



Quick Start Guide

FCoE Converged Network Adapter

BR-1020

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Document Revision History	
Revision A, April 30, 2014	
Revision B, October 6, 2014	
Revision C, March 31, 2015	
Changes	Sections Affected
Updated the support headquarters address	"Contact Information" on page vi
Corrected the note in Step 6 to reference the Converged Network Adapters cabling section.	"Installing Hardware" on page 2

Welcome

Thank you for purchasing a QLogic BR-1020 FCoE Converged Network Adapter. This adapter provides reliable, high-performance connectivity to Ethernet-based hosts for mission-critical Storage Area Network (SAN) environments.

The QLogic BR-1020 FCoE Converged Network Adapter is a dual-port, 10Gbps adapter that combines the functions of a host bus adapter and a NIC on one PCIe x8 card. This converged network adapter fully supports FCoE protocols and allows Fibre Channel traffic to converge onto 10Gbps Converged Enhanced Ethernet (CEE) networks. The combined high performance and proven reliability of a single-ASIC design makes this converged network adapter ideal for connecting hosts to SAN fabrics based on Brocade Fabric OS® (FOS) or Brocade M-Enterprise OS (M-EOS).

NOTE

Install only QLogic-supported SFPs in these adapters.

Related Materials

The following documents are available on the QLogic Web Site:

- *BR-Series Adapters Installation Guide*
- *BR-Series Adapters Troubleshooting Guide*
- *BR-Series Adapters Administrator's Guide*

For information about downloading documentation from the QLogic Web Site, see [“Downloading Updates” on page v](#).

Documentation Conventions

This guide uses the following documentation conventions:

- **NOTE** provides additional information.
- Text in [blue](#) font indicates a hyperlink (jump) to a figure, table, or section in this guide, and links to Web sites are shown in [underlined blue](#). For example:
 - ❑ [Table 9-2](#) lists problems related to the user interface and remote agent.
 - ❑ See “[Installation Checklist](#)” on page 3-6.
 - ❑ For more information, visit www.qlogic.com.
- Text in **bold** font indicates user interface elements such as a menu items, buttons, check boxes, or column headings. For example:
 - ❑ Click the **Start** button, point to **Programs**, point to **Accessories**, and then click **Command Prompt**.
 - ❑ Under **Notification Options**, select the **Warning Alarms** check box.
- Text in `Courier` font indicates a file name, directory path, or command line text. For example:
 - ❑ To return to the root directory from anywhere in the file structure:
Type `cd /root` and press ENTER.
 - ❑ Enter the following command: `sh ./install.bin`
- Key names and key strokes are indicated with UPPERCASE:
 - ❑ Press CTRL+P.
 - ❑ Press the UP ARROW key.
- Text in *italics* indicates terms, emphasis, variables, or document titles. For example:
 - ❑ For a complete listing of license agreements, refer to the *QLogic Software End User License Agreement*.
 - ❑ What are *shortcut keys*?
 - ❑ To enter the date type *mm/dd/yyyy* (where *mm* is the month, *dd* is the day, and *yyyy* is the year).
- Topic titles between quotation marks identify related topics either within this manual or in the online help, which is also referred to as *the help system* throughout this document.

Technical Support

Customers should contact their authorized maintenance provider for technical support of their QLogic products. QLogic-direct customers may contact QLogic Technical Support; others will be redirected to their authorized maintenance provider. Visit the QLogic support Web site listed in [Contact Information](#) for the latest firmware and software updates.

For details about available service plans, or for information about renewing and extending your service, visit the Service Program Web page at <http://www.qlogic.com/Support/Pages/ServicePrograms.aspx>.

Downloading Updates

The QLogic Web site provides periodic updates to product firmware, software, and documentation.

To download firmware, software, and documentation:

1. Go to the QLogic Downloads and Documentation page: driverdownloads.qlogic.com.
2. In the search box, type the QLogic model name.
3. In the search results list, locate and select the firmware, software, or documentation for your product.
4. View the product details Web page to ensure that you have the correct firmware, software, or documentation. For additional information, click **Read Me** and **Release Notes** under Support Files.
5. Click **Download Now**.
6. Save the file to your computer.
7. If you have downloaded firmware, software, drivers, or boot code, follow the installation instructions in the *Readme* file.

Instead of typing a model name in the search box, you can perform a guided search as follows:

1. Click the product type tab: **Adapters**, **Switches**, **Routers**, or **ASICs**.
2. Click the corresponding button to search by model or operating system.
3. Click an item in each selection column to define the search, and then click **Go**.
4. Locate the firmware, software, or document you need, and then click the item's name to download or open the item.

Training

QLogic Global Training maintains a Web site at www.qlogictraining.com offering online and instructor-led training for all QLogic products. In addition, sales and technical professionals may obtain Associate and Specialist-level certifications to qualify for additional benefits from QLogic.

Contact Information

QLogic Technical Support for products under warranty is available during local standard working hours, excluding QLogic Observed Holidays. For customers with extended service, consult your plan for available hours. For Support phone numbers, see the Contact Support link at support.qlogic.com.

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Knowledge Database

The QLogic knowledge database is an extensive collection of QLogic product information that you can search for specific solutions. QLogic is constantly adding to the collection of information in the database to provide answers to your most urgent questions. Access the database from the QLogic Support Center: support.qlogic.com.

Installation Instructions

Installing a QLogic BR-1020 FCoE Converged Network Adapter consists of the following tasks:

- [“Verifying Installation Requirements” on page 1](#)
- [“Verifying Items for Installation” on page 1](#)
- [“Preparing the Host System” on page 2](#)
- [“ESD Precautions” on page 2](#)
- [“Installing Hardware” on page 2](#)
- [“Installing Software” on page 5](#)

Verifying Installation Requirements

Before you begin, make sure that your server (host) system meets hardware and software compatibility requirements outlined in the *BR-Series Adapters Installation Guide* and the system is fully operational.

Verifying Items for Installation

Have the following items on hand for installation:

- Fully functional host
- Phillips #1 screwdriver
- Adapter with appropriate mounting bracket attached

NOTE

The adapter ships with two different bracket sizes. If the bracket that you require is not already attached to the adapter, instructions are included in this guide to attach it.

- Appropriate cable with LC duplex connectors to connect the adapter to the FCoE switch.

Preparing the Host System

1. Make a backup of the system data.
2. Power down the host system. Unplug all power cords and network cables.
3. Remove all covers necessary to access the PCIe[®] slot in which you want to install the adapter. Refer to your system documentation to locate PCIe slots and cover removal procedures.
4. Remove the blank bracket panel that covers the PCIe slot in which you want to install the adapter. If the panel is secured with a screw, remove the screw and save it for securing the adapter bracket panel into the slot.

NOTE

Install adapters in PCI-Express slots that use an x8 lane transfer interface or greater for best performance. You cannot install adapters into PCI[™] or PCI-X[™] slots.

ESD Precautions

When handling the adapter, use correct electrostatic discharge (ESD) procedures:

- Wear a wrist grounding strap connected to chassis ground (if host is plugged in) or a bench ground.
- Store the adapter in anti-static packaging.

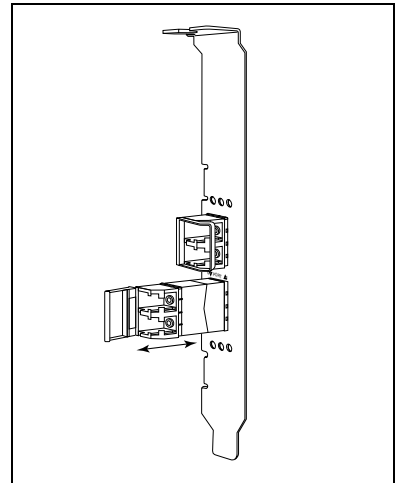
Installing Hardware

NOTE

When installing a BR-1020 Converged Network Adapter on VMware[®] systems, it is advisable to install the driver package before the adapter so that the network interface controllers (NICs) are properly numbered in the system. Perform all steps under [“Software Installation on VMware Systems” on page 10](#), and then return to this section.

To Install the adapter hardware into your host system:

1. If fiber optic SFP transceivers are installed in the adapter, remove them if clearances inside your system case prohibit installation with them installed.
 - a. Pull out the protective rubber plug from the SFP connector.
 - b. Using your thumb and forefinger, unlatch the bail from the side of the fiber optic cable connector and pull the SFP straight out of the receiver. Arrows stamped on the bail mark the location where you unlatch it.

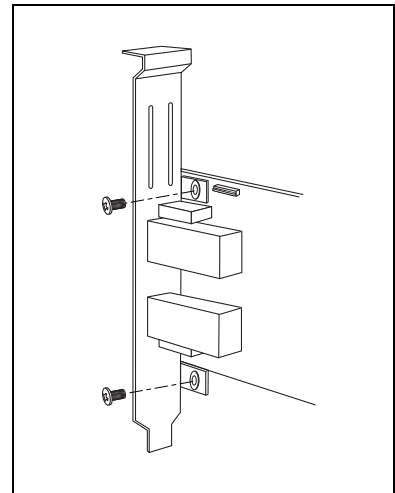


2. The adapter ships with one bracket installed and another size bracket in the shipping container. If the installed bracket works as is, go on to [Step 3](#).

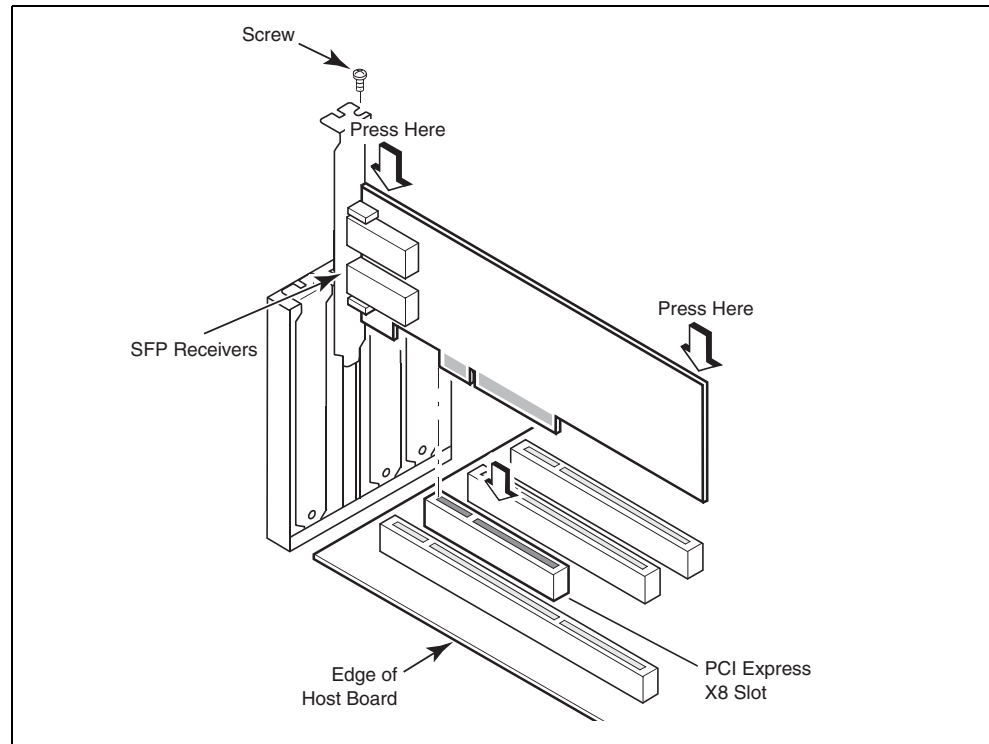
If your system chassis requires a different bracket (low-profile or standard) to secure the adapter in the slot, perform the following steps to replace the bracket. Note that you must remove SFPs first to remove this bracket (refer to [Step 1](#)).

- a. Remove the two screws attaching the bracket to the adapter, and pull off the bracket.
- b. Carefully guide the new mounting bracket onto the adapter, making sure the bracket mounting tabs align with the holes in the adapter.
- c. Replace and tighten the two screws.
- d. Store the mounting bracket that you removed for future use.

The illustration shows the standard bracket.



3. Insert the adapter into the desired empty PCIe bus slot. Press firmly until the adapter is seated.



4. Secure the adapter's mounting bracket to the case using the method required for your case. In some systems, the bracket may be secured to the case with a screw.
5. Replace the system's case or covers and tighten all screws.

6. Install all SFPs if not already installed.

NOTE

Use the correct cable with LC connectors to connect the adapter to the FCoE switch. For information on compatible cables and maximum distances supported by cable types, refer to the Converged Network Adapters cabling section in the “Specifications” chapter of the *BR-Series Adapters Installation Guide*.

- a. Orient the SFP in front of its slot on the adapter so that it can slide into the adapter’s receiver slot. The SFP can be oriented only one way into the slot.
 - b. For fiber optic SFPs, use the bail or pull tab as a handle, and then slide the SFP into the receiver until seated. Latch the bail.
 - c. For copper cable SFPs, grasp the SFP with your thumb and forefinger and slide it into the receiver until it latches.
7. Replace the system’s case or covers and tighten all screws.
 8. Connect the adapter to the FCoE switch.

For fiber optic SFPs:

- a. Pull out the protective rubber inserts from the fiber optic SFP connectors, if installed in the switch or adapter.
- b. Connect the cable to the adapter and the appropriate LC connector on the FCoE switch.

For copper cable SFPs, connect the cable to the adapter and to the appropriate LC connector on the switch.

9. Turn on host power and observe LED operation. Refer to the “LED operation” section for your adapter in the “Specifications” chapter of the *BR-Series Adapters Installation Guide* for details on LED operation.

Installing Software

Use the Adapter Software Installer (ASI) to install the Host Connectivity Manager (HCM), all driver packages, and utilities based on your host operating system. The following procedures assume that the host’s operating system has been installed and is functioning normally.

- [“Software Installation on Windows, Linux, and Solaris Systems” on page 6](#)
- [“Software Installation on VMware Systems” on page 10](#)

ASI can install HCM either on the local host or any remote system. An HCM desktop shortcut is available after installing HCM on Windows®, Linux®, and Solaris® systems. Only one driver installation is required for all adapters installed in a host system.

Software installation could take much longer than normal with a large number of adapters installed or where a large number of LUNs are exposed through different paths to the multipath software. For more details and options on installing adapter software, such as using ASI or native installation system commands, refer to the “Software Installation” chapter in the *BR-Series Adapters Installation Guide*.

Software Installation on Windows, Linux, and Solaris Systems

Before installing software on a Windows, Linux, or Solaris system, consider the exceptions in the following table:

OS	Exception
Windows	<p>When installing driver packages on Windows 2008 and later systems, open TCP/IP port 34568 to allow HCM Agent communication with the HCM. (Necessary because of firewall issues.) Following is an example for opening port 34568:</p> <pre>/usr/sbin/esxcfg-firewall -o 34568,tcp,in,https /usr/sbin/esxcfg-firewall -o 34568,udp,in,https</pre> <p>Use Windows Firewall and Advanced Service (WFAS) to open port 34568.</p> <p>Before installing drivers on Windows systems, install the following hot fixes from the Microsoft® “Help and Support” Web Site, and then reboot the system. For more information on these hot fixes, refer to “Installation Notes” in the <i>BR-Series Adapters Installation Guide</i>.</p> <ul style="list-style-type: none">■ Windows 2008: KB968675 and KB2490742 are recommended. KB958015 is recommended for ports configured in CNA mode■ Windows 2008 R2: KB977977 is recommended for ports configured in CNA mode. KB2490742 is recommended when installing storage drivers. <p>For Windows systems only, installing management utilities creates a BCU shortcut on your system desktop. Use this shortcut to launch the BCU> command prompt and enter BCU commands.</p>

OS	Exception
Linux SLES	<p>When installing the source-based (noarch) driver packages (brocade_driver_linux_<version>.tar.gz) or when using the ASI and the kernel has been upgraded to a version without pre-compiled binaries, perform the following tasks to make sure the drivers load. Afterwards, be sure to reboot the system.</p> <ul style="list-style-type: none"> ■ For Linux SLES® 10 systems, make sure the load_unsupported_modules_automatically variable is set to yes in <code>/etc/sysconfig/hardware/config</code>. ■ For Linux SLES 11 systems, make sure the allow_unsupported_modules variable is set to 1 in <code>/etc/modprobe.d/unsupported-modules</code>. <p>Run the <code>mkinitrd</code> command to load automatically during system boot.</p> <p>By default, the <code>initrd</code> file will be backed up automatically during Linux installations. During installation, a dialog box shows the location of the file. If a file exists, a dialog box allows you to overwrite the file, not overwrite the file, or quit.</p>
Solaris	<p>After installing drivers on Solaris system, you must reboot the system to enable the drivers.</p>

To install adapter software on Windows, Linux, and Solaris systems:

- Download the Adapter Installer Software for your adapter:
 - Go to the QLogic Web Site at driverdownloads.qlogic.com and select the **Adapters** tab and the **by Model** radio button.
 - In the table, select **Fibre Channel Adapters** in the first column, **BR-1020** or **BR-1010** in the second column, the operating system in the third column, and then click **Go**.
 - In the Software Installers table, locate the installer package, click on it, and then follow the directions.
- Execute the appropriate Adapter Software Installer (refer to [Step 1](#)). When all files are extracted, an Adapter Software title window appears.
- When the Adapter Software Installer Introduction window appears, read the recommendations and instructions, and then click **Next**.
- When the License Agreement appears, select **I accept the terms of the License Agreement**, and then click **Next** to continue.

5. If a backup directory exists for previously installed software, a `Found Backed up data` message prompts you to restore old configurations. Select either to restore or not to restore and continue installation. If this message does not appear, go on to [Step 6](#).
6. If a message window lists existing software components already installed on your system, select one of the following options, and then click **Continue**, and then skip to [Step 10](#). If this message does not appear, go on to [Step 7](#).
 - **Install with existing configuration.** The installer compares each configured property and keeps the original value if different from the default value.
 - **Install with default configuration.** The installer upgrades the software and loads with default configurations.
7. If a message prompts you to close HCM, close the application if it is running, and then click **OK** on the message box.
8. When the Choose Install Set window appears, select the software you want to install, and then select **Next**.

If you are installing the management utilities and messages warn that HCM agent requires storage and network driver installation or does not match current driver installation, and then click **OK**, and then select the **Management Utilities** and **Storage and Network Drivers** options to install.

If a message warns that the installed boot image is not compatible with the driver installation, perform one of the following steps:

- Select **Yes** to update the image and continue installation.
 - Select **No** to not update the image and continue installation.
9. If the Choose Install Folder window prompts you to choose a destination folder for the software, select one of the following options. If this window does not appear, go on to [Step 10](#).
 - Enter a location for installing the software.
 - Select **Choose** to browse to a location on your file system.
 - Select **Restore Default Folder** to enter the default installation folder.
 10. When the Package Location Information window lists the installed software components and their location on your system, select **Next to continue**.

11. Review information on the Pre-Installation Summary window and select **Install** to begin installation.

A progress bar shows the installation progress.

NOTE

For Windows systems, a `Force Driver Installation` message box appears if a better driver is already installed for the adapter. If the message appears, select **OK** to overwrite the existing driver or **Cancel** to quit installation.

12. When the Install Complete window lists installed components, confirm that all components are installed and select **Done**. If a message instructs you to restart or reboot the system, select any options that apply.
13. Verify driver installation through tools available on your host system. Refer to the “Confirming Driver Package Installation” section in the “Software Installation” chapter of the *BR-Series Adapters Installation Guide* for details.
14. To make sure that the drivers and adapter boot code are synchronized, be sure to update your adapter using the latest boot image:
 - a. Go to the QLogic Web Site at driverdownloads.qlogic.com and select **Adapters, by Model**.
 - b. In the table, select **Fibre Channel Adapters** in first column, **BR-1020** in the second column, the operating system in the third column, and then click **Go**.
 - c. Click the **Boot Code** link at the top of the page to direct you to the boot code packages.
 - d. Locate the boot code package for your adapter in the table, click on it, and then follow the directions.

For instructions on installing the boot image, refer to the “Boot Code” chapter in the *BR-Series Adapters Installation Guide*.

15. When the driver is installed and the host system is connected to the FCoE switch (refer to [step 8](#) on page 5) observe adapter LED operation. Verify proper LED operation by referring to “LED operation” in the “Specifications” chapter of the *BR-Series Adapters Installation Guide*.

Software Installation on VMware Systems

The ASI is not supported on the VMware “console” operating system for installing drivers, HCM, and utilities. However, you can use an applicable software installer from the list under “[Software Installation on Windows, Linux, and Solaris Systems](#)” on page 6 to install HCM on a “guest” system.

NOTE

When installing driver packages on VMware systems, open TCP/IP port 34568 to allow HCM Agent communication with the HCM. (Necessary because of firewall issues.) On VMware systems open port 5989 to allow communication for CIM Provider.

Following is an example for opening port 34568:

```
/usr/sbin/esxcfg-firewall -o 34568,tcp,in,https  
/usr/sbin/esxcfg-firewall -o 34568,udp,in,https
```

To install VMware drivers and utilities:

1. Download the appropriate package using the following steps:
 - a. Go to the QLogic Web Site at driverdownloads.qlogic.com and select the **Adapters** tab, the **by Model** radio button, and then click **Go**.
 - b. In the table, select **Fibre Channel Adapters** in the first column, **BR-1020** in the second column, **VMware ESX/ESXi** in the third column, and then click **Go**.
 - c. Locate the driver package in the table of drivers for your version of VMware ESX®/ESXi, click on it, and then follow the directions.
2. Copy the file to your system's /tmp directory.
3. Follow instructions for ESX or ESXi installation under “Driver installation and removal on VMware systems” in the Software Installation chapter of the *BR-Series Adapters Installation Guide*.

Because some versions of ESX and ESXi do not enforce maintenance mode during driver installation, it is recommended to put the host in maintenance mode, as a reboot is required after installation.



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