QMI3572

Dual Port 8Gb FC & Dual Port 1Gb Ethernet to PCIe Expansion Card for IBM® BladeCenter® Servers
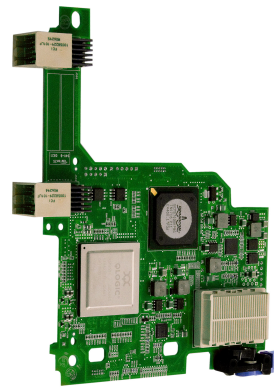
IBM Part Number: 44X1940

Benefits

- Lowest power consumption
- Highest data integrity on data and control paths
- Enhanced security protection
- Faster driver deployment and reduced interoperability issues with unified driver model

Features

- Fibre Channel 8Gb & Ethernet 1Gb to PCI Express (PCIe)
- 1600 MBps full-duplex per port (FC)
- 200,000 initiator IOPS per port (FC)
- StarPower™ with Dynamic Power Management and Cool HBA™ technologies
- Jumbo frame support (Ethernet)
- 802.1q VLAN tagging support for up to 64 VLANs (Ethernet)
- 802.3x flow control (Ethernet)

QMI3572 Host Bus Adapter. The QMI3572 is a PCI Express, dual port 8Gb FC and dual port 1Gb Ethernet expansion card for IBM BladeCenter servers.

Virtualization Optimized. The QMI3572 supports N_Port ID Virtualization (NPIV) by allowing multiple logical (virtual) connections to share the same physical port. Each logical connection has its own resources and the ability to be managed independently.

Power Optimized. The QMI3572 takes advantage of QLogic StarPower technology, ensuring power efficiency. QLogic StarPower technology offers dynamic power management to provide the necessary PCI Express bandwidth at the lowest power consumption. Low-power switching power supplies and thermally efficient layout allows the QMI3572 to operate without any additional airflow, making it a *Cool HBA*.

RAS Optimized. The QMI3572 provides the highest data integrity by ensuring Overlapping Protection Domains (OPD) on both the control and data paths. The dual-port design protects against "single point of failure" via BladeCenter midplane routing to redundant switch modules.

Security Optimized. The QMI3572 enables SAN-level authentication by supporting Fibre Channel-Security Protocol (FC-SP).

Management Optimized. The QMI3572 is backward compatible with 4Gb and 2Gb speeds. A single common driver per operating system for three generations of FC HBAs (8Gb, 4Gb, and 2Gb) simplifies deployment. QLogic's unified driver model (firmware embedded in the driver) eliminates potential interoperability issues between firmware and driver versions. The QMI3572's API compatibility with 4Gb products accelerates deployment while ensuring application compatibility.

Investment Protection. For over 15 years, QLogic has been a technological leader with products that address the current needs of customers, yet provide strong investment protection to support emerging technologies and standards. QLogic stands alone in the industry with its product portfolio depth and experience in successfully delivering technological solutions that address the needs of today and tomorrow.

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Fibre Channel Specifications

Negotiation
• 8/4/2-Gbps auto-negotiation

IOPS
• 200,000 initiator IOPS per port

Class of service
• 3

Topology
• FC-AL, FC-AL2, point-to-point, switched fabric

Protocols
• FCP-3-SCSI
• FC-Tape (FCP-2)

Ethernet Specifications

Data rate
• 10/100/1000

Advanced Ethernet
• 802.1q VLAN
• 802.3x flow control

Management
• Statistics gathering: (SNMP MIB II, Ethernet MIB (802.3x, Clause 30))

PCI Express Interface

Compliance
• *PCI Express Base Specification* rev. 2.0
• *PCI Bus Power Management Interface Specification* rev. 1.2

Physical and electrical
• IBM BladeCenter PCIe mezzanine slot connector
• StarPower link training
  – Maximum x4 lanes for Gen2 rate
  – Maximum x8 lanes for Gen1 rate

HBA Specifications

Airflow
• Provided by BladeCenter enclosure

Power consumption
• 9.1 watts (typical)
• 11.6 watts (maximum)

Form factor
• IBM CFFh form factor

Temperature
• 0°C/32°F to 55°C/131°F (operating)
• -40°C/-40°F to 70°C/158°F (non-operating)

Relative Humidity
• 10% to 90% (operating, non-condensing)
• 5% to 93% (non-operating, non-condensing)

RoHS compliance
• RoHS 6

Tools and Utilities

Management tools
• SANsurfer® FC HBA Manager
• SANsurfer FC HBA CLI
• Broadcom® Advanced Control Suite (BACS)

Device utilities
• Utilities for flashing bootcode
• Linux® scripting tools

Boot support
• BIOS, FCode, PXE Ethernet Boot

APIs
• SNIA HBA API V2, SMI-S, FDMI

Platform/Operating System Support

Hardware platforms (BladeCenter servers):
• HS12, HS21, HS21 XM
• JS12, JS21, JS22
• LS22, LS41, LS42

Operating systems (FC)
• Windows Server® 2003 and 2008
• Linux Red Hat® AS 4.x, 5.x
• Novell® SLES 9, 10
• NetWare® 6.5
• Solaris™ 10
• VMware® ESX 3.5 and ESXi 3.5 (targeted versions)

Operating systems (Ethernet)
• Ethernet drivers are available on IBM's web site.

Agency Approvals—EMI and EMC

US/Canada
• FCC Part 15, Subpart B, Class A; ICES-003, Class A

Europe
• EN55022, Class A

New Zealand/Australia
• AS/NZS 3548 Class A

Japan
• VCCI V-3/2004.4, Class A

Korea
• MIC

Taiwan
• BSMI (CNS 13438)

Agency Approvals—Safety

US/Canada
• UL, cUL: UL60950, CSA C22.2 No.60950

Europe
• 73/23/ECC Low Voltage Directive:
  – TUV: EN60950-1:2001, EN60825-1:1994+A1+A2, EN60825-2:1994+A1

Ordering Information

QMI3572
• The QMI3572 is available from IBM (IBM part number: 44X1940)

QLOGIC

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