SANblade® QMI2472

Dual Port 4-Gbps Fibre Channel (FC) CFFv Expansion Card for IBM BladeCenter®

IBM Part Number: 41Y8527

High Performance

- 300,000 IOPS delivers high I/O transfer rates for storage applications
- Intelligent interleaved DMA (iiDMA) ensures maximum utilization of data links
- Out-of-order frame reassembly (OoOFR) reduces congestion and retransmissions

Superior Scalability

- Multi-ID and N_Port virtualization ready. Allows physical ports to be part of multiple logical networks
- Virtual fabric (VSAN) ready. Allows physical ports to be part of multiple logical networks
- Comprehensive operating system (OS) driver support including Windows®, Linux™, Solaris™, NetWare®, VMware®, and AIX™

Enhanced Reliability

- Overlapping protection domains for continuous protection of internal data paths
- Dual-port design protects against "single point of failure" via BladeCenter midplane routing to redundant switch modules

QMI2472 Fibre Channel Expansion Card. The QMI2472 enables 4-Gbps Fibre Channel in a PCI-X Combo Form Factor (CFFv) for the IBM BladeCenter. The QMI2472 not only delivers unprecedented levels of performance and availability, but also provides intelligent networking features specific to enterprise class data centers.

Enterprise Class Features. The QMI2472 delivers unmatched performance by leveraging a single ASIC design, combining a unique hardware architecture to deliver over 300,000 IOPS, nearly 1.0 GBps throughput, and support for the PCI-X 133-MHz bus speed. More importantly, the QMI2472 HBA provides new intelligent storage networking features that redefine the enterprise class HBA, providing increased data protection, advanced frame routing, and enterprise wide management capabilities.

Simplified Setup. Point-and-click installation and configuration wizards simplify the HBA setup process. Storage administrators can quickly deploy HBAs across a SAN using QLogic SANsurfer HBA management tools and device utilities. The QMI2472 is also fully compliant with industry standard Application Programming Interfaces (APIs), including SNIA HBA API and SMI-S. This compatibility allows administrators to manage QLogic HBAs using third-party software applications.

Comprehensive Operating System Support. QMI2472 drivers exist for all major operating systems. A single driver strategy per OS allows storage administrators to easily deploy and manage HBAs in heterogeneous SAN configurations. In addition, QLogic's unique unified driver model, whereby firmware is bundled with the driver, eliminates any potential interoperability issues between the driver and firmware and reduces the number of software components to be managed. QLogic's comprehensive driver suite includes support for Intel, AMD, and Power PC based BladeCenter blades.

Guaranteed Interoperability. Storage partner certifications, combined with agency and regulatory testing, ensures all products meet world compliance hardware and software specifications. All our HBAs are tested extensively with third-party hardware, along with multiple software applications, to ensure best-in-class percent SAN interoperability and compatibility. You can be confident purchasing QLogic HBAs to meet your FC storage networking needs.

SANblade QMI2472

Host Bus Interface Specifications

Bus interface

- 64-bit, 133-MHz PCI-X

Memory

- Integrated 512KB SRAM per port
- 1-MB flash (SPI)
- 2-KB NVRAM (SPI)
- 4-KB EEPROM (I_2C)

Hardware platforms

- IBM HS21
- IBM LS21
- IBM LS41
- IBM JS21

Compliance

- *PCI-X Protocol Addendum to the PCI Local Bus Specification*, revision 2.0a
- *PCI Bus Power Management Interface Specification*, revision 1.1

Fibre Channel Specifications

Data rate

- 4/2/1 Gbps auto-negotiation (4.25/2.125/1.0625 Gbps)

Performance

- 150,000 IOPS per port

Topology

- Point-to-point (N_Port)
- Arbitrated loop (NL_Port)
- Switched fabric (N_Port)

Logins

- Support for F_Port and FL_Port login
- 2,048 concurrent logins and 2,048 active exchanges per port

Protocols

- FCP (SCSI-FCP)
- FC-TAPE (FCP-2)

Compliance

- *SCSI-3 Fibre Channel Protocol (SCSI-FCP)*
- *Fibre Channel Physical and Signaling Interface (FC-PH)*
- *Fibre Channel Physical and Signaling Interface 2nd Generation (FC-PH-2)*
- *Third Generation Fibre Channel Physical and Signaling Interface (FC-PH-3)*
- *Fibre Channel-Arbitrated Loop (FC-AL-2)*
- *Fibre Channel Fabric Loop Attachment Technical Report (FC-FLA)*
- *Fibre Channel-Private Loop Direct Attach Technical Report (FC-PLDA)*
- *Fibre Channel Tape (FC-TAPE) profile*
- *SCSI Fibre Channel Protocol-2 (FCP-2)*
- *Second Generation FC Generic Services (FC-GS-3)*
- *Third Generation FC Generic Services (FC-GS-3)*
- *Fibre Channel Framing and Signaling (FC-FS)*

Physical Specifications

Ports

- Dual 4-Gbps FC

Form factor

- IBM Combo Form Factor (CFFv)

Environment and Equipment Specifications

Airflow

- No airflow required

Temperature

- Operating: 0°C/32°F to 55°C/131°F
- Storage: -40°C/-40°F to 70°C/158°F

Humidity

- Relative (non-condensing): 5% to 95%
- Storage: 5% to 95%

Power dissipation

- 8.0W (maximum)

Tools and Utilities

Management tools

- SANsurfer FC HBA Manager
- SANsurfer FC HBA Command Line Interface (CLI)

Device utilities

- FLASUTIL for updating:
  - Firmware
  - Boot code
  - HBA parameters

Boot support

- BIOS
- FCode

APIs

- SNIA HBA API V2
- SMI-S
- FDMI

Operating systems

- Windows
- Linux – Red Hat
- Linux – SuSE
- NetWare
- Solaris
- VMware
- AIX (IBM supplied driver)

Ordering Information

- The QMI2472 is available from IBM (IBM part number: 41Y8527)