HP StorageWorks Brocade Fibre Channel host bus adapters release notes

Part number: AA-RWQ1G-TE
Seventh edition: January 2010

Legal and notice information

Description

These release notes contain driver, firmware, and other supplemental information for the HP-branded Brocade Fibre Channel host bus adapters (HBAs) for ProLiant servers using Windows, Linux and VMware operating systems. The information in this document supplements and/or supersedes all other documentation pertaining to the use of HP-branded Brocade Fibre Channel HBAs.

Prerequisites

Before installing an HP-branded Brocade HBA, consider the following:

- Obtain the latest driver for your operating system from the HP website http://welcome.hp.com/country/us/en/support.html.
- If your configuration is boot from SAN, HP recommends that you obtain the **Offline BIOS Upgrade Installation ISO Image for HP-branded Brocade HBAs** from the HP website http://welcome.hp.com/country/us/en/support.html. You can also obtain **OS specific Boot from SAN Driver Update Disk kits** from the website.
- Obtain the latest Brocade HBA release notes from the website http://www.brocade.com/services-support/drivers-downloads/HBA/HBA_HP.page.

Product models

The following HBAs are supported on ProLiant servers using Windows, Linux and VMware:

- 81B PCIe 8-Gb FC single port HBA (product number AP769A)
- 82B PCIe 8-Gb FC dual port HBA (product number AP770A)
- 41B PCIe 4-Gb FC single port HBA (product number AP767A)
- 42B PCIe 4-Gb FC dual port HBA (product number AP768A)

User documentation

Documentation, including installation manuals and user guides for HP-branded Brocade HBAs, are available on the following HP websites:

- HP StorageWorks PCIe 8-Gb host bus adapter
  http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?contentType=SupportManual&lang=en&cc=us&docIndexId=64179&taskId=101&prodTypeId=12169&prodSeriesId=3662826
- HP StorageWorks PCIe 4-Gb host bus adapter
  http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?contentType=SupportManual&lang=en&cc=us&docIndexId=64179&taskId=101&prodTypeId=12169&prodSeriesId=1809835

Devices supported

Servers with Windows, Linux and VMware

The HP-branded Brocade Fibre Channel HBAs for Windows, Linux and VMware are supported on the following HP ProLiant servers:

- DL160 G5
- DL160 G5p
- DL160 G6
- DL165 G5
- DL165 G5p
- DL165 G6
- DL180 G5
- DL180 G6
- DL185 G5
- DL320 G5p *1
- DL320 G6
- DL360 G5
- DL360 G6
- DL365 G5
- DL370 G6
- DL380 G5
- DL380 G6
- DL385 G5
- DL385 G5p
- DL385 G6
- DL580 G5
- DL585 G5
- DL585 G6
- DL785 G5 *2
- DL785 G6
- ML350 G5
- ML370 G5
- ML350 G6

*1 Minimum System ROM 07/11/2009

*2 Mininum System ROM 05/05/2009

For support details on combinations of servers, operating systems and arrays, see the SPOCK website http://spock.corp.hp.com/.

Switches for Windows, Linux and VMware

The following switches are supported for use with HP-branded Brocade HBAs:

- All HP B-series 4-Gb and 8-Gb switches, minimum version 6.2.0d

- All HP C-series 2-Gb and 4-Gb switches, minimum version 3.3.(4)
- All HP C-series 8-Gb switching modules, minimum version 4.1.(3a)

Arrays for Windows, Linux and VMware

The following arrays are supported for Windows, Linux and VMware:

- Modular Smart Array 2000
- Modular Smart Array 2300
- Enterprise Virtual Array 4400/4400S
- Enterprise Virtual Array 4000/6000/8000
- Enterprise Virtual Array 4100/6100/8100
- Enterprise Virtual Array 6400/8400
- XP 10000/XP12000
- XP 20000/XP2400
- XP 128 (Windows only)

Operating systems

ProLiant servers support Windows, Linux and VMware operating systems.

ProLiant server support for Windows

The following Windows operating systems are supported on ProLiant servers:

- Windows Server 2003 R2 SP2 x86
- Windows Server 2003 R2 SP2 x64
- Windows Server 2008 x86
- Windows Server 2008 SP2 x86
- Windows Server 2008 x64
- Windows Server 2008 SP2 x64
- Windows Server 2008 R2 x64

Table 1 HBA support for Windows on ProLiant servers

HBA	Driver	Multiboot image/BIOS/UEFI	HCM/BCU utilities
All HBA models	1.1.0.10	1.1.0.10	1.1.0.10

ProLiant server support for Linux

The following Linux operating systems are supported on ProLiant servers:

- RHEL 5.4 x86
- RHEL 5.4 x64
- RHEL 5.3 x86
- RHEL 5.3 x64
- SLES 10 SP2 x86
- SLES 10 SP2 x64
- SLES 11 x86
- SLES 11 x64

NOTE:

Red Hat 5 update 3 and Red Hat Update 4 have been qualified, and are only supported with the `ext3` file system. All versions of SLES 11 have also been qualified, and are only supported with `ext2` and `ext3` file systems.

Table 2 HBA support for Linux on ProLiant servers

HBA	Driver	Multiboot image/BIOS/UEFI	HCM/BCU Utilities
All HBA models	1.1.0.10	1.1.0.10	1.1.0.10

ProLiant server support for VMware

The following VMware operating systems are supported:

- ESX 3.5 U4
- ESX 4.0

Table 3 HBA support for VMware on ProLiant servers

HBA	Driver	Multiboot image/BIOS/UEFI	HCM/BCU Utilities
All HBA models	1.1.0.10	1.1.0.10	1.1.0.10

Issues

The following are known issues that sometimes occur when installing HP-branded Brocade HBAs:

- The PXE boot option may not appear on some servers when Brocade HBA BIOS is configured to Boot From SAN. Reboot the server and press **x** to skip to the HBA BIOS if a PXE boot is required.

  Alternatively, the following workaround can be used to resolve the issue.

  1. Press **F9** to enter the System BIOS setup.
  2. Select **Advance Options**.
  3. Select **Option ROM Loading Sequence**.
  4. Select **Load Embedded Device First**.

5. Save and exit.

- Ignore the following message during a Red Hat Kernel ERRATA upgrade:

  ```
  WARNING: No module bfa found for kernel
  ```

- There is a slow-boot issue with RHEL 5.3. You can correct this by increasing the system's memory.
- RHEL users should change the following system ROM BIOS setting: `Advanced/Remote Access Configuration/BIOS Remote Console = Disabled`.
- Installing the Brocade HCM and driver may take an excessive amount of time (30+ minutes) in larger SAN configurations. Please be patient and wait for the process to complete.
- System reboot may occasionally fail on heavily loaded SANs. Power-cycling the system should resolve this issue.
- For SLES Linux no-arch RPM users, a known issue with Novell causes the Brocade installed driver to be overwritten by the in-box driver (1.1.0.2) when using `yast2 –I` to install. Check the Brocade driver RPM version `rpm –qa | grep –I bfa` after using the `yast2` utility to install any packages. If the package is overwritten, re-installing the Brocade kit will resolve this issue.

  Alternatively, the following workaround can be used to resolve the issue.

  1. Launch `Yast2` and select **Software Management** under Software
  2. Change filter to **Search** and enter **bfa** under **Search Phrase**.
  3. Deselect **Brocade-bfa-KMP-default**
  4. Select **Accept and Quit**.

  NOTE:

  This procedure applies to Brocade 1.1.0.6 and 1.1.0.8 drivers only.

- There is a known issue that prevents users from updating the Brocade BIOS from the ProLiant Firmware Update CD version 8.60. For information on how to update the Brocade HBA BIOS, see the section, Performing an offline BIOS update, page 9.
- The Brocade SLES 11 in-box driver may not work correctly with all HP-branded Brocade 4-Gb and 8-Gb HBAs. Always use the latest drivers and DUD kits posted on the HP web-site to avoid any inconvenience.

SLES11 ReiserFS

HP and Novell are evaluating a report that ReiserFS file systems exhibit unexpected behavior under heavy loads. Other file systems, such as ext2 and ext3, are not affected by this behavior. HP recommends that you use either the ext2 or ext3 file system. This is a high-priority issue that is being resolved. Once a resolution is found, a maintenance update will be available on the website http://support.novell.com/.

Brocade VMware drivers

The Brocade VMware drivers for version 3.5 and version 4.0 do not generate installation logs. The installation process will indicate success or failure.

Important information

This section describes information you should know when installing HP-branded Brocade Fibre Channel HBAs for ProLiant servers.

- Before installing, upgrading, or uninstalling HP-branded Brocade drivers, back up the Ramdisk.
- Zoning by HBA is required for HP-branded Brocade HBAs with version 1.1.0.6. **Upgrading the BIOS and driver to version 1.1.0.8 or higher will remove this requirement.**
- HP requires that the HBA BIOS be disabled on HBAs that are not part of Boot from SAN.
- HP-branded Brocade HBAs have the default BIOS option set to Auto Discovery. Use of this feature is documented in the Brocade installation and user guide in the boot over SAN chapter. If you do not want to use this feature, change the BIOS option to Flash.

NOTE:

HP recommends that you not use the option Boot first LUN.

- Boot from SAN on an MSA2000 G1 is not supported on Linux.
- DL180 G5, DL180 G6, DL320 G6, DL370 G6 RHEL Boot from SAN requires use of an external USB CDROM/DVD to load the driver update disk.
- If you have an MSA2000/2300 configured with LUN 0 as a data LUN, you must reboot to discover LUN 0.
- HP supports installing, upgrading, and uninstalling drivers through the Brocade integrated installer on Linux distributions.
- HP recommends setting the timeout value to 28 seconds in multipathing configurations for Linux servers.

  ```
  # bcu fcpim --mpiomode <port_ID> off 28
  ```

- Red Hat 5 Update 4 and Red Hat Update 3 have been qualified, and are only supported with the `ext3` file system. All versions of SLES 11 have also been qualified, and are only supported with `ext2` and `ext3` file systems.
- Heterogeneous vendor Fibre Channel HBAs are not supported on the same server.
- Windows requires the following hotfixes:
  - Windows 2003 R2 SP2 with QFE950448 – x86 and x64
  - Windows 2008 with QFE 953390 – x86 and x64
- The MSA2x00 path timeout value for Windows should be set to 60 using the Host Connectivity Manager.
  1. Right click the HBA.
  2. From the menu, select **Port Configuration-> Basic**.
  3. Ensure that the MPIO mode enable box is not selected.
  4. Change path timeout value to 60.
- For SLES 11 Linux no-arch RPM and Boot from SAN configurations, edit the command `# /etc/modprobe.d/unsupported-modules` and set `allow_unsupported_modules` to `1`. This procedure applies only to driver version 1.1.0.6 and 1.1.0.8.

  Once done, run `mkinitrd`, then reboot the server.

  ```
  # mkinitrd –k /boot/vmlinuz– 'uname–r' –I /boot/initrd– 'uname –r'
  ```

- For SLES 10 SP2 Linux no-arch RPM and Boot from SAN configurations, set the `sysconfig` variable `load_unsupported_modules_automatically` in `/etc/sysconfig/hardware/config` to `yes`. This procedure applies only to driver version 1.1.0.6 and 1.1.0.8.

  Once done, run `depmod` and `mkinitrd`, then reboot the server.

  ```
  # mkinitrd –k /boot/vmlinuz– 'uname–r' –I /boot/initrd– 'uname –r'
  ```

- Installing PSP on Linux servers may rebuild Ramdisk with the name `HP-initrd-img` and update grub boot order. After installing the Brocade kit, edit `/boot/grub/menu.lst (default=X)` to reflect `initrd-.img` as the default boot . This procedure applies only to driver version 1.1.0.6 and 1.1.0.8.
- Dynamic addition of XP targets/LUNS may require a system reboot for the operating system to detect the device.
- HP does not support the use of NPIV with Brocade HBAs running under ESX server, version 3.5 and version 4.0.
- The following SLES 11 kernel versions are not supported:
  - 2.6.27.23-0.1
  - 2.6.27.25-0.1
  - 2.6.27.29-0.1

  The following SLES 11kernel versions are supported:
  - 2.6.27.19-0.1
  - 2.6.27.37-0.1
  - 2.6.27.39-0.3.1

Performing an offline BIOS update

To perform an offline BIOS update on an HP-branded Brocade HBA that has been installed on the host system, do the following.

1. Create a CD from the Offline BIOS Upgrade Installation `.ISO` image.
2. Insert the CD to the CD/DVD drive, then boot the system.
3. Follow the on-screen prompts and instructions to boot.
4. Access the system's command shell so that you can issue BCU commands.
5. To update HBA boot code, enter the following BCU command:

   ```
   # bcu boot --upload <adapter id> <image file> –a
   ```

   where:

   `<ad_id>` is the ID of the adapter (HBA).

   `<image file>` is the name of the firmware image file.

   `-a` indicates that the boot code should be uploaded to all installed Brocade HBAs on the host.

   The adapter identification `<ad_id>` should not be given if the `–a` option is also specified.

   Examples:

   Update HBA boot code for HBA 1:

   ```
   #bcu boot --upload 1 bfa_boot_fw
   ```

   Update HBA boot code for all HBAs:

   ```
   #bcu boot --upload bfa_boot_fw -a
   ```
6. Reboot the system.

Compatibility and interoperability

- The HBAs support the servers and switches described in "Devices supported" on page 4, and support the operating systems described in "Operating systems" on page 5.
- HP recommends zoning by HBA, as described in the *HP StorageWorks SAN design reference guide*, available on the following website

  http://h18006.www1.hp.com/products/storageworks/san/documentation.html

Languages

American English

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