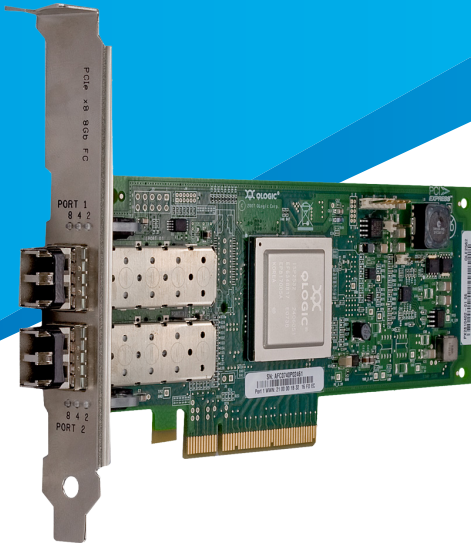**QLOGIC®** The **Ultimate** in **Performance**

2500 Series
8Gb-to-PCIe Fibre Channel Adapters

- Fibre Channel Express

- 1600MBps (full-duplex) per port

- 200,000 initiator and target IOPS per port

- StarPower™ technology

- Virtualization optimized

- Power optimized

- Reliability, availability, serviceability (RAS) optimized

- Security optimized

- Management optimized. Deployments managed through QConvergeConsole® management applications (GUI and CLI)

OVERVIEW

The 2500 Series Adapters are designed to meet the business requirements of the enterprise data center through the lowest possible power consumption and the highest level of performance. These adapters interface to the host server with a PCIe® Gen2 bus, ensuring no internal performance bottlenecks.

The 2500 Series 8Gb Adapters are the highest performing adapters in QLogic's industry-leading Fibre Channel technology portfolio. Choosing QLogic's 8Gb adapters will not only meet the needs of today's demanding data center requirements by providing power and virtualization optimization, but investment protection is built in through backward compatibity with previous generations' (4Gb and 2Gb) technology. In addition, the 2500 Series Adapters work in both PCI Express® Gen1 and Gen2 host bus interface platforms. QLogic's unique Dynamic Power Management technology enables the 2500 Series Adapters to provide the lowest possible power consumption. The 2500 Series Adapters are also backed by an industry-leading 5-year (no charge) limited warranty— visit http://www.qlogic.com/Support/Pages/Warranty.aspx for details.

VIRTUALIZATION OPTIMIZED
The 2500 Series Adapters deliver enhanced security, quality of service (QoS), and enable dynamic provisioning. The 2500 Series Adapters also allow multiple logical (virtual) connections to share the same physical port. Each logical connection has its own resources and the ability to be managed independently.

POWER OPTIMIZED
The 2500 Series Adapters take advantage of QLogic StarPower technology, ensuring power efficiency. QLogic StarPower technology offers dynamic and adaptive power management features such as power and bandwidth optimized intelligent PCI Express link training, low-power switching power supplies, and thermally efficient layout requiring lower airflows.

RAS OPTIMIZED
The 2500 Series Adapters provide the highest data integrity by ensuring overlapping protection domains (OPDs) on both the control and data paths. In addition, the 2500 Series Adapters use enhanced hardware assist firmware tracing (EHAFT), allowing more comprehensive debugging with standard drivers.

SECURITY OPTIMIZED
The 2500 Series Adapters support SAN-level authentication (FC-SP) fabric-level isolation (NPIV), and end-to-end data integrity (T10).

MANAGEMENT OPTIMIZED

The 2500 Series Adapters are backward compatible with 4Gb and 2Gb speeds. A single common driver per operating system for three generations of Fibre Channel adapters (8Gb, 4Gb, and 2Gb) simplifies deployment. QLogic's unified driver model (firmware embedded in the driver) eliminates potential interoperability issues between firmware and driver versions. The 2500 Series Adapters' API compatibility with 4Gb products accelerates deployment while ensuring application compatibility.

SIMPLIFIED SETUP

Point-and-click installation and configuration wizards simplify the adapter setup process. Storage administrators can quickly deploy adapters across a SAN using standard adapter management tools and device utilities. The 2500 Series Adapters are also fully compatible with industry standard APIs, including SNIA HBA API and SMI-S, thereby allowing administrators to manage QLogic adapters using third-party software applications.

COMPREHENSIVE OS SUPPORT

QLogic offers the broadest range of support for all major operating systems to ensure OS and hardware server compatibility. Drivers are fully tested and available for all major operating systems, including Windows®, Linux®, Solaris®, VMware® ESX®. A single driver strategy per OS allows storage administrators to easily deploy and manage adapters in heterogeneous SAN configurations. QLogic's driver suite supports all major hardware server platforms, including 32/64-bit computing platforms from Intel® (IA32, IA64, IEM64T) and AMD® (Opteron64).

INVESTMENT PROTECTION

For over 15 years, QLogic has been a technological leader with products that address the current needs of customers, yet provide strong investment protection to support emerging technologies and standards. QLogic stands alone in the industry with its product portfolio depth and experience in successfully delivering technological solutions that address the needs of today and tomorrow.

Fibre Channel Specifications

Negotiation
• 8/4/2Gbps auto-negotiation

IOPS
• 200,000 initiator and target IOPS per port

Class of Service
• 2 and 3

Topology
• FC-AL, FC-AL2, point-to-point, switched fabric

Protocols
• FCP-3-SCSI
• FC-Tape (FCP-2)

Cable Distances

	Multi-Mode Optic		
	Cable Type and Distance (m)		
Rate	OM1	OM2	OM3
2Gbps	150	300	500
4Gbps	70	150	380
8Gbps	21	50	150

PCI Express Interface

Compliance
• *PCI Express Base Specification* rev. 2.0
• *PCI Express Card Electromechanical Specification* rev. 2.0
• *PCI Bus Power Management Interface Specification* rev. 1.2
• *PCI Hot Plug Specification* rev. 1.0

Physical and Electrical
• PCIe x8 physical connector
• StarPower link training
  – Maximum x4 lanes for Gen2 rate
  – Maximum x8 lanes for Gen1 rate

Connectivity

Ports
• QLE2560: single 8Gbps Fibre Channel
• QLE2562: dual 8Gbps Fibre Channel
• QLE2564: quad 8Gbps Fibre Channel

Host Bus Adapter Specifications

Airflow
• No airflow required

Power Consumption
• QLE2560: 5.5 Watts (typical)
• QLE2562: 6.2 Watts (typical)
• QLE2564: 13 Watts (typical)

Form Factor
• QLE2560/QLE2562
  – Low-profile PCIe card (6.6in. × 2.54in.)
• QLE2564
  – Full-height PCIe card (6.6in. × 4.376in.)

Temperature
• 0°C to 55°C (operating)
• –40 to 70°C (non-operating)

Relative Humidity
• 10% to 90% (operating, noncondensing)
• 5% to 93% (non-operating, noncondensing)

RoHS Compliance
• RoHS 6

Tools and Utilities

Management Tools
• QConvergeConsole: a unified management tool (GUI and CLI) for adapter configuration and management

Device Utilities
• Utilities for flashing bootcode
• Linux SuperInstaller—Driver and Management Tool Installer and Linux Tools

Boot Support
• BIOS, FCode, EFI

APIs
• SNIA HBA API V2, SMI-S, FDMI

Platform/Operating System Support

Hardware Platforms
• IA32 (x86), IA64, Intel 64
• AMD Opteron™ 64
• Sun® SPARC®

Operating Systems
• For the latest applicable operating system information, see http://driverdownloads.qlogic.com.

Agency Approvals—EMI and EMC

US/Canada
• FCC Rules, CFR Title 47, Part 15, Subpart B: 2013 Class A
• Industry Canada, ICES-003:2004 Class A

Europe
• CISPR 22:2005 (Amds. A1:2005, A2:2006)
• EN55022:2010, Class A
• EN55024:2010
• EN6100-3-2:2006
• EN6100-3-3:2008

New Zealand/Australia
• AS/NZS;CISPR 22:2009+A1:2010

Japan
• VCCI 2007-04 Class A

Korea
• KN22, KN24 RRL Class A

Taiwan
• CNS 13438:2006 Class A

Agency Approvals—Safety

US/Canada
• UL60950-1:3-2007 (2nd Edition)
• CSA C22.2 60950-1; 3-2007 (2nd Edition)
• Class 1 Laser Product per DHHS 21CFR J
• Use only with listed ITE or equivalent.

Europe
• TUV EN60950-1:2006+A11; A1+A12 (2nd Edition)
• TUV IEC60950-1 2005 2nd Edition CB

Ordering Information

• QLE2560 (single port)
  – Ships in an individually packed box with a standard-size bracket and a spare low-profile bracket.
  – Ships with SR optical transceivers installed
• QLE2562 (dual port)
  – Ships in an individually packed box with a standard-size bracket and a spare low-profile bracket.
  – Ships with SR optical transceivers installed
• QLE2564 (quad port)
  – Ships in an individually packed box with a standard-size bracket
  – Ships with SR optical transceivers installed

QLOGIC ADAPTERS AT WORK—RELATED VIDEOS

Click in the video links to see why QLogic adapters are the best choice for your storage area network.

QLogic Adaper of Choice for Fibre Channel SAN
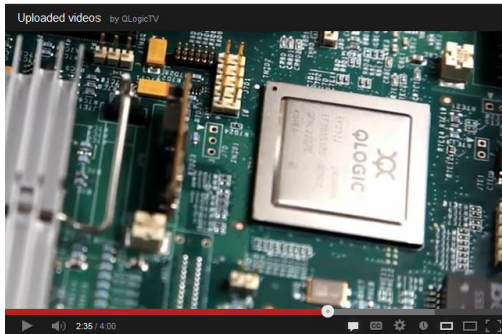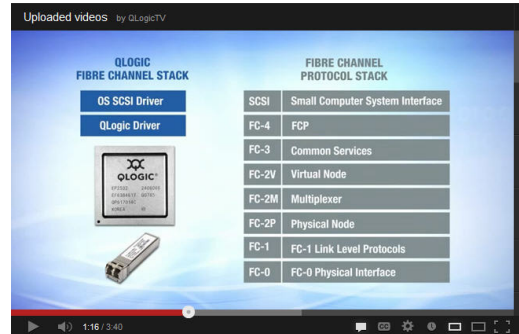
QLogic Adapter of Choice for Database Performance

DISCLAIMER

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