



16 Gbps Fibre Channel and 10 Gbps Ethernet  
PCIe Fabric Adapter

10 Gbps Fibre Channel over Ethernet (FCoE)  
PCIe Converged Network Adapter (CNA)

8 Gbps & 4 Gbps Fibre Channel (FC)  
PCIe Host Bus Adapter (HBA)

Software Release v3.0.0.0

Update 3

October 2011

## Document History

Document Title	Summary of Changes	Publication Date
Brocade Adapters v3.0.0.0 Release Notes	Software Release 3.0.0.0	August 5, 2011
Brocade Adapters v3.0.0.0 Release Notes Update 1	Added VMware ESX 4.1 and VMware ESXi 5.0 support in Software Release 3.0.0.0	August 31, 2011
Brocade Adapters v3.0.0.0 Release Notes Update 2	Added VMware ESX 4.0 support in Software Release 3.0.0.0	September 1, 2011
Brocade Adapters v3.0.0.0 Release Notes Update 3	Added RHEL 5.7 support in Software Release 3.0.0.3 Added Solaris support in Software Release 3.0.1.0	October 5, 2011

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<http://www.brocade.com/support/oscd>

## Brocade Adapters

These release notes provide information regarding the product's use and any known issues at the time of publication. Please refer to the OEM release notes for OEM specific data.

For up-to-date information on Brocade and OEM adapter products, visit the Brocade website at [www.brocade.com/adapters](http://www.brocade.com/adapters).

## Product Description

### Adapter Models

Information in this document is related to the following adapter models:

- ❖ Brocade 415 single-port 4 Gbps Fibre Channel to PCIe HBA
- ❖ Brocade 425 dual-port 4 Gbps Fibre Channel to PCIe HBA
- ❖ Brocade 804 dual-port 8 Gbps Fibre Channel mezzanine HBA
- ❖ Brocade 815 single-port 8 Gbps Fibre Channel to PCIe HBA
- ❖ Brocade 825 dual-port 8 Gbps Fibre Channel to PCIe HBA
- ❖ Brocade 1007 dual-port 10 Gbps Ethernet to PCIe CNA mezzanine card
- ❖ Brocade 1010 single-port 10 Gbps Ethernet to PCIe CNA
- ❖ Brocade 1020 dual-port 10 Gbps Ethernet to PCIe CNA
- ❖ Brocade BR1741M-k dual-port 10 Gbps Ethernet to PCIe CNA mezzanine card
- ❖ Brocade 1860 single-port and dual-port 16 Gbps Fibre Channel and 10 Gbps Ethernet to PCIe Fabric Adapter

### Brocade Adapter Software Components

- ❖ Brocade Adapter Software Installer
  - This package enables a single-step installation for all software components including Host Connectivity Manager (HCM), drivers, firmware, agent, Brocade Command Utility (BCU), and APIs.
- ❖ Driver
  - A single driver package (per OS and server platform) to support all Brocade adapters. The drivers will be packaged appropriately for each operating system.
- ❖ Firmware
  - The adapter firmware is bundled as part of the driver and is automatically updated once the driver is updated.
- ❖ Multi-Boot Code Image
  - A multi-boot code image (BIOS/EFI/UEFI) allows an adapter to be plugged into a server to support boot from SAN functionality for x86, IEM64T, and AMD64 server platforms. Server administrators can set up a bootable LUN in the SAN through an easy- to-use configuration utility menu.
- ❖ Driver Update Disks (DUDs)

- DUDs (provided in ISO and zip format) are required to install the drivers during an OS installation to LUNs attached to the SAN.
- ❖ LiveCD
  - The LiveCD can be used to boot up the diskless or OS-less servers. The Brocade Command Utility (BCU) can then be used to update the boot code.
- ❖ Agent
  - The management agent is automatically installed as part of the driver installation process and can be started manually or automatically.
- ❖ Host Connectivity Manager (HCM)
  - HCM is the Brocade adapter management tool that has an intuitive and easy-to-use graphical user interface (GUI). It is a Java-based application and can run on standard servers and workstations or a dedicated management server. HCM is used to configure and manage local or remote adapters from a single graphical user interface. In addition, data center administrators can use the tool for detailed configuration tasks, device-level monitoring, and comprehensive diagnostics. The minimum set of requirements to support HCM include:
    - Single-processor or multiprocessor server or workstation.
    - Pentium III with 450 MHz (or equivalent) or greater for Windows, Linux Red Hat, Novell, Solaris x86, Sun Ultra 60 for Solaris SPARC.
    - At least 256 MB of physical RAM; 512 MB recommended.
    - Video card capable of at least 256 colors and a screen resolution of 800 x 600 pixels required
    - At least 150 Mb disk space
    - Internet Explorer (7.0 or later), Firefox (3.0 or greater) is required for Webstart.
    - TCP/IP protocol stack for communications to management agents on hosts containing a supported Brocade adapter.
- ❖ Brocade Command Line Utility (BCU)
  - Brocade also includes BCU, which is a command line utility used to configure and manage local HBAs and CNAs from the console. Many of the HCM configuration options are also available through BCU. Run “bcu –help” to get more information about BCU options.
- ❖ APIs
  - SNIA HBA API v2.0 is supported. For both Windows and Solaris, the SNIA HBA API libraries are part of the OS. For Linux and VMware, separate API libraries are provided as part of the driver package.
- ❖ SNMP
  - SNMP support has been added to process network adapter related SNMP queries for Brocade CNAs. This support is as a sub-agent and hence an extension to the system’s master agent. SNMP sub-agent will only be available on Windows and Linux platforms. Besides support for informative, critical and statistical data, Brocade’s SNMP sub-agent will also send traps.

## **Supported Operating Systems (OS):**

Brocade software components, including drivers, the agent, APIs, and management tools, are supported on leading operating systems including Microsoft Windows 2003/2008/2008 R2/Windows7, Red Hat Enterprise Linux 4/5/6, Novell SUSE Linux Enterprise Server 10/11, Oracle Solaris 10, and VMware 4/5. HCM is supported on Windows 7, Windows XP, and Windows Vista in addition to the existing OS drivers above. For available OS and driver support, Brocade maintains N and N-1 support for interoperability. Please visit the Brocade website at [www.brocade.com/adapters](http://www.brocade.com/adapters) for more information.

## **Supported Server Platforms:**

Brocade software components, including drivers, agents, APIs, and management tools, are supported on leading server platforms including Intel x86, Intel IEM64T, AMD64, and SPARC. Please visit the Brocade website at [www.brocade.com/adapters](http://www.brocade.com/adapters) for more information.

## **Brocade Adapter Release 3.0.1.0**

The Brocade adapter software release 3.0.1.0 provides support for Solaris operating system and includes the following fixes or enhancements:

### Solaris

- 0358886: Enhanced IO abort status handing to avoid Solaris SCSI Stack taking the LUN offline
- 0358888: Enhanced I/O handling to not complete an already aborted exchange.
- 0357178: Addressed a corner case in I/O interrupt handling that could lead to a missed interrupt and IO Hang

## **Brocade Adapter Release 3.0.0.3**

The Brocade adapter software release 3.0.0.3 provides support for Red Hat RHEL 5.7 operating system.

## **Brocade Adapter Release 3.0.0.0**

The Brocade adapter software release 3.0.0.0 expands the feature set and support matrix for all Brocade adapter products.

Key features and enhancements supported for the software release 3.0.0.0 include the following:

### New Features:

- Brocade AnyIO technology on 1860 Adapters – Ability to run native Fibre Channel and Ethernet on the same adapter and to dynamically change a port's mode between Fibre Channel and Ethernet

#### Operating System Updates:

- Novell SLES10.4
- Red Hat RHEL 4.9
- Red Hat RHEL 6.1
- VMware ESXi 5.0
- Windows SBS 2011
- Oracle Unbreakable Linux 5.6, 6.0

#### Network Driver (BNA) Features:

- Multiple physical functions per port (vNIC)
- Multiple Transmit Priority Queue support
- Microsoft VMQ Support
- SNMP support for all Windows and Linux platforms (with exception of RHEL6.1)
- iSCSI DCB Support on separate Transmit Queues
- NetIOC support for VMware ESX4.1/ESX 5.0

#### Storage Driver (BFA) Features:

- 16 Gbps Fibre Channel enablement
- Boot from direct attached storage
- LUN Masking

The 3.0.0.0 release includes the following fixes or enhancements:

#### Linux

- 000345907: Enable support for kdump on Linux Drivers.

#### VMware ESX4.x

- 000349753: Intermittent receive path failure seen with network traffic on VMware 4.x under stress conditions.
- 000345907: Enable support for kdump on Linux Drivers.



## Release Content in 3.0.1.0

This release includes the following software components:

### \driver\_update\_disks

brocade\_adapter\_sol\_dud\_v3-0-1-0.iso

### \Solaris

#### \Drivers

brocade\_driver\_solaris10\_v3-0-1-0.tar

brocade\_adapter\_software\_installer\_solaris10\_sparc\_v3-0-1-0.bin

brocade\_adapter\_software\_installer\_solaris10\_x86\_v3-0-1-0.bin

## Release Content in 3.0.0.3

This release includes the following software components:

### \driver\_update\_disks

brocade\_unified\_adapter\_rhel57\_i386\_dud\_v3-0-0-3.iso

brocade\_unified\_adapter\_rhel57\_x86\_64\_dud\_v3-0-0-3.iso

## Release Content in 3.0.0.0

This release includes the following software components:

### \Boot

#### \boot\_image

brocade\_adapter\_boot\_fw\_v3-0-0-0.tar

brocade\_adapter\_boot\_fw\_v3-0-0-0.zip

#### \driver\_update\_disks

brocade\_adapter\_fc\_w2k3\_x64\_dud\_v3-0-0-0.zip

brocade\_adapter\_fc\_w2k3\_x86\_dud\_v3-0-0-0.zip

brocade\_adapter\_fc\_w2k8\_x64\_dud\_v3-0-0-0.zip

brocade\_adapter\_fc\_w2k8\_x86\_dud\_v3-0-0-0.zip

brocade\_adapter\_fc\_w2k8\_r2\_x64\_dud\_v3-0-0-0.zip

brocade\_adapter\_fcoe\_w2k8\_x64\_dud\_v3-0-0-0.zip

brocade\_adapter\_fcoe\_w2k8\_x86\_dud\_v3-0-0-0.zip

brocade\_adapter\_fcoe\_w2k8\_r2\_x64\_dud\_v3-0-0-0.zip

brocade\_fc\_adapter\_rhel4\_dud\_v3-0-0-0.iso

brocade\_nw\_adapter\_rhel4\_dud\_v3-0-0-0.iso

brocade\_fc\_adapter\_rhel55\_i386\_dud\_v3-0-0-0.iso

brocade\_fc\_adapter\_rhel55\_x86\_64\_dud\_v3-0-0-0.iso

brocade\_nw\_adapter\_rhel55\_i386\_dud\_v3-0-0-0.iso

brocade\_nw\_adapter\_rhel55\_x86\_64\_dud\_v3-0-0-0.iso

brocade\_fc\_adapter\_rhel56\_i386\_dud\_v3-0-0-0.iso

brocade\_fc\_adapter\_rhel56\_x86\_64\_dud\_v3-0-0-0.iso

brocade\_nw\_adapter\_rhel56\_i386\_dud\_v3-0-0-0.iso

brocade\_nw\_adapter\_rhel56\_x86\_64\_dud\_v3-0-0-0.iso  
brocade\_fc\_adapter\_rhel6\_i386\_dud\_v3-0-0-0.iso  
brocade\_fc\_adapter\_rhel6\_x86\_64\_dud\_v3-0-0-0.iso  
brocade\_nw\_adapter\_rhel6\_i386\_dud\_v3-0-0-0.iso  
brocade\_nw\_adapter\_rhel6\_x86\_64\_dud\_v3-0-0-0.iso  
brocade\_fc\_adapter\_rhel6u1\_i386\_dud\_v3-0-0-0.iso  
brocade\_fc\_adapter\_rhel6u1\_x86\_64\_dud\_v3-0-0-0.iso  
brocade\_nw\_adapter\_rhel6u1\_i386\_dud\_v3-0-0-0.iso  
brocade\_nw\_adapter\_rhel6u1\_x86\_64\_dud\_v3-0-0-0.iso  
brocade\_adapter\_sles10sp3\_dud\_v3-0-0-0.iso  
brocade\_adapter\_sles10sp4\_dud\_v3-0-0-0.iso  
brocade\_adapter\_sles11\_dud\_v3-0-0-0.iso  
brocade\_adapter\_sles11sp1\_dud\_v3-0-0-0.iso  
vmware-esx-drivers-scsi-bfa\_400.3.0.0.0-1OEM.468423.iso  
vmware-esx-drivers-net-bna\_400.3.0.0.0-1OEM.477369.iso  
vmware-esx-drivers-scsi-bfa\_400.3.0.0.0-1OEM.468461.iso  
vmware-esx-drivers-net-bna\_400.3.0.0.0-1OEM.468498.iso

#### **\live\_cd**

live\_cd\_v3-0-0-0.iso

#### **\Documentation**

Brocade\_Adapter\_v3-0-0-0\_Release\_Notes.pdf

#### **\Linux**

##### **\Drivers**

###### **\NOARCH**

brocade\_driver\_linux\_3-0-0-0.tar.gz

###### **\RHEL4**

brocade\_driver\_linux\_rhel4\_3-0-0-0.tar.gz

###### **\RHEL5**

brocade\_driver\_linux\_rhel5\_3-0-0-0.tar.gz

###### **\RHEL6**

brocade\_driver\_linux\_rhel6\_3-0-0-0.tar.gz

brocade\_driver\_linux\_rhel6u1\_3-0-0-0.tar.gz

###### **\SLES10SP3**

brocade\_driver\_linux\_sles10sp3\_3-0-0-0.tar.gz

###### **\SLES10SP4**

brocade\_driver\_linux\_sles10sp4\_3-0-0-0.tar.gz

###### **\SLES11**

brocade\_driver\_linux\_sles11\_3-0-0-0.tar.gz

###### **\SLES11SP1**

brocade\_driver\_linux\_sles11sp1\_3-0-0-0.tar.gz

brocade\_adapter\_software\_installer\_linux\_v0-0-0-0.bin

## **\VMware**

- brocade\_driver\_esx4x\_v3-0-0-0.tar.gz
- brocade\_ss\_esx4xi\_v3-0-0-0.tgz
- brocade\_driver\_esx41\_v3-0-0-0.tar.gz
- brocade\_ss\_esx41i\_v3-0-0-0.tgz
- brocade\_driver\_esx50\_v3-0-0-0.tar.gz
- BCD-bfa-3.0.0.0-00000-offline\_bundle-465342.zip
- BCD-bna-3.0.0.0-00000-offline\_bundle-465579.zip
- bcu\_esx50\_3.0.0.0.zip
- brocade-esx-5.0.0-bfaConfig-3.0.0.0-offline\_bundle-463306.zip

## **\Windows**

### **\Drivers**

- brocade\_driver\_win2003\_x64\_v3-0-0-0.exe
- brocade\_driver\_win2003\_x86\_v3-0-0-0.exe
- brocade\_driver\_win2008\_x64\_v3-0-0-0.exe
- brocade\_driver\_win2008\_x86\_v3-0-0-0.exe
- brocade\_driver\_win2008\_R2\_x64\_v3-0-0-0.exe
- brocade\_adapter\_software\_installer\_windows\_v3-0-0-0.exe

## Important Notes

### General:

1. Brocade HBAs support a direct-attach configuration to storage in Point-to-Point (P2P) mode only (not in Arbitrated Loop mode).
2. In a configuration with HBAs and CNAs in the same server, the latest revision of boot code should be updated on all the adapters after upgrading to the latest drivers. The boot image can be updated on all the adapters using the command "bcu boot -update <boot-firmware> -a" to update the boot firmware. LiveCD can also be used to update the boot code. Refer to the boot section of the "Brocade Adapters Installation and Reference Manual" for details.
3. UEFI FC and FCoE Boot over SAN are supported on UEFI-capable servers for Windows 2008 x64, Windows 2008 R2, SLES11.x and RHEL6.x Operating Systems (see "Brocade Adapters Installation and Reference Manual v3.0.0.0" for details).
4. While configuring FC Trunking, it is advisable to configure trunking on both HBA and Switch side before bringing the link up. This will avoid configuration mismatch that normally leads to switch port persistent disable. A persistently disabled switch port can be re-enabled by port persistent enable. If you wish to enable FC trunking when the links are already established follow these steps:
  - Disable switch ports to be trunked
  - Enable FC trunking on switch ports
  - Enable FC trunking on HBA ports
  - Enable switch ports
5. Target Rate Limiting is not supported in conjunction with FC Trunking.
6. The current BIOS retry mechanism uses a timeout of five seconds and max of six retries for SCSI control commands. If the boot device fails to respond within this timeout period and all the retries are exhausted, the boot from this device will fail.
7. When multiple boot paths are defined sometimes all paths may not be discovered. In some cases the boot process may fail. Re-discovery of the paths can be initiated from the Boot Device Page and by selecting appropriate Boot Device, followed by a reboot.
8. When configuring HBA BIOS for Boot from SAN, the HBA WWPN may not appear in the fabric's name server. To register the WWPN in the Name Server, use the BIOS Configuration Utility and select one HBA port at a time from the Adapter list and select target discovery for that port from Boot Device Settings page.
9. For some IBM servers (3250M2, 3400, 3455B, 3650, 3655B, 3755B, 3950 M2), a resource issue may not properly display the Brocade BIOS config during the POST phase. It is recommended to disable any onboard disk controllers and PXE boot option.

10. Use the following procedure to successfully downgrade HCM as its configuration is not persisted automatically during a downgrade using the “Brocade Adapter Software Installer”.
  - a. Backup
    - Uninstall the existing (higher) version of HCM using “Brocade HBA Software Installer”.
    - On the message box prompting the user to backup the data directory, click “Backup” to continue.
    - Get User Input screen displays the default backup directory location. A different location for backup can also be selected.
    - After the desired location is specified, click on the “Uninstall” button.
    - HCM data is backed up in the background and HCM is un-installed.
  - b. Restore
    - Install the new (lower) version software using “Brocade HBA Software Installer”.
    - If a backup directory exists for previously installed software, a message box displays it to prompt the user to restore the data directory.
    - Select the restore configuration option and continue with the installation.
    - Back up data of the previous software (higher) gets restored successfully.
11. PCI scan operations (e.g., lspci in Linux or Windows registry PCI device enumeration) may report two ports for the 415 and 815 single port HBAs. This is expected behavior. However, operating system device drivers will correctly enumerate only a single HBA for these cards.
12. On IBM 3650 M1 with BR-1860 installed, warm reboot of system is not supported. A cold boot is required.
13. BCU commands for vHBA and vNIC management will not function on dual port BR-1860 adapters if vHBA-0 is disabled via CLI, HCM or Windows Device Manager.
14. Fcpim –lunlist command may fail to report LUNs immediately after link-up when QOS is enabled on HBA port while not enabled on switch port. Suggested work-around is to either wait for 10-15 seconds after link-up or rerunning fcpim –lunlist command.
15. PXE functions when only BR-1860 or BR-1010/1020 adapters are installed in a system. When BR-1860 and BR-1010/1020 adapters coexist in the system, PXE will function with BR-1010/1020 only.
16. During FCoE boot over SAN on BR-1860 and BR-1010/1020, link timeout might be observed when interoperating with Nexus 5.0.3.N2.1 code. No known issues with Nexus 4.2.1.N2.1 code.
17. On BR-1860, after the port or adapter mode is changed from CNA to NIC or vice-versa, it is advisable to remove any additional vNICs that were created for the previous mode to restore default configuration.

## Windows:

1. Use Windows 2008 R2 drivers for Windows7 x64 OS and Windows 2008 SP2 x86 drivers for Windows 7 x86 OS.
2. On Windows 2003 with boot from SAN setup, if the target containing the boot LUN is lost for more than 90 seconds, the system might fail. Reboot the server to recover.
3. Windows selects the first port visible during normal boot (and this can be different from the port that was selected for booting under HBA BIOS configuration). If multiple paths are configured to the same boot LUN, and if the path on which Windows has discovered the boot LUN goes down, then Windows might experience a failure.
4. In Windows, the driver installation will fail if the HBA or CNA ports don't show up under Device Manager. This can happen on a freshly-built OS if the driver package is installed and uninstalled without a reboot. Rescan the hardware devices using Device Manager to work around the issue.
5. In a Windows environment, stop the HCM agent prior to using Device Manager to disable the driver.
6. In Windows, the Brocade Adapter Installer checks for minimally-required Microsoft hotfixes and reports an error if a required hotfix (or a later version) is not installed.
  - Windows Server 2008:
    - Recommended: KB968675, KB958015
  - Windows Server 2003 SP2:
    - Required: KB932755
  - Windows Server 2008 R2:
    - Recommended: KB977977, KB2490742
7. In rare cases, on Windows systems with a CNA installed the Ethernet device number in the Network Manager (i.e. "Local Area Connection##") may not match the adapter/port order. This is Microsoft Windows limitation as detailed in the KB article: <http://support.microsoft.com/kb/823206>. The workaround is to rename the "Local Area Connection##" to match the adapter/port order (right click on the Local Area Connection and click "rename").
8. In Windows 2008 R2 x64 deployment with iSCSI service enabled, apply hotfix KB979711 to avoid system failure while running storage traffic. KB979711: <http://support.microsoft.com/kb/979711/en-us>
9. Windows Crashdump Configuration. On a system that is configured with Boot from SAN on a Brocade HBA, the following steps should be followed:
  - BIOS must be enabled on all HBA port instances that can see the boot LUN.

- Same discovery mechanism (i.e., First LUN/Auto/Flash under "Boot Device Settings" in BIOS config menu or bcu CLI) should be used for all HBA port instances for which the boot LUN is exposed.
- If multiple storage ports (having unique PWWNs) are configured to access the same boot LUN in the storage array and all PWWNs are zoned to a specific HBA port instance, then all such PWWNs must be listed under "Boot Device Settings" in BIOS config menu or BCU.

Note: If BCU or HCM is used to configure a boot LUN, a reboot is required for the change to be effective.

10. Windows 2008 x86 boot over SAN installation may suspend on some servers (e.g. Dell R900). To minimize this issue, install the Brocade HBA in one of the PCIE slots, while leaving the other slots empty. Then, install Windows 2008 onto a boot over SAN LUN connected to one of the HBA ports. Once the installation is complete, shutdown the system to populate the rest of the empty slots.
11. In boot over SAN setup with Windows 2003 R2 SP2 x86 and a HDS AMS 1000 Array, the system may halt after the first reboot during the OS installation. Reboot the system and continue with the installation.
12. For Windows 2003, the Windows device manager may require a manual re-scan to show the current devices after a zone change.
13. Software Release 3.0 supports Windows 2003 in FC HBA mode only.
14. During PXE boot, in case the system gets stuck at boot.wim during the Windows 2008 R2 install when using Window Deployment server, skip the BIOS by pressing X to allow the PXE boot process to continue.
15. In a Windows NIC team, transmit packets stats via SNMP might return in accurate values. The values reported via HCM and BCU are accurate.
16. SNMP 'get bulk' query on "Vlan Table View" may report failure to connect to SNMP Agent.
17. Installation of BNA and BFA drivers using Brocade Adapter Software Installer with the adapter hardware not installed may not complete on Windows 7 x86 System. User needs to press the Ctrl key immediately after launching the installer and hold it down until a console window appears and proceed with installation.
18. When using Brocade Adapter Software Installer (BASI), a pop-up window may appear stating that the file 'bninotify.dll' cannot be found. This is because the installer is referencing the wrong path. To correct the path, edit the 'Copy files from:' field from "c:\program files (x86)\brocade\adapter\driver\net" to "c:\program files\brocade\adapter\driver\net".
19. On Windows x86, setting Adapter Aliases from HCM might cause Agent to stop responding. It is advisable to use Brocade Command line Utility (BCU) to set the adapter alias.

## Linux:

1. When Network Manager is enabled, network traffic may not pass through multiple CNA network interfaces. The workaround is to disable Network Manager or set up Network Manager to use the appropriate NIC interface.
2. Always use KMP binary RPMs for SLES11.x and avoid using NOARCH RPMs. If a non-KMP RPM of driver is installed over this, any YaST2-based install will revert back to the inbox version of the driver. This only for the case of manual installation, only, the Brocade Installer automatically installs KMP binary RPMs for the supported SLES 11.x distributions.
3. While installing Linux driver using Brocade Adapter Software Installer, installer prints out an internal message "INITRD\_UPDATE:NO". This is a harmless message and can be ignored. The installer will perform the mkinitrd. It is always a good practice to verify initrd after the driver install.
4. When using the SLES 11 SP 1 kernel update procedure, or updating the errata kernel on SLES 11 SP1, choose one of the following methods:
  - a. Kernel upgrade using "rpm -ivh <filename>"
    1. There are no additional steps required using this method.
  - b. Kernel upgrade using "rpm -Uvh" or YaST
    1. Upgrade the kernel using "rpm -Uvh" or YaST
    2. Run the Brocade Adapter Software Installer (BASI) and install the driver
    3. Ensure the boot order in "/boot/grub/menu.lst" is set to boot from the newly installed kernel
    4. Reboot the server
5. In RHEL 5.x systems, when serial console redirection is used, the system might report "soft lockups" with the following message in the /var/log/messages:
  - "May 11 19:59:10 sysname kernel: BUG: soft lockup - CPU#0 stuck for 10s! [multipathd:15307]"
  - It is recommended to remove serial console redirection to work around this issue.
6. In SLES10, some array's control LUN is not assigned a /dev/sd\* entry. This is a display only issue and does not affect any functionality.
7. Currently the Brocade installer is inadvertently backing up the .syslog and install.log files from the /root to /var/log/brocade folder. This has no functional impact and will be addressed in the next release.
8. In a configuration with a large number of LUNS and multipath enabled, Boot from SAN could be slow if there is not enough physical memory on the server. If you encounter this problem you may need to increase the physical memory on the server.



9. Linux BASI installer creates a second backup copy of the initrd file. There is no functional impact of having two copies.
10. On Linux systems, Brocade Adapter Software Installer doesn't check to see if /boot is full and fails silently when updating initrd. Re-try installation after adding or freeing up disk space in the /boot partition.
11. RHEL6.1 and SLES10 SP4 include 2.3.2.x based Inbox drivers. Use of Driver Update Disk during Boot over SAN installation is not essential for the Brocade legacy adapters and is only required to support BR-1860.
12. Boot over SAN is not supported with RHEL 4.0 on BR-1860 when one port is configured in FC mode and the other port is configured in NIC or CNA mode.
13. For PXE installation on Remote SAN, inject the BNA Driver Update Disk followed by BFA Driver Update Disk to avoid failure.

### **Solaris:**

1. The Solaris driver installation (using silent installation) requires a manual reboot.

### **VMware:**

1. The Brocade HCM Agent needs to be restarted if firewall settings on port# 514 changed in ESX 4.0. By default, ESX 4.0 blocks the syslog outgoing port 514. If syslog Host configuration or DCFM/BNA integration is performed, open port 514 using the following command: `esxcfg-firewall -o 514,udp,out,syslog`.
2. While upgrading HBA from boot firmware version 1.1.0.x on a VMware ESX4.x system, upgrade the boot firmware using LiveCD first to avoid server hang during bootup.

### **Documentation Updates**

- None at this time.

## Product Support

For technical assistance, contact your designated Brocade reseller or OEM. You can reach Brocade technical support using one of the following options -

**Telephone:** Continental US:  
1-888-ATFIBRE (1-888-283-4273)

Europe, Middle East & Africa:  
+800-AT FIBREE (+800 28 34 27 33)

Asia Pacific:  
+800-AT FIBREE (+800 28 34 27 33)

For areas unable to access a toll free number:  
1-408-333-6061

**Email:** [support@brocade.com](mailto:support@brocade.com)

**Online:** [www.brocade.com/adapters](http://www.brocade.com/adapters)

## Abbreviations

PCIe	PCI Express
FC	Fibre Channel
HBA	Host Bus Adapter
OS	Operating System
IO	Input Output
QoS	Quality of Service
TRL	Target Rate Limiting
BIOS	Basic Input Output System
EFI	Extensible Firmware Interface
LUN	Logical Unit Number
HCM	Host Connectivity Manager
DCF	Data Center Fabric
BCU	Brocade Command Line Utility
API	Application Program Interface
SAN	Storage Area Network
CD	Compact Disk
DUD	Driver Update Disk
GUI	Graphical User Interface
RAM	Random Access Memory
SNIA	Storage Networking Industry Association
RH	Red Hat
SLES	SUSE Linux Enterprise Server