

# Generations Ahead

**Unparalleled manageability, reliability, performance and ease of deployment**

**4Gb/s and 2Gb/s**  
FIBRE CHANNEL HBAs

Streamlined installation and management, unrivaled scalability, and industry-leading virtualization support make the Emulex LightPulse Host Bus Adapter (HBA) product line ideal for small to large enterprises and mixed-OS Storage Area Network (SAN) environments. With powerful management tools and broad platform support, the LightPulse family of HBAs delivers maximum performance in the broadest range of applications and environments.

#### **Proven design, architecture and interface**

LightPulse HBAs' highly integrated design minimizes onboard components, while advanced error-checking and correcting methods assure robust data integrity. Emulex 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 ensure data availability
- ⦿ Highly 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
- ⦿ Advanced security protects the SAN from potential threats such as WWN spoofing, host masquerading, rogue/compromised servers and administrator errors

#### **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

### Overview of the Emulex LightPulse® Fibre Channel Host Bus Adapters

Feature	Description	PCI Express HBAs					PCI-X 2.0 HBAs			PCI-X/PCI HBAs					
		LPe11000	LPe11002	LPe1150	LPe111	LP10000ExDC	LP1050Ex	LP11000	LP11002	LP1150	LP10000	LP10000DC	LP1050	LP1050DC	LP101
Link Speed	2Gb/s	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4Gb/s	✓	✓	✓	✓			✓	✓						
Dual Ports	Two Fibre Channel ports on one card		✓			✓			✓			✓		✓	
PCIe Support	2.5Gb/s - Lane	✓	✓	✓	✓	✓									
PCI-X Support	PCI-X Compliance							2.0	2.0	2.0	1.0a	1.0a	1.0a	1.0a	1.0a
	66MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
	100MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
	133MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
	266MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
PCI Support	PCI Compliance							3.0	3.0	3.0	2.3	2.3	2.3	2.3	2.3
	33MHz/32-bit							✓	✓	✓	✓	✓	✓	✓	✓
	33MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
	66MHz/64-bit							✓	✓	✓	✓	✓	✓	✓	✓
Common Driver by OS	Windows (2000, 2003)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Linux	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	VMWare	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Solaris	✓	✓			✓	✓	✓		✓	✓				
	NetWare	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	HP-UX	✓	✓			✓	✓	✓		✓	✓				
	Custom Drivers	✓	✓			✓	✓	✓		✓	✓				
FC-Tape	(FCP-2 Support)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
All Topologies	Auto detect - P to P; FC-AL; Fabric	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCSI & IP Support	Enables Storage management	✓	✓	✓	SCSI	✓	✓	✓	✓	✓	✓	✓	✓	✓	SCSI
Fibre Channel Fabric Boot	x86 BootBIOS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	EFIBoot	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	
	OpenBoot	✓	✓			✓		✓	✓		✓	✓			
NPIV	N-Port ID Virtualization	✓	✓	✓				✓	✓	✓					
FC-SP Compliance	Fibre Channel Security Protocol with DH-CHAP Authentication	✓	✓	✓				✓	✓	✓					
Common Mgmt. Interface (FC-MI)	Industry-standard interface across all operating system environments	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firmware-upgradeable	Upgrade features on installed base	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Firmware Ind. Drivers	Update F/W or drivers separately simplifies SAN management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
End-to-end Parity/CRC	Data protection	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HBA Power	+3.3V DC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Voltage Required	+5V DC							✓	✓	✓	✓	✓	✓	✓	✓
	+12V DC					✓	✓								
PCI Signaling	3.3v							✓	✓	✓					
	3.3v, 5v tolerant (keyed universal)										✓	✓	✓	✓	✓
PCI Form Factor	Short length (standard height)					✓	✓								
	Low profile (MD2) compatible	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
Media Interface	LC multi-mode/short wave	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	intelligent diagnostics	✓	✓			✓	✓	✓		✓	✓				



This document refers to various companies and products by their trade names. In most, if not all cases, their respective companies claim these designations as trademarks or registered trademarks. This information is provided for reference only. Although this information is believed to be accurate and reliable at the time of publication, Emulex assumes no responsibility for errors or omissions. Emulex reserves the right to make changes or corrections without notice.

08-344 9/07