Brocade 10Gb CNA for IBM System x (Withdrawn)
Product Guide (withdrawn product)

The Brocade 10Gb CNA for IBM System x is a PCI Express 2.0 x8 10Gb Converged Network Adapter with two SFP+ cages. The adapter can support either an SFP+ Multimode Fiber SR optical module or an SFP+ active copper cable.

This adapter supports 10 Gbps per port maximum bidirectional throughput for high-bandwidth storage (SAN) and networking (LAN) traffic, with full hardware offload for Fibre Channel over Ethernet (FCoE) protocol processing. The PCI Express low profile form factor adapter can be used in either a standard PCI-E slot or a low profile PCI-E slot.

Figure 1 shows the Brocade 10Gb CNA for IBM System x.

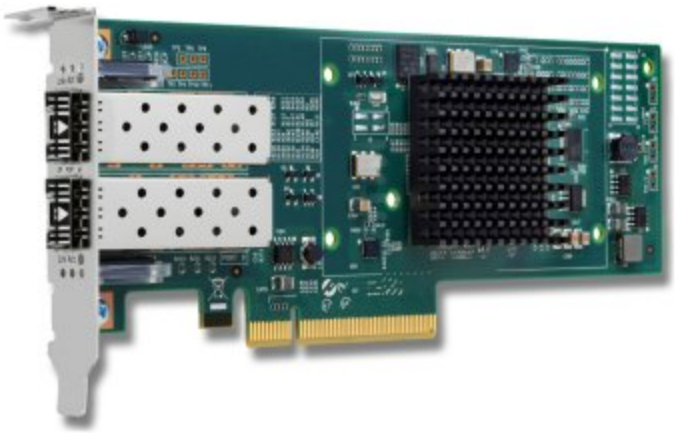

Figure 1. Brocade 10Gb CNA for IBM System x

Did you know?
Convergence of SAN and LAN traffic on a single adapter and wire helps lower the total cost of ownership (TCO) by reducing the reduced hardware, power, cooling, management, and maintenance costs. It offers investment protection by providing seamless compatibility with existing Fibre Channel (FC) Storage, ethernet networks, driver software, and management applications.

Part number information

Table 1. Ordering part number and feature code

Description	Part number	Feature code
Brocade 10Gb CNA for IBM System x	42C1820	1637
Brocade 10Gb SFP+ SR Optical Transceiver	49Y4216	0069

The part number for the Brocade 10Gb CNA includes the following items:

- One Brocade 10Gb CNA for IBM System x
- 2U bracket
- Support CD and safety flyer

The adapter supports either transceivers or twin-ax direct-attached copper (DAC) cables as listed in Table 2.

Table 2. Supported Transceivers and DACs

Description	Option part number
Optical Transceivers	
Brocade 10Gb SFP+ SR Optical Transceiver	49Y4216
Active DAC/Twinax cables	
IBM Twinax Direct Attach Cable (DAC) 1m	45W2398
IBM Twinax Direct Attach Cable (DAC) 1m (8-pack)	45W2401
IBM Twinax Direct Attach Cable (DAC) 3m	45W2408
IBM Twinax Direct Attach Cable (DAC) 3m (8-pack)	45W2409
IBM Twinax Direct Attach Cable (DAC) 5m	45W3039
IBM Twinax Direct Attach Cable (DAC) 5m (8-pack)	45W3042
Active DAC Cable, 1 m Act 10 Gb Ethernet	46K6182
Active DAC Cable, 3 m Act 10 Gb Ethernet	46K6183
Active DAC Cable, 5 m Act 10 Gb Ethernet	46K6184

Features

The Brocade 10Gb CNA for IBM System x has the following features:

- PCI Express x8 2.0 Generation 2 compliance
- Two SFP+ cages for either SFP+ Fiber SR or SFP+ Active Copper
- Standard PCI Express half length card with low profile form factor
- Support for both standard PCI-E slot and low profile PCI-E slot
- Support for 10Gb Converged Enhanced Ethernet (CEE)
- Support for FC over Converged Enhanced Ethernet (FCoCEE)
- Full hardware offload for FC protocol processing
- Support for IPv4 and IPv6
- Support for SAN boot over CEE, PXE boot, and iSCSI boot

The Brocade 10Gb SFP+ SR Optical Transceiver has the following features:

- Laser Class 1 compliance
- Support for the SFP+ cages on the 42C1820 adapter
- Standard SFP+ form factor for multimode Fiber SR

Specifications

The Brocade 10Gb CNA for IBM System x has the following specifications:

- Connectivity: Supports direct-attach copper cabling or Brocade 10Gb SFP+ SR Optical Transceiver (49Y4216)
- Performance: 500,000 IOPS per port; Support for 2048 logins and 4096 exchanges
- Host interface: PCI Express 2.0 x8
- Stateless offload:
  - IPv4/IPv6,
  - TCP and UDP checksum offload
  - IPv4 header checksum offload
  - TCP Segmentation Offload (TSO)
  - Receive Side Scaling (RSS)
  - Large Send Offload (LSO)
  - Header data split
  - VLAN insertion/stripping
  - VLAN filtering
- Throughput: 10 Gbps full-duplex line rate
- Topology: Any 10 Gb Ethernet network
- Power dissipation: 12 W (Max)
- Transceivers: 10 Gbps small form factor pluggable (SFP+)
- Bracket size: Standard: 1.84 cm × 12.08 cm (.73 in × 4.76 in)
- Low profile: 1.84 cm × 8.01 cm (.73 in × 3.15 in)
- Management suite: Brocade Data Center Fabric Manager (DCFM)
- Form factor: Low-profile MD2 form factor PCI Express Card
- Dimensions: 16.77 cm × 6.89 cm (6.60 in × 2.71 in)

Operating environment

The adapter is supported in the following environment:

- Temperature:
  - Operating: 0° to 55°C (32° to 113°F) at 0 to 914 m (0 to 3000 ft)
  - Storage: -43° to 73°C (-40° to 163°F) at 0 to 914 m (0 to 3000 ft)
- Relative humidity: 5% to 93% (non-condensing)

Supported servers

The Brocade 10Gb CNA for IBM System x is supported in the IBM System x servers that are listed in Table 3.

Table 3. Supported System x servers (part 1)

	x3100 M3	x3200 M2	x3200 M3	x3250 M2	x3250 M3	x3350	x3400	x3400 M2	x3400 M3	x3455	x3500	x3500 M2	x3500 M3
Brocade 10Gb CNA for IBM System x	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Table 3. Supported System x servers (part 2)

	x3550 M2	x3550 M3	x3620 M3	x3630 M3	x3650	x3650 M2	x3650 M3	x3655	x3690 X5	x3755	x3755 M3	x3850 M2	x3950 M2	x3850 X5
Brocade 10Gb CNA for IBM System x	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

See IBM ServerProven for the latest information about the System x server that this adapter supports: http://ibm.com/servers/eserver/serverproven/compat/us/

Popular configurations

This section illustrates how the Brocade 10Gb CNA for IBM System x can be used in configurations.

Figure 2 shows Brocade 10Gb CNA installed in a supported rack server. The server is connected to the IBM System Storage DS4700 via IBM Converged Switches B32.

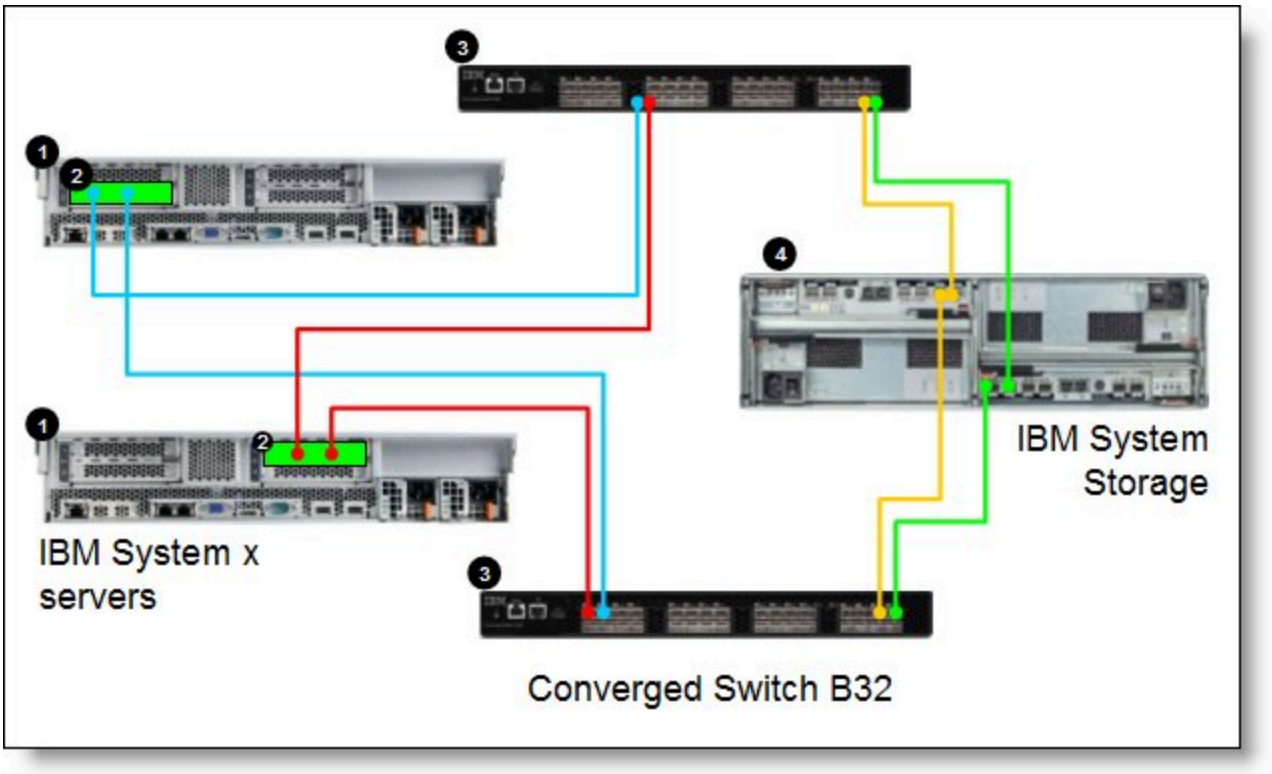

Figure 2. x3650 M2 server with Brocade 10Gb CNA connected to an external IBM System Storage DS4700

The parts used are listed in Table 4.

Table 4. Components used when connecting Brocade 10Gb CNA to external disk storage (Figure 2)

Diagram reference	Part number/machine type	Description	Quantity
1	Varies	Supported server	2
2	42C1820	Brocade 10Gb CNA for IBM System x	2
2	49Y4216	Brocade 10Gb SFP+ SR Optical Transceiver	4
3	3758 B32	IBM Converged Switch B32	2
4	1814-70A or 1814-70H	IBM System Storage DS4700 (Model 70 or Model 72)	1

This configuration also requires cabling between the servers and the IBM Converged Switches B32 and between the IBM Converged Switches B32 and storage system. (The cable part numbers are not listed in Table 3.)

The Brocade 10Gb CNA for IBM System x, combined with the top-of-rack IBM Converged Switch B32 (Brocade 8000 FCoE switch) and Brocade Data Center Fabric Manager (DCFM), provide a powerful 10 Gbps solution that improves TCO by consolidating FC and Ethernet traffic through FCoE. This new technology helps organizations significantly reduce their power, cooling, and cabling costs through the use of a single adapter.

Supported operating systems

The Brocade 10Gb CNA for IBM System x supports the following operating systems:

- Microsoft Windows Server 2003, Web Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter Edition
- Microsoft Windows Server 2003/2003 R2, Datacenter x64 Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise Edition
- Microsoft Windows Server 2003/2003 R2, Enterprise x64 Edition
- Microsoft Windows Server 2003/2003 R2, Standard Edition
- Microsoft Windows Server 2003/2003 R2, Standard x64 Edition
- 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
- Red Hat Enterprise Linux 4 AS for AMD64/EM64T
- Red Hat Enterprise Linux 4 ES for AMD64/EM64T
- Red Hat Enterprise Linux 4 WS/HPC for AMD64/EM64T
- Red Hat Enterprise Linux 5 Server Edition
- Red Hat Enterprise Linux 5 Server x64 Edition
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE LINUX Enterprise Server 10 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for AMD64/EM64T
- SUSE LINUX Enterprise Server 11 for x86
- VMware ESX 4.1

See IBM ServerProven for the latest information about the specific versions and service packs that are supported. Select the system x server and then select the adapter to see the supported operating systems.

http://ibm.com/servers/eserver/serverproven/compat/us/

Warranty

The adapter has a 1-year limited warranty. When installed in a System x server these cards assume your system's base warranty and any IBM ServicePac upgrade.

Related publications

For more information refer to the following resources.

Brocade documentation:

- Brocade Adapters Administrator's Guide
- Brocade Adapters Installation and Reference Manual
- Brocade FCoE CNA Quick Installation Guide
- Brocade Fiber Channel HBA Quick Installation Guide
- Brocade Adapters Troubleshooting Guide
- Release Notes for Software Release v2.0.0.0

Available from: http://www.brocade.com/services-support/drivers-downloads/CNA/IBM.page#Docs

IBM documentation:

- 10Gb CNAs for IBM System x product page
  http://ibm.com/systems/x/options/storage/cna
- IBM US Announcement Letter for the Brocade 10Gb CNA
  http://ibm.com/common/ssi/cgi-bin/ssialias?infotype=dd&subtype=ca&&htmlfid=897/ENUS109-313
- IBM System x Configuration and Options Guide
  http://ibm.com/support/entry/portal/docdisplay?lndocid=SCOD-3ZVQ5W

Related product families

Product families related to this document are the following:

- Ethernet Adapters

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