

Flex System FC3172 2-port 8Gb FC Adapter Product Guide

The Flex System™ FC3172 2-port 8Gb FC Adapter enables high-speed access for Flex System compute nodes to connect to a Fibre Channel storage area network (SAN). This adapter is based on the proven QLogic 2532 8Gb ASIC design and works with the 8 Gb and 16 Gb Flex System Fibre Channel switches and pass-thru modules.

Figure 1 shows the Flex System FC3172 2-port 8Gb FC Adapter.



Figure 1. Flex System FC3172 2-port 8Gb FC Adapter

Did you know?

The performance bottleneck with Fibre Channel storage typically exists in the switching. By moving to 8 Gb adapters and switches, you can optimize the bottleneck to the storage controller, where it can be managed by expanding the disks attached to storage. When compared to the previous-generation 4 Gb adapters, the new-generation 8 Gb adapters double the throughput speeds for Fibre Channel traffic. As a result, you can manage increased amounts of data and possibly benefit from a reduced hardware expense.

The adapter connects to the midplane directly, without having to use cables or small form-factor pluggable (SFP) modules. By eliminating these components for up to 14 servers, the resulting savings alone can cover the investment in the chassis.

Part number information

Table 1 shows the part number to order this card.

Table 1. Part number and feature code for ordering

Description	Part number	Feature code (x86 servers)	Feature code (Power Systems)
Flex System FC3172 2-port 8Gb FC Adapter	69Y1938	A1BM	1764

The part number includes the following items:

- One Flex System FC3172 2-port 8Gb FC Adapter
- Documentation package

Features

The Flex System FC3172 2-port 8Gb FC Adapter has the following features and specifications:

- QLogic ISP2532 controller
- PCI Express 2.0 x4 host interface
- Bandwidth: 8 Gb per second maximum at half-duplex and 16 Gb per second maximum at full-duplex per port
- 8/4/2 Gbps auto-negotiation
- Support for FCP SCSI initiator and target operation
- Support for NPIV
- Support for full-duplex operation
- Support for Fibre Channel protocol SCSI (FCP-SCSI) and Fibre Channel Internet protocol (FCP-IP)
- Support for point-to-point fabric connection (F-port fabric login)
- Support for Fibre Channel Arbitrated Loop (FCAL) public loop profile: Fibre Loop-(FL-Port)-Port Login
- Support for Fibre Channel services class 2 and 3
- Configuration and boot support in UEFI
- APIs supported: SNIA HBA API V2, SMI-S, FDMI
- Support for Fabric Manager
- Power usage: 3.7 W typical
- RoHS 6 compliant

Supported servers

The following table lists the Flex System compute nodes that support the FC3172 2-port 8Gb FC Adapter.

Table 2. Supported servers

Description	Part number	x220 (7906)	x222 (7916)	x240 (8737, E5-2600)	x240 (8737, E5-2600 v2)	x240 (7162)	x240 M5 (9532)	x440 (7917)	x440 (7167)	x280 / x480 / x880 X6 (7903)	x280 / x480 / x880 X6 (7196)	p24L (1457)	p260 (7895)	p270 (7954)	p460 (7895)
Flex System FC3172 2-port 8Gb FC Adapter	69Y1938	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

See ServerProven at the following web address for the latest information about the expansion cards that are supported by each blade server type:

<http://www.lenovo.com/us/en/serverproven/flexsystem.shtml>

I/O adapter cards are installed in the slot in supported servers, such as the x240, as highlighted in the following figure.

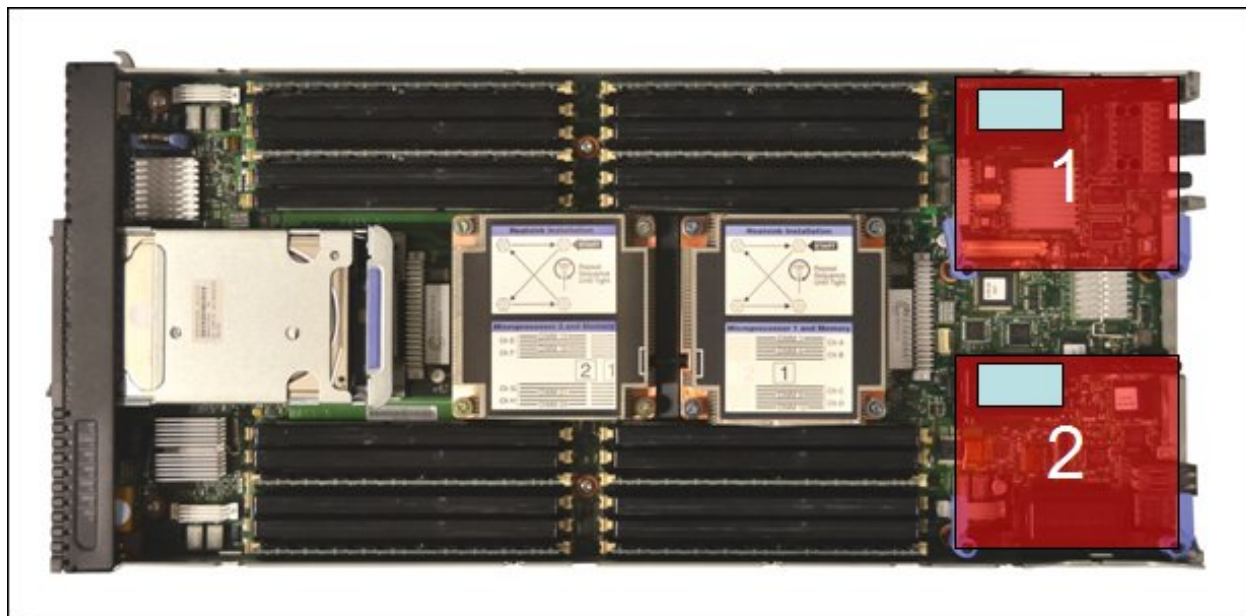


Figure 2. Location of the I/O adapter slots in the Flex System x240 Compute Node

Supported I/O modules

The FC3172 2-port 8Gb FC Adapter supports the I/O module listed in the following table. One or two compatible switches must be installed in the corresponding I/O bays in the chassis. Installing two switches means that both ports of the adapter are enabled. When the adapter paired with a 16Gb switch, those switch ports will operate at 8 Gbps.

Table 3. I/O modules supported with the FC3172 2-port 8Gb FC Adapter

Description	Part number	Support the FC3172 adapter
Flex System FC3171 8Gb SAN Switch	69Y1930	Yes
Flex System FC3171 8Gb SAN Pass-thru	69Y1934	Yes
Flex System FC5022 16Gb SAN Scalable Switch	88Y6374	Yes
Flex System FC5022 24-port 16Gb SAN Scalable Switch	00Y3324	Yes
Flex System FC5022 24-port 16Gb ESB SAN Scalable Switch	90Y9356	Yes

The following table shows the connections between adapters installed in the compute nodes to the switch bays in the chassis.

Table 4. Adapter to I/O bay correspondence

I/O adapter slot in the server	Port on the adapter	Corresponding I/O module bay in the chassis
Slot 1	Port 1	Module bay 1
	Port 2	Module bay 2
Slot 2	Port 1	Module bay 3
	Port 2	Module bay 4
Slot 3 (full-wide compute nodes only)	Port 1	Module bay 1
	Port 2	Module bay 2
Slot 4 (full-wide compute nodes only)	Port 1	Module bay 3
	Port 2	Module bay 4

The connections between the adapters installed in the compute nodes to the switch bays in the chassis is shown diagrammatically in the following figure.

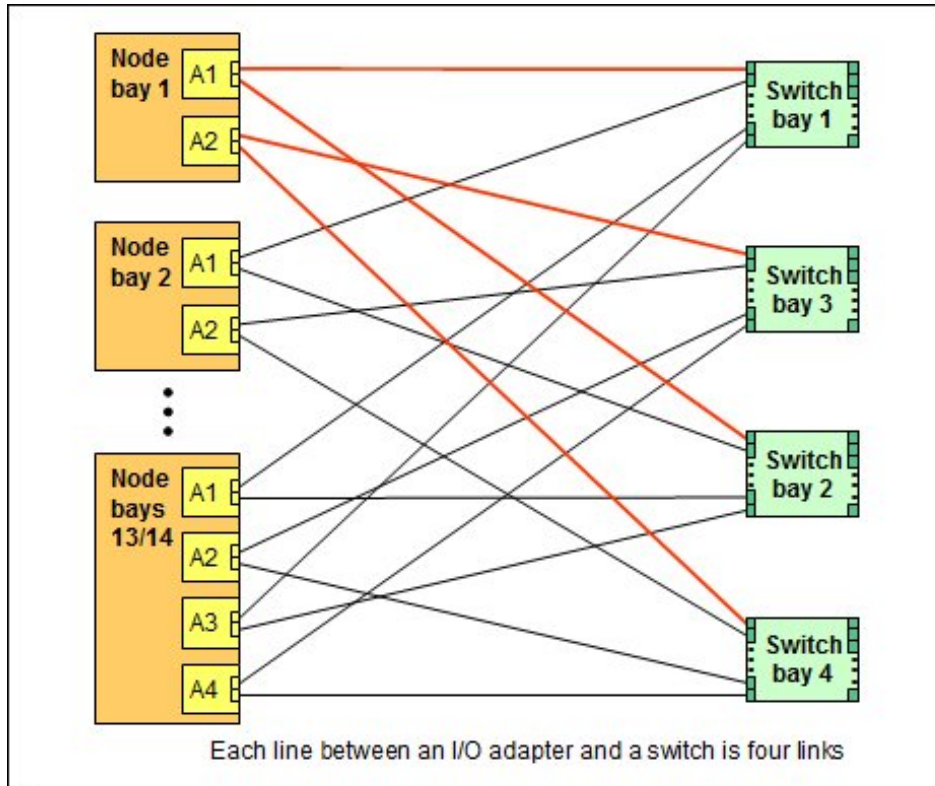


Figure 3. Logical layout of the interconnects between I/O adapters and I/O modules

Supported operating systems

The FC3172 2-port 8Gb FC Adapter supports the following operating systems on the x86 compute nodes:

- Microsoft Windows Server 2012
- Microsoft Windows Server 2012 R2
- Microsoft Windows Server version 1709
- Red Hat Enterprise Linux 6 Server x64 Edition
- SUSE Linux Enterprise Server 11 for AMD64/EM64T
- SUSE Linux Enterprise Server 12
- SUSE Linux Enterprise Server 15
- SUSE Linux Enterprise Server 15 with Xen
- VMware vSphere 5.1 (ESXi)
- VMware vSphere Hypervisor (ESXi) 5.5
- VMware vSphere Hypervisor (ESXi) 6.0
- VMware vSphere Hypervisor (ESXi) 6.5
- VMware vSphere Hypervisor (ESXi) 6.7

Operating system support may vary by server. For more information, see ServerProven at <http://www.lenovo.com/us/en/serverproven/>. Select the server in question, scroll down to the adapter, and click the + icon in that row to show the supported operating systems.

Regulatory compliance

The adapter conforms to the following standards:

- United States FCC 47 CFR Part 15, Subpart B, ANSI C63.4 (2003), Class A
- United States UL 60950-1, Second Edition
- IEC/EN 60950-1, Second Edition
- FCC - Verified to comply with Part 15 of the FCC Rules, Class A
- Canada ICES-003, issue 4, Class A
- UL/IEC 60950-1
- CSA C22.2 No. 60950-1-03
- Japan VCCI, Class A
- Australia/New Zealand AS/NZS CISPR 22:2006, Class A
- IEC 60950-1(CB Certificate and CB Test Report)
- Taiwan BSMI CNS13438, Class A
- Korea KN22, Class A; KN24
- Russia/GOST ME01, IEC-60950-1, GOST R 51318.22-99, GOST R 51318.24-99, GOST R 51317.3.2-2006, GOST R 51317.3.3-99
- IEC 60950-1 (CB Certificate and CB Test Report)
- CE Mark (EN55022 Class A, EN60950-1, EN55024, EN61000-3-2, EN61000-3-3)
- CISPR 22, Class A

Physical specifications

The dimensions and weight of the adapter are as follows:

- Width: 100 mm (3.9 inches)
- Depth: 80 mm (3.1 inches)
- Weight: 13 g (0.3 lb)

Shipping dimensions and weight (approximate):

- Height: 58 mm (2.3 in)
- Width: 229 mm (9.0 in)
- Depth: 208 mm (8.2 in)
- Weight: 0.4 kg (0.89 lb)

Related publications

For more information, see the following resources:

- Flex System Information Center (User's Guides for servers and options)
<http://publib.boulder.ibm.com/infocenter/flexsys/information>
- *Flex System Interoperability Guide*
<http://lenovopress.com/fsig>
- *Flex System Products and Technology by Lenovo, SG24-8255*
<http://lenovopress.com/sg248255>
- System x and Cluster Solutions configurator (x-config)
<https://lesc.lenovo.com/products/hardware/configurator/worldwide/bhui/asit/>

Related product families

Product families related to this document are the following:

- [Blade Storage Adapters](#)

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