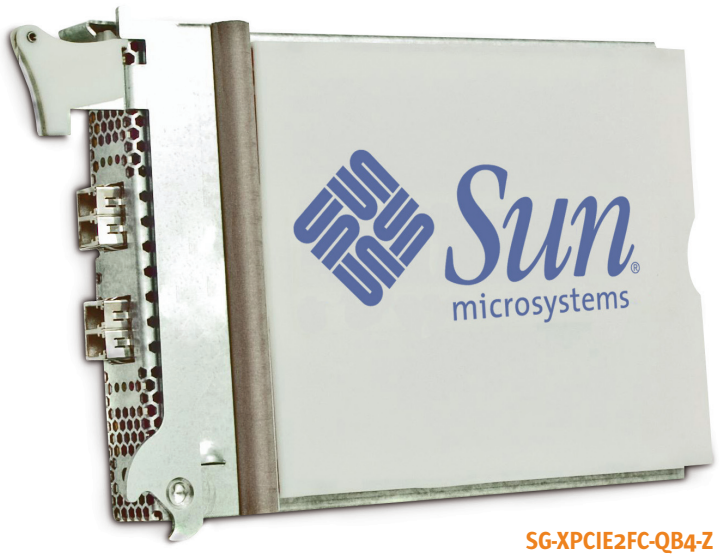
STORAGE SOLUTIONS

Sun StorageTek 4 Gb Fibre Channel ExpressModule™

Host Bus Adapter



SG-XPCIE2FC-QB4-Z

Features and Benefits

- Industry's first closed chassis 4 Gb FC PCIe ExpressModule HBA with hot-plug and hot insertion for superior availability and lower TCO
- 300,000 IOPS delivers high I/O transfer rates for heavy bandwidth storage applications
- Dual 4 Gb FC ports, native PCI Express x4 host bus interface with auto-negotiation of 4 Gb, 2 Gb, and 1 Gb for investment protection
- Multi-Pathing IO capability for Solaris 10 for x64/x86, Windows, RedHat and SUSE operating system environments utilizing the native OS supplied software
- SANsurfer for centralized management, remote access and simplified point and click configuration
- Intelligent interleaved DMA (iiDMA) ensures maximum utilization of data links
- Dual Read DMA (DRDMA) to process multiple I/Os and OS requests faster
- Overlapping protection domains (OPD) for continuous protection of internal data paths
- Universal boot support automatically detects the host platform and loads appropriate boot code (includes both BIOS and FCODE)

Industry's First 4 Gb Fibre Channel (FC) ExpressModule HBA

Sun StorageTek 4 Gb Fibre Channel Express-Module host bus adapter (HBA) is the industry's first closed chassis HBA to provide hot plug and hot insertion for superior availability and performance. The Sun StorageTek 4 Gb Fibre Channel ExpressModule HBA supports Solaris 10 for x64/x86, Windows and Linux operating system environments. The dual 4 Gb FC ports, native PCI Express x4 host bus interface with auto-negotiation of 4 Gb, 2 Gb, and 1 Gb makes the ExpressModule the ideal solution for enterprise server connectivity.

Superior Availability and Scalability

Sun StorageTek 4 Gb Fibre Channel Express Module HBA provides integrated hot-plug support by having all the necessary components for hot-plug functionality resident in the ExpressModule, thereby increasing availability and serviceability while reducing system cost. Overlapping Protection Domain (OPD) offers the highest level of data protection by ensuring that data is protected during host-bus and buffer frame parity operations. SANsurfer centralizes the management and remote access of distributed HBAs and ExpressModules throughout the SAN infrastructure.

Unmatched Performance

The ExpressModule delivers unmatched performance with up to 300,000 IOPS, nearly 1600 Mb/sec throughput and support for PCI express x4 bus speeds. Intelligent Interleaved Direct Memory (iiDMA) ensures maximum bandwidth utilization between end nodes that have different link rates of 1 Gb, 2 Gb, and 4 Gb to prevent scaling down the performance to the slowest device. Another performance feature is Dual Read DMA (DRDMA) that optimizes DMA read requests to speed up the processing of multiple I/Os and OS requests.

Sun storage provides comprehensive hardware, software and services to solve your business challenges enterprise-wide. Sun's Open Sun architecture simplifies SAN management, optimizes resource utilization, and reduces TCO.

Host Bus Interface Specs

Speed	Native PCI Express x4 via x8 ExpressModule connector
Compliance	PCI Express ExpressModule Electromechanical Specifications rev. 1.0, PCI Express Base Specification rev. 1.0a, PCI Express Card Electromechanical Specification rev. 1.0, PCI Local Bus Specification revision 2.3

Fibre Channel Specifications

Speed	4/2/1 Gb/sec auto-negotiation (4.2480/2.1240/1.0625 Gb/sec)
Compliance	SCSI-FCP, FC-PH, FC-PH-2, FC-PH-3, FC-AL-2, FC-FLA, FC-PLDA, FC-TAPE, FCP-2, FC-GS-3, FC-GS-3, FC-FS
Topology	Point-to-point (N_Port), arbitrated loop (NL_Port), and switched fabric (N_Port)
Class of Service	Class 2 and 3

Logins and Exchanges

Support for F_Port and FL_Port login. 2,048 concurrent logins and 2,048 active exchanges per port

Physical Specifications

Ports	Dual 4 Gb/sec FC
LEDs	Three LEDs display real-time status and link activity information
Media	x8 ExpressModule connector, small form factor fixed (SFF) multimode optic with LC-style connector
Form factor	Singlewide ExpressModule form factor: 170 mm x 112 mm x 22 mm (6.69 in. x 4.4 in. X 0.866 in.)
Weight	0.85 lbs

Supported Operating Systems

Sun Solaris 10 for x64/x86
RedHat RHEL 4, x86 & x64
SUSE SLES9, AMD64
Windows Server 2003 WHQL, IA32/x64
StorPort Miniport driver

Supported Server Platforms

SunBlade 6000 Modular System Server
SunBlade 8000 Modular System Server

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%
Distance	1 Gb/sec: 500 meters 50/125 µm fibre, 300 meters 62.5/125 µm fibre 2 Gb/sec: 300 meters 50/125 µm fibre, 150 meters 62.5/125 µm fibre 4 Gb/sec: 150 meters 50/125 µm fibre, 70 meters 62.5/125 µm fibre
Power Dissipation	~15 W (estimate)

Agency Approvals – Product Safety (Preliminary)

US/Canada	UL, cUL UL60950 CSA C22.2 No.60950 Class 1 Laser Product per DHHS 21CFRJ
Europe	73/23/ECC Low Voltage Directive: TUV: EN60950-1: 2001 EN60825-1: 1994+A1+A2 EN60825-2: 1994 +A1

Agency Approvals – EMI and EMC (Preliminary)

US	FCC Part 15, Class A
Canada	Industry Canada ICES-003, Class A
Europe	89/336/EEC EMC Directive CE Mark: N55022: 1998 /CISPR22:1997 Class A EN55024: 1998 EN61000-3-2:1995 EN61000-3-3:1994
Japan	VCCI, Class A
Taiwan	CNS 13438 Class A
New Zealand/ Australia	AS/NZS 3548 Class A
Korea	MIC

Get the details. For more information on this product, go to: http://www.sun.com/storagetek/networking.jsp

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