

HPE QR559A Datasheet



HPE SN1000E 16GB 2-PORT PCIE FIBRE CHANNEL HOST BUS ADAPTER, 676881-001

QR559A

Exceptional price/performance, advanced management functionality that cashave days off installing and managing adapters, coupled with up to 3x better IOPS performance per watt, make Emulex LightPulse 16G Fibre Channel (16GFC) host bus adapters (HBAs) the clear choice for the toughest virtualized, cloud and missiocritical deployments. The LightPulse single-channel LPe16000 (HP QR558A) and dual-channel LPe16002 (HP QR559A) feature the Emulex bullet-proof driver-stack, backward compatibility to 4 and 8G Fibre Channel HBAs and rock-solid reliability with a heritage that spans back to the first generatioof Fibre Channel adapters to today's 16GFC adapters. Emulex is trusted by data centers the world-over, with more tha11 millioHBA ports shipped and installed to date.

Proven Design, Architecture and Interface

The Emulex LightPulse highly integrated multi processor design minimizes onboard components to improve host performance and efficiency. Advanced error-checking features ensure the integrity of block data as it traverses the storage area network (SAN). Emulex's firmware-based architecture enables feature and performance upgrades without costly hardware changes.

The unique 4th Generation Service Level Interface (SLI™) allows use of a common driver across all models of Emulex HBAs on any operating system (OS) platform. Installation and management facilities are designed to minimize server reboots and further simplify deployment.

Powerful Management Software for Maximum Data Center Efficiency

The Emulex OneCommand™ Manager enterprise class management application features a multi-protocol, cross-platform architecture, that provides centralized management of all Emulex HBAs and Universal Converged Network Adapters (UCNAs). This enables IT administrators to manage Fibre Channel (FC), Fibre Channel over Ethernet (FCoE), Internet Small Computer System Interface (iSCSI) and Network Interface Card (NIC) adapters with one tool for maximum efficiency. The unique OneCommand Manager plug-in for VMware vCenter™ enables adapters to be managed directly within the VMware environment, further simplifying the management process.

Key Benefits

- Maximum performance—over 1 million input/output operations per second (IOPS) to support larger server virtualization deployments and scalable cloud initiatives, as well as performance to match new multi-core processors, SSDs and faster server host bus architectures
- Improves IT staff productivity through simplified deployment and management
- Reduces the number of cards, cables and PCIe slots required
- Exceptional performance per watt and price/performance ratios
- Integrates seamlessly into existing SANs
- Allows application of best practices, tools and processes with virtual server deployments
- Assures data availability and data integrity

Key Features

- vScale™ performance and scalability—multi-core ASIC engine with eight cores supports 255 VFs, 1024 MSi-X and 8192 logins/open exchanges for maximum VM density—up to 4x more than other adapters
- 2x management functionality, and takes half the time to manage with OneCommand Manager - Unique OneCommand Manager plug-in for VMware vCenter for centralized management of adapters within a VMware environment
- GreenState™ power efficiency—reduces data center power consumption and associated OPEX by delivering exceptional power to port ratios
- vEngine™ CPU offload—lowers CPU burden on host server, enabling support for more VMs
- Rock-solid reliability and thermal characteristics, essential for mission-critical, cloud and virtualized applications
- Support for Message Signaled Interrupts eXtended (MSI-X), improves host utilization and enhances application performance
- Support for 16G, 8G and 4G FC devices
- Comprehensive virtualization capabilities with support for N_Port ID Virtualization (NPIV) and Virtual Fabric
- Host-to-fabric Fibre Channel Security Protocol (FC-SP) authentication
- Commodrivers model, allows a single driver to support all Emulex HBAs on a given OS

Specifications

General

- The host system interface of the XE201 controller consists of an eight-lane (x8) PCI Express PCIe 2.0 bus (backward compatibility to PCIe 1.0 supported)

Industry Standards

- Current ANSI/IETF Standards: FC-PI-4;
- FC-PI-5; FC-FS-2 with amendment 1; FC-AL-2 with
- amendments 1 and 2; FC-LS-2; FC-GS-6; FC-DA;
- FC-SP-2; FCP-4; FC-MJS; FC-SB-4; FC-SP;

- SPC-4; SBC-3; SSC-3; RFC4338
- Legacy ANSI/IETF standards: FC-PH; FC-PH-2;
- FC-PH-3; FC-PI; FC-PI-2; FC-FS; FC-AL;
- FC-GS-2/3/4/5; FCP; FCP-2; FC-SB-2; FC-FLA;
- FC-HBA; FC-PLDA; FC-TAPE; FC-MI; SPC-3;
- SBC-2; SSC-2; RFC2625
- PCIe base spec 2.0
- PCIe card electromechanical spec 2.0
- Fibre Channel class 2 and 3
- PHP hot plug-hot swap

Architecture

- Single-channel (LPe16000) or dual-channel (LPe16002)
- Supports 16GFC, 8Gb FC and 4Gb FC link speeds,
- automatically negotiated
- Supports up to 2 FC ports at 16Gb FC max
- (dual port model)
- Integrated data buffer and code space memory

Comprehensive OS Support

- Windows
- Linux
- VMware ESX/ESXi

Hardware Environments

- HP Proliant ML & DL G7 Server Families, DL980 G7

Optical

- Data rates: 14.025 Gb/s (1600MB/s); 8.5 Gb/s
- (800MB/s); 4.25 Gb/s (400 MB/s) (auto-detected)
- Optics: Short wave lasers with LC type connector
- Cable: Operating at 16Gb
 - - 15m at 16Gb on 62.5/125 μ m OM1 MMF
 - - 35m at 16Gb on 50/125 μ m OM2 MMF
 - - 100m at 16Gb on 50/125 μ m OM3 MMF
 - - 125m at 16Gb on 50/125 μ m OM4 MMF

Physical Dimensions

- Short, low profile MD2 form factor card
- 167.64mm x 68.91mm (6.60" x 2.71")
- Standard bracket (low profile available)

Power supply 1.8V, 1.2V, 0.9V

- Volts: +3.3, +12
- Operating temperature: 0° to 55° C (32° to 131° F)
- Storage temperature: -40° to 70° C (-40° to 158° F)
- Relative humidity

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