

Brocade 8Gb FC Single-port and Dual-port HBAs Product Guide (withdrawn product)

The Brocade 8Gb FC Single-port and Dual-port host bus adapters by QLogic are PCI Express 2.0 x8 8Gb Fibre Channel adapters with SFP+ LC-style connectors. The adapters connect to SFP+ Multimode Fiber SR optical modules. These adapters support 8 Gbps per port maximum bidirectional throughput for high-bandwidth storage (SAN). The PCI Express low profile form factor adapter can be used in either a standard PCI Express slot or a low profile PCI Express slot.

Figure 1 shows the single-port and dual-port adapters.



Figure 1. Brocade 8Gb FC Single-port and Dual-port HBAs (with 2U bracket attached)

Did you know?

Brocade 8Gb HBAs enable end-to-end SAN Solutions using 8 Gb Fibre Channel technology for System x servers. They provide the ability to build high-performance, highly available SANs and are easy to set up and integrate into existing SAN configurations.

For local or remote management, Brocade provides Host Connectivity Manager (HCM) native GUI and CLI tools to configure and monitor its HBAs. In addition, Brocade DataCenter Fabric Manager (DCFM) provides unified, end-to-end management across fabrics with Brocade Fibre Channel switches and HBAs. Both DCFM and HCM provide open APIs and standards-based interfaces for integration with popular third-party applications and higher-level frameworks to help orchestrate Brocade hardware and SAN services.

Part number information

Table 1. Ordering part numbers and feature codes

Description	Part number	Feature code
Brocade 8Gb FC Single-port HBA	46M6049	3589
Brocade 8Gb FC Dual-port HBA	46M6050	3591

The part numbers for the Brocade 8Gb FC Single-port and Dual-port HBAs include the following items:

- FC HBA adapter with one or two SFPs installed and 3U bracket attached
- Quick install guide
- Support CD
- 2U bracket
- Safety flyer

Features

The Brocade 8Gb FC Single-port and Dual-port HBAs have the following features:

- Function at 8/4/2 Gbps (auto-negotiation)
- Persistent binding
- 2,048 concurrent logins
- PCI Express 2.0 x8 compliance, with MSI-X and INTx
- One (for Single-port) and two (for Dual-port) SFP+ with LC-style connectors
- Standard PCI Express card with low profile MD2 form factor
- Support for both standard and low-profile PCI-E slots

Specifications

The Brocade 8Gb FC Single-port and Dual-port HBAs have the following specifications:

- Data rate: 1600 MBps full duplex per port
- Performance: up to 500,000 IOPS per port
- Boot support: BIOS, UEFI, PCI BIOS 3.0
- Protocols: SCSI-FCP, FCP-2, FCP-3, FC-SP
- Standard supported: Enhanced Authentication (FC-SP), Network isolation (NPIV)
- Distance support: 50 meters at 8 Gbps on 62.5/125 μ m Multi-Mode Fiber (MMF)

Server support

The Brocade 8Gb FC Single-port and Dual-port HBAs are supported in the servers listed in the following tables.

The following tables list the System x servers that are compatible.

Support for System x and dense servers with Xeon E5/E7 v4 and E3 v5 processors

Table 1. Support for System x and dense servers with Xeon E5/E7 v4 and E3 v5 processors

Part number	Description	x3250 M6 (3943)	x3250 M6 (3633)	x3550 M5 (8869)	x3650 M5 (8871)	x3850 X6/x3950 X6 (6241, E7 v4)	nx360 M5 (5465, E5-2600 v4)	sd350 (5493)
46M6049	Brocade 8Gb FC Single-port HBA	N	N	N	N	Y	Y	N
46M6050	Brocade 8Gb FC Dual-port HBA	N	N	N	N	Y	Y	N

Support for servers with Intel Xeon v3 processors

Table 2. Support for servers with Intel Xeon v3 processors

Part number	Description	x3100 M5 (5457)	x3250 M5 (5458)	x3500 M5 (5464)	x3550 M5 (5463)	x3650 M5 (5462)	x3850 X6/x3950 X6 (6241, E7 v3)	nx360 M5 (5465)
46M6049	Brocade 8Gb FC Single-port HBA	Y	Y	Y	Y	Y	Y	Y
46M6050	Brocade 8Gb FC Dual-port HBA	Y	Y	Y	Y	Y	Y	Y

Support for servers with Intel Xeon v2 processors

Table 3. Support for servers with Intel Xeon v2 processors

Part number	Description	x3500 M4 (7383, E5-2600 v2)	x3530 M4 (7160, E5-2400 v2)	x3550 M4 (7914, E5-2600 v2)	x3630 M4 (7158, E5-2400 v2)	x3650 M4 (7915, E5-2600 v2)	x3650 M4 BD (5466)	x3650 M4 HD (5460)	x3750 M4 (8752)	x3750 M4 (8753)	x3850 X6/x3950 X6 (3837)	x3850 X6/x3950 X6 (6241, E7 v2)	dx360 M4 (E5-2600 v2)	nx360 M4 (5455)
46M6049	Brocade 8Gb FC Single-port HBA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
46M6050	Brocade 8Gb FC Dual-port HBA	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

See ServerProven for the latest information on the adapters supported by each System x server type:
<http://www.lenovo.com/us/en/serverproven/xseries/sharedstorage/samatrix.shtml>.

Operating system support

The Brocade 8Gb FC Single-port and Dual-port HBAs support the following operating systems:

- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008, Datacenter x64 Edition
- Microsoft Windows Server 2008, Datacenter x86 Edition
- Microsoft Windows Server 2008, Enterprise x64 Edition
- Microsoft Windows Server 2008, Enterprise x86 Edition
- Microsoft Windows Server 2008, Standard x64 Edition
- Microsoft Windows Server 2008, Standard x86 Edition
- Microsoft Windows Server 2008, Web x64 Edition
- Microsoft Windows Server 2008, Web x86 Edition
- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 10 for x86
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- SUSE LINUX Enterprise Server 11 with Xen for AMD64/EM64T
- SUSE Linux Enterprise Server 12
- SUSE Linux Enterprise Server 12 with XEN
- VMware ESX 4.1
- VMware ESXi 4.1
- VMware vSphere 5.0 (ESXi)
- VMware vSphere 5.1 (ESXi)
- VMware vSphere 5.5 (ESXi)
- VMware vSphere 6.0 (ESXi)

See ServerProven for the latest information about the specific versions and service packs supported: <http://www.lenovo.com/us/en/serverproven/xseries/sharedstorage/samatrix.shtml>. Click the check mark associated with the System x server in question to see the details of operating system support.

Physical specifications

The Brocade 8Gb FC Single-port and Dual-port HBAs have the following physical specifications:

- Height: 68 mm (2.7 in)
- Width: 167 mm (6.6 in)
- Depth: 18 mm (0.7 in)
- Weight: 127 g (0.28 lb)

Operating environment

The adapter is supported in the following environment:

- Temperature:
 - Operating: 0° to 55°C (32° to 131°F) at 0 to 914 m (0 to 3,000 ft)
 - Storage: -43° to 73°C (-40° to 163°F) at 914 to 2,133 m (3,000 to 7,000 ft)
- Relative humidity:
 - Operating: 5% to 93% (relative, non-condensing)
 - Non-operating: 5% to 95% (relative, non-condensing)

Warranty

One-year limited warranty. When installed in a System x server, these cards assume the system's base warranty and any warranty upgrade.

Related publications and links

For more information, refer to these documents:

- US Announcement Letter for the Brocade 8Gb FC Single-port and Dual-port HBAs
<http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS109-076>
- Lenovo product page for Fibre Channel HBAs:
<http://shop.lenovo.com/us/en/systems/servers/options/systemx/storage/raid-adapters/fibre-channel-hba/>
- QLogic page for Lenovo products, including product information and drivers
<http://qlogic.com/go/lenovo>
- System x Configuration and Options Guide
<http://ibm.com/systems/xbc/cog/>
- ServerProven compatibility information for System x HBAs
<http://www.lenovo.com/us/en/serverproven/xseries/sharedstorage/samatrix.shtml>
- Brocade 8Gb FC Single-port and Dual-port HBAs Quick Installation and User's Guides
<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5079304>
- Brocade 8Gb FC Single-port and Dual-port HBAs Quick Installation Guide
<http://ibm.com/support/entry/portal/docdisplay?Indocid=MIGR-5079305>

Related product families

Product families related to this document are the following:

- [Host Bus Adapters](#)

Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead. However, it is the user's responsibility to evaluate and verify the operation of any other product, program, or service. Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
8001 Development Drive
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary. Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in this publication to non-Lenovo Web sites are provided for convenience only and do not in any manner serve as an endorsement of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk. Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

© Copyright Lenovo 2024. All rights reserved.

This document, TIPS0719, was created or updated on June 7, 2016.

Send us your comments in one of the following ways:

- Use the online Contact us review form found at:
<https://lenovopress.lenovo.com/TIPS0719>
- Send your comments in an e-mail to:
comments@lenovopress.com

This document is available online at <https://lenovopress.lenovo.com/TIPS0719>.

Trademarks

Lenovo and the Lenovo logo are trademarks or registered trademarks of Lenovo in the United States, other countries, or both. A current list of Lenovo trademarks is available on the Web at <https://www.lenovo.com/us/en/legal/copytrade/>.

The following terms are trademarks of Lenovo in the United States, other countries, or both:

Lenovo®

ServerProven®

System x®

The following terms are trademarks of other companies:

Intel® and Xeon® are trademarks of Intel Corporation or its subsidiaries.

Linux® is the trademark of Linus Torvalds in the U.S. and other countries.

Microsoft®, Windows Server®, and Windows® are trademarks of Microsoft Corporation in the United States, other countries, or both.

Other company, product, or service names may be trademarks or service marks of others.