

Generations Ahead

Unparalleled manageability, reliability, performance and ease of deployment

4Gb/s FIBRE CHANNEL
PCI EXPRESS HOST BUS ADAPTERS

Streamlined installation and management, unrivaled scalability, and industry-leading virtualization support make the single-channel Emulex LightPulse LPe11000 and dual-channel LPe11002 ideal solutions for enterprise and mixed-OS SAN environments. With powerful management tools and broad platform support, they deliver maximum performance in the broadest range of applications and environments.

Proven design, architecture and interface

LightPulse HBAs' highly integrated single-chip design minimizes onboard components, while advanced error-checking methods assure robust data integrity. Emulex's firmware-based architecture enables feature and performance upgrades without costly hardware changes. The unique Service Level Interface (SLI™) allows use of a common driver across all models of Emulex HBAs. Installation and management applications are designed to minimize reboots and further simplify deployment.



KEY BENEFITS

- ⦿ Superior quality and reliability ensures data availability
- ⦿ The most efficient installation accelerates deployment and reduces administration costs
- ⦿ Maximum SAN performance increases scalability and user satisfaction in large enterprise installations
- ⦿ Robust interoperability simplifies deployment and upgrades of SAN hardware and software
- ⦿ LightPulse Virtual HBA technology provides efficient host utilization and compliance with SAN management best practices

KEY FEATURES

- ⦿ Exceptional performance and full-duplex data throughput
- ⦿ Comprehensive virtualization capabilities with support for N-Port ID Virtualization (NPIV) and Virtual Fabric
- ⦿ Simplified installation and configuration using common HBA drivers and AutoPilot Installer[®]
- ⦿ Efficient administration via HBAnyware[®] for HBAs anywhere in the SAN
- ⦿ Common driver model eases management and enables upgrades independent of HBA firmware

Specifications

STANDARDS

ANSI Fibre Channel: FC-PH-3, FC-PI-2, FC-FS, FC-AL-2, FC-GS-4, FC-FLA, FC-PLDA, FC-TAPE, FCP-2, and RFC 2625 (IP over FC)

PCI Express base spec 1.0a

PCI Express card electromechanical spec 1.0a

Fibre Channel class 2 and 3

PHP hot plug-hot swap

ARCHITECTURE

Single-channel (LPe11000) or dual-channel (LPe11002)

4Gb/s, 2Gb/s or 1Gb/s FC Link speeds automatically detected

Integrated data buffer and code space memory

COMPREHENSIVE OS SUPPORT

Windows Server 2003, Windows 2000, Linux, NetWare, Solaris, VMware, HP-UX

Additional support is available from OEMs and partners

HARDWARE ENVIRONMENTS

PowerPC®, SPARC®, x86, x64 and Intel® Itanium® 64-bit processor family

OPTICAL

Data rates: 1.0625, 2.125 and 4.25Gb/s (auto-detected)

Optics: Short wave lasers with LC type connector

Cable: 50/125µm, up to 150 meters at 4Gb/s
62.5/125µm, up to 70 meters at 4Gb/s

PHYSICAL DIMENSIONS

Short, low profile MD2 form factor card
167.64mm x 64.42mm (6.60" x 2.54")

Standard bracket (low profile available)

POWER AND ENVIRONMENTAL REQUIREMENTS

Volts: +3.3

Operating temperature: 0° to 55°C
(32° to 131°F)

Airflow required: 100 lf/m

Storage temperature: -40° to 70°C
(-40° to 158°F)

Relative humidity: 5% to 95%
non-condensing

AGENCY APPROVALS

Class 1 Laser Product per DHHS 21CFR (J) and EN60825-1

UL recognized to UL 60950-1

CUR recognized to CSA22.2, No. 60950-1-03

TUV certified to EN60950-1

FCC rules, Part 15, Class A

ICES-003, Class A

EMC Directive 2004/108/EEC (CE Mark)

-EN55022, Class A

-EN55024

Australian EMC Framework (C-Tick Mark)

-AS/NZS CISPR22, Class A

VCCI, Class A

MIC (Korea), Class A

BSMI (Taiwan), Class A

RoHS Compliant (Directive 2002/95/EC) for environmental requirements.

ORDERING INFORMATION

LPe11000-M4

Single-channel, embedded multi-mode optic interface

LPe11002-M4

Dual-channel, embedded multi-mode optic interface

ADDITIONAL FEATURES

Emulex LightPulse technology features Frame-level Multiplexing and out-of-order frame reassembly for maximum link utilization.

End-to-end data protection with hardware parity, CRC, ECC and other advanced error checking ensure that data is safe from corruption.

Beaconing support enables detection and identification to improve manageability.

Detailed real-time event logging and tracing enables quick diagnosis of SAN problems.

Universal Boot capability allows the appropriate boot environment to be automatically selected for any given OS.

SOFTWARE FEATURES

Emulex's feature-rich software simplifies and speeds deployment and device management, while reducing administration costs and protecting your IT investment.

HBAware enables centralized discovery, monitoring, reporting, and management of both local and remote HBAs from a secure remote client. HBAware provides in-depth management capabilities including remote firmware and boot code upgrades, beaconing, statistics, and advanced diagnostics.

An extensive CLI is available for scripting

AutoPilot Installer simplifies the installation and configuration of drivers and management applications for multiple HBAs on Windows servers. A single installation of drivers and applications eliminates multiple reboots and ensures that each component is installed correctly and the HBA is ready to use.

Emulex's management instrumentation is based on Open Management Standards. SMI-S and common HBA API support enable seamless upward integration into enterprise storage and server management solutions.



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