



SANblade® QMH2462

Dual Port 4-Gbps Fibre Channel (FC) HBA for HP® c-Class BladeSystem

HP Part Number: 403619-B21

High Performance

- 300,000 IOPS (150,000 IOPS per port) 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 ports
- Comprehensive operating system (OS) driver support including Windows®, Linux®, VMware®, NetWare®, and HP-UX

Enhanced Reliability

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

DATA SHEET



QMH2462 Fibre Channel HBA. The QMH2462 enables 4-Gbps Fibre Channel in the HP c-Class BladeSystem. The QMH2462 not only delivers unprecedented levels of performance and availability, but also intelligent networking features specific to enterprise class data centers.

Enterprise Class Features. The QMH2462 delivers unmatched performance by leveraging a single ASIC design, combining a unique hardware architecture to deliver over 300,000 IOPS, nearly 1.6 GBps throughput, and support for PCI Express x4 bus speeds. More importantly, the QMH2462 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 simply the HBA setup process. Storage administrators can quickly deploy HBAs across a SAN using QLogic SANsurfer® HBA management tools and device utilities. The QMH2462 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. QMH2462 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 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® and AMD® based BladeSystem blades.

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

Host Bus Interface Specifications**Bus interface**

- PCI Express x4

Memory

- 1-MB SRAM per port
- 1-MB flash (SPI)
- 2-KB NVRAM (SPI)
- 4-KB EEPROM (I₂C)

Hardware platforms

- HP c-Class BladeSystem

Compliance

- PCI Express Base Specification, rev. 1.0a
- 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)
- IP (FC-IP)
- FC-TAPE (FCP-2)

Compliance

- SCSI-3 Fibre Channel Protocol (SCSI-FCP)
- Fibre Channel Physical and Signaling Interface (FC-PH)
- Fibre Channel 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

- HP c-Class Type 1 mezzanine form factor

Environment and Equipment Specifications**Airflow**

- Provided by BladeSystem enclosure

Temperature

- Operating: 10°C/50°F to 35°C/95°F system inlet temperature
- Storage: -40°C/-40°F to 70°C/158°F

Humidity

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

Power dissipation

- 6.0W (maximum)

Tools and Utilities**Management tools**

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

Device utilities

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

Boot support

- BIOS
- EFI

APIs

- SNIA HBA API V2
- SMI-S
- FDMI

Operating systems

- Windows
- Linux – Red Hat®
- Linux – SuSE®
- VMware
- NetWare
- HP-UX (HP supplied driver)

Ordering Information

- The QMH2462 is available from HP (HP part number: 403619-B21)



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