



The Ultimate in Performance



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QME8242-k

Dual-Port, 10Gbps Ethernet-to-PCIe Adapter for PowerEdge® Blade

Dell® Part Numbers:

- 430-4160 (APOS)
- 430-4158 (Factory)

High Performance

- 10Gbps per-port maximum throughput for high bandwidth storage (SAN) and networking (LAN) traffic
- Full hardware offload for Fibre Channel over Ethernet (FCoE) and iSCSI protocol processing
- Full support for TCP/IP and Ethernet performance enhancements such as Priority-Based Flow Control (802.1Qbb), jumbo frames, checksum offloads, and segmentation offloads
- NIC partitioning (NPAR)¹ support for faster networking performance in virtualized environments

Lower Total Cost of Ownership (TCO)

- Reduced hardware, cabling, power, cooling, and management costs through convergence of data and storage networking
- Create virtual adapters with guaranteed bandwidth allocations using unique NPAR¹ feature
- Manage networking, FCoE, and iSCSI with a single, unified management application (GUI and CLI)

Investment Protection

- Works seamlessly with existing Fibre Channel and iSCSI storage
- Communicates using Ethernet, the most common networking technology in the world
- Compatible with existing Fibre Channel and iSCSI drivers, and management applications that are currently deployed in millions of systems



QME8242-k. The QME8242-k Mezzanine Converged Network Adapter supports simultaneous LAN (TCP/IP) and SAN (FCoE, iSCSI) traffic at line-rate, 10Gbps Ethernet speed. These adapters interface to the host server with a PCIe® Gen2 x8 bus, ensuring no internal performance bottlenecks.

FCoE and iSCSI Hardware Offload. The QME8242-k adapter supports full hardware offload for FCoE and iSCSI protocol processing. QLogic's FlexOffload® reduces server CPU utilization for I/O operations, which leads to faster application performance and higher levels of consolidation in virtualized systems.

Convergence. The QME8242-k adapter reduces data center costs by converging data and storage networking. This convergence results in buying fewer adapters, cables, and switches. In addition, convergence offers lower power consumption, reduced cooling, and easier LAN and SAN management.

NIC Partitioning (NPAR)¹. One Converged Network Adapter is viewed by the server operating system (OS) as a flexible mix (up to four per physical port) of standalone NICs, FCoE adapters, and iSCSI adapters, with the ability to allocate guaranteed bandwidth to each partition. Because the NPAR feature is switch-agnostic, NIC partitioning functions independently of any fabric.

Common Drivers. The QME8242-k adapter is compatible with the same Fibre Channel and iSCSI software driver stacks that have been deployed and battle-hardened in millions of previous installations. Networking, FCoE, and iSCSI functionality can be controlled with QLogic's new, unified management application, QConvergeConsole (QCC). QCC provides single pane-of-glass management for QLogic's broad product line of storage and networking adapters.

Unmatched Expertise. QLogic has an unparalleled advantage in delivering this new Converged Network Adapter technology. QLogic is the undisputed leader in both Fibre Channel and iSCSI adapters, with years of experience providing Fibre Channel and Ethernet-based products.

¹ Based on QLogic VMflex™ technology

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Host Bus Interface Specifications

Bus Interface

- PCI Express® Gen2 x8

Hardware Platforms

- Dell PowerEdge M610, M710, M710HD, M910, M915

Host Interrupts

- INTx, MSI, and MSI-X

I/O Virtualization

- Single root I/O virtualization (SR-IOV) ready
- NPAR technology¹

Compliance

- *PCI Express Base Specification, rev. 2.0, PCI Bus Power Management Interface specification, rev. 1.2*

Ethernet Specifications

Throughput

- 10Gbps full-duplex line rate per-port

Ethernet Frame

- 1500 byte or 9600 byte (jumbo frame)

Stateless Offload

- IP, TCP, and UDP checksum offloads
- Large and giant send offload (LSO, GSO)
- Large receive offload (LRO)
- Receive side scaling (RSS)
- Interrupt coalescing
- VMware® NetQueue and Microsoft® VMQ

Compliance

- IEEE: 802.3ae (10Gb Ethernet), 802.1q (VLAN), 802.3ad (Link Aggregation), 802.1p (Priority Encoding), 802.3x (Flow Control), IPv4 (RFQ 791), IPv6 (RFC 2460), 802.1Qbb (Priority-Based Flow Control), 802.1Qaz (DCBX/Enhanced Transmission Selection), 802.1Qau (Congestion Notification)

FCoE Specifications

Logins

- Support for 2,048 concurrent logins and 2,048 active exchanges

Port Virtualization

- N_Port ID virtualization (NPIV)

Compliance

- *SCSI-3 Fibre Channel Protocol (SCSI-FCP), Fibre Channel Tape (FC-TAPE) Profile, SCSI Fibre Channel Protocol-2 (FCP-2), Second Generation FC Generic Services (FC-GS-2), Third Generation FC Generic Services (FC-GS-3), FCoE & FIP (FC-BB-5)*

iSCSI Specifications

Compliance

- RFC 3720 (iSCSI), RFC 3347 (iSCSI Requirements and Design Considerations), CHAP, iSNS, SLP

Tools and Utilities

Management Tools and Device Utilities

- QConvergeConsole: a unified management tool (GUI and CLI) for Fibre Channel/FCoE, iSCSI, and networking
- Native OS management tools for networking

Boot Support

- LAN and SAN boot (PXE, BIOS, UEFI)

APIs

- SNIA HBA API V2, SMI-S, FDMI, NDIS 5.x, NDIS 6.x, and WMI

Operating Systems

- Microsoft Windows Server® 2003 R2/SP2, 2008/2008 SP2/2008 R2; Red Hat® Linux® 5.5, 6.0; Novell® SLES 10 SP3, SLES 11 SP1; VMware ESX™/ESXi 4.1; Oracle® Solaris® (targeted), Citrix® XenServer™ (targeted)

Physical Specifications

Ports

- Dual 10Gbps Ethernet

Form Factor

- Dell custom mezzanine for PowerEdge blade servers

Environment and Equipment Specifications

Temperature

- Operating: 0°C/32°F to 55°C/131°F
- Storage: -20°C/-4°F to 70°C/158°F

Humidity

- Relative (non-condensing): 10% to 90%
- Storage: 5% to 95%

Agency Approvals

Safety

- US, Canada, Europe

EMI and EMC (Class A)

- US, Canada, Europe, Australia/New Zealand, Japan, Korea

Ordering Information

QME8242-k

- The QME8242-k is available from Dell.
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QLOGIC

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