
hdisk9 Defined 09-08-00-4,0 16 Bit LVD SCSI Disk Drive  
inet0 Available Internet Network Extension  
iscsi0 Available iSCSI Protocol Device  
lg\_dumplv Defined Logical volume  
lo0 Available Loopback Network Interface  
loglv00 Defined Logical volume  
**lpar1\_rootvg Available Virtual Target Device - Disk**  
lpar2\_rootvg Available Virtual Target Device - Disk  
lvdd Available LVM Device Driver  
[MORE...34]  
  
2. Perform that task for every mapped disk (Virtual Target Device). Then set the  
state of the Fibre Channel Adapter to Defined also, as shown:  
  
Unconfigure a Device  
  
Device Name ?  
Move cursor to desired item and press Enter. Use arrow keys to scroll.  
[MORE...16]  
et1 Defined 05-09 IEEE 802.3 Ethernet Network Inter  
et2 Defined IEEE 802.3 Ethernet Network Inter  
et3 Defined IEEE 802.3 Ethernet Network Inter  
et4 Defined IEEE 802.3 Ethernet Network Inter  
fcnet0 Defined 04-08-01 Fibre Channel Network Protocol De  
fcnet1 Defined 06-08-01 Fibre Channel Network Protocol De  
**fcs0 Available 04-08 FC Adapter**  
fcs1 Available 06-08 FC Adapter?  
fscsi0 Available 04-08-02 FC SCSI I/O Controller Protocol D  
fscsi1 Available 06-08-02 FC SCSI I/O Controller Protocol D?  
[MORE...61]  
  
  
Be sure to set Unconfigure any Child Devices to Yes. This will unconfigure the  
fcnet0 and fscsi0 devices as well as the RDAC driver device dac0, as shown:  
  
Type or select values in entry fields.  
Press Enter AFTER making all desired changes.  
[Entry Fields]  
  
\* Device Name [fcs0]  
**Unconfigure any Child Devices yes**  
**KEEP definition in database yes**  
  
Following is the output of that command, showing the other devices  
unconfigured:  
  
COMMAND STATUS  
  
Command: OK stdout: yes stderr: no  
  
Before command completion, additional instructions may appear below.  
  
fcnet0 Defined  
dac0 Defined  
fscsi0 Defined  
fcs0 Defined  
  
3. Run **diagmenu**, select **Task Selection**→ **Hot Plug Task**→ **PCI Hot Plug**  
**Manager**→ **Replace/Remove a PCI Hot Plug Adapter**.  
  
4. Select the adapter to be replaced. Set the operation to replace, then press  
**Enter**. You will be presented with the following dialogue:  
  
COMMAND STATUS  
  
Command: running stdout: yes stderr: no  
  
Before command completion, additional instructions may appear below.  
  
The visual indicator for the specified PCI slot has  
been set to the identify state. Press Enter to continue  
or enter x to exit.  
  
5. Press **Enter**as directed and the next message will appear:  
  
The visual indicator for the specified PCI slot has  
been set to the action state. Replace the PCI card  
in the identified slot and press Enter to continue.  
Enter x to exit. Exiting now leaves the PCI slot  
in the removed state.  
  
6. Locate the blinking adapter, replace it, and press **Enter**. The system will  
display the message Replace Operation Complete.  
  
7. Select **diagmenu**, select **Task Selection**→ **Hot Plug Task**→ **PCI Hot Plug**  
**Manager**→ **Install/Configure Devices Added After IPL**.  
  
8. Press **Enter**. This calls the **cfgdev**command internally and sets all previously  
unconfigured devices back to Available.  
  
9. If a Fibre Channel adapter is replaced, the settings such as zoning on the  
Fibre Channel switch and the definition of the WWPN of the replaced adapter  
to the storage subsystem have to be done before the replaced adapter can  
access the disks on the storage subsystem.  
  
For IBM DS4000 storage subsystems, we recommend that you switch the  
LUN mappings back to their original controllers, because they may have been  
distributed to balance I/O load.  
  
**IBM PowerVM Virtualization Managing and Monitoring**  
<http://www.redbooks.ibm.com/redbooks/pdfs/sg247590.pdf>