QLOGIC
The Ultimate in Performance

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QME8142

Dual Port 10Gb FCoE Adapter for Dell PowerEdge® Blade Servers

Dell Part Number: W6P99

High Performance

- 10Gbps per port maximum throughput for high bandwidth storage (SAN) and networking (LAN) traffic
- Full hardware offload for FCoE protocol processing
- 250,000 IOPS per port deliver high I/O transfer rates for storage applications
- Full support for TCP/IP and Ethernet performance enhancements such as priority-based flow control (802.1Qbb), jumbo frames, checksum offloads, and segmentation offloads

Lower Total Cost of Ownership (TCO)

- Reduced hardware, cabling, power, cooling, and management costs through convergence of data and storage networking
- Preservation of familiar data and storage concepts resulting in lower training and administrative costs

Investment Protection

- Works seamlessly with existing Fibre Channel storage
- Communicates via Ethernet, the most common networking technology in the world
- Compatible with existing Fibre Channel drivers and management applications that have been deployed in millions of current systems

Fibre Channel over Ethernet (FCoE) Technology. FCoE provides an opportunity to reduce data center costs by converging data and storage networking. Standard TCP/IP and Fibre Channel traffic can both run on the same high speed 10Gbps Ethernet wire, resulting in cost savings through reduced adapter, switch, cabling, power, cooling, and management requirements. FCoE has gained rapid market traction because it delivers excellent performance, reduces data center TCO, and protects current data center investment.

iSCSI. The QME8142 even supports iSCSI storage protocol using iSCSI software initiators, which are available with all major operating systems.

High Performance. The QME8142 boosts system performance with 10Gbps speed and full hardware offload for FCoE protocol processing. Cutting edge 10Gbps bandwidth eliminates performance bottlenecks in the I/O path with a 10X data rate improvement versus existing 1Gbps Ethernet solutions. Additionally, full hardware offload for FCoE protocol processing reduces system CPU utilization for I/O operations, which leads to faster application performance and higher levels of consolidation in virtualized systems.

Lower TCO. The QME8142 reduces data center costs through convergence. Now, one converged network adapter can do the work of a discrete Fibre Channel host bus adapter and Ethernet NIC. This convergence also means fewer cables, fewer switches, lower power consumption, reduced cooling, and easier LAN and SAN management.

Investment Protection. The QME8142 and FCoE are designed to preserve existing investment in Fibre Channel storage and core Ethernet switches and routers for data networking. The QME8142 leverages the same identical software driver stacks that have been deployed and battle-hardened in millions of previous installations, and preserves familiar Fibre Channel concepts such as WWNs, FC-IDs, LUN masking, and zoning.

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.

Host Bus Interface Specifications

Bus interface
- PCI Express® Gen1 x8 or PCI Express Gen2 x4

Hardware platforms
- Dell PowerEdge M600, M605, M610, M710, M805, M905

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 9000 byte (Jumbo Frame)

Stateless offload
- IP, TCP, and UDP checksum offloads
- Large and giant send offload (LSO, GSO)
- Receive side scaling (RSS)
- Header-data split
- Interrupt coalescing
- NetQueue

Enhanced Ethernet
- Priority-based flow control (802.1Qbb rev. 0)
- Enhanced transmission selection (802.1Qaz rev. 0)
- DCBX protocol (802.1Qaz rev. 0)

Compliance
- *IEEE: 802.3ae (10Gb Ethernet), 802.1q (VLAN), 802.1p (Priority Encoding), 802.3x (Flow Control), 802.3ap (KX/KX4), 802.3ak (CX4), IEEE 1149.1 (JTAG), IPv4 Specification (RFC 791), IPv6 Specification (RFC 2460), TCP/UDP Specification (RFC 793/768), ARP Specification (RFC 826)*

FCoE Specifications

Performance
- 250,000 IOPS per port

Logins
- Support for 2048 concurrent logins and 2048 active exchanges

Class of service
- Class 3

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

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)*

Tools and Utilities

Management tools and device utilities
- SANsurfer® (GUI and CLI) for FCoE
- SANsurfer (CLI) and OS-based management tools for NIC
- Utilities for programming boot code; Linux® scripting tools

Boot support
- LAN and SAN boot (PXE, BIOS, UEFI, FCode)

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

Operating systems
- Windows Server® 2003, 2008, 2008 R2; Red Hat® AS 5.*x;* Novell® SLES 10.*x* and 11; VMware ESX/ESXi 4.0

Physical Specifications

Ports
- Dual 10Gbps Ethernet

Form factor
- Dell PowerEdge mezzanine card

Environment and Equipment Specifications

Airflow
- Provided by PowerEdge enclosure

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%

Power dissipation
- 3.6 watts (typical)

Agency Approvals—Product Safety

US/Canada
- UL60950-1, CSA C22.2 No.60950-1-03

Europe
- TUV: EN60950-1:2006, IEC60950-1:2005 (CB cert)

Agency Approvals—EMI and EMC

US/Canada
- ANSI C63.4-2003 requirements for CISPR 22:2005 Class A limits; FCC Part 15; CAN/CSA-CEI/IEC CISPR 22:02

Europe
- EN 55022:2006 +A1:2007 / IEC CISPR 22:2005 +A1:2005; EN 55024:1998 +A1:2001 +A2:2003 / CISPR 24:1997 +A1:2001 +A2:2002; EN 61000-3-2:2006 / IEC 61000-3-2:2005; EN 61000-3-3:1995 +A1:2001 +A2:2005 / IEC 61000-3-3:1994 +A1:2001 +A2:2005

Japan
- VCCI V-3 / 2009.04; VCCI V-4 / 2009.04

Korea
- KN 22 (2008-05); KN 24 (2008-05)

Australia/New Zealand
- C-Tick: EN 55022:2006 +A1:2007 / IEC CISPR 22:2005 +A1:2005

Ordering Information

QME8142
- The QME8142 is available from Dell (Dell part number: W6P99)

Dell has tested and certified the QME8142 QLogic Series adapter with Dell™ PowerEdge™ M600, M605, M610, M710, M805, and M905 blade servers and storage systems. Dell specifically disclaims knowledge of the accuracy, completeness or substantiation for all statements and claims made in this document regarding the properties, capabilities, speeds or qualifications of the QLogic 8100 Series adapters.

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Corporate Headquarters QLogic Corporation 26650 Aliso Viejo Parkway Aliso Viejo, CA 92656 949.389.6000 www.qlogic.com

Europe Headquarters QLogic (UK) LTD. Quatro House Lyon Way, Frimley Camberley Surrey, GU16 7ER UK +44 (0) 1276 804 670