

# Emulex LPe16002B Datasheet



Emulex LPM16002B 16Gb Fibre Channel Dual Port Host Bus Adapter

LPe16002B

Emulex Gen 5 Fibre Channel (16GFC) Host Bus Adapters (HBAs) for EMC provide up to 1.2million IOPS on a single-port, 2x bandwidth and lightning fast response times\*, making it ideal for deployment with solid state disks (SSDs) and new multi-core processors.

The Emulex Dynamic Multi-core Architecture delivers optimum I/O performance by dynamically applying ASIC resources to either a single active port or across both active ports, as demanded by the workload. This ensures that performance is delivered when and where needed, to meet service level agreements (SLAs).

In high-density virtual environments with mixed storage, scaling to meet business needs can be complex and often results in performance degradation. Emulex ExpressLane provides QoS and application performance between servers and across the fabric by tackling congestion in storage environments. ExpressLane is easily enabled from Emulex OneCommand Manager extending into Brocade's fabric QoS.

LPe16000B-series HBAs feature the Emulex bullet-proof driver stack, backward compatibility to 4GFC and 8GFC HBAs and rock solid reliability with a heritage that spans back to the first generation of Fibre Channel to today's Gen 5 FC

HBAs.

## Key benefits

- Emulex Dynamic Multi-core Architecture delivers maximum performance—up to 1.2 million IOPS on a single port, 20% more than other Gen 5 HBAs
- Simplified and time-saving diagnostics by using Brocade ClearLink supported Switches and Emulex HBAs
- Ability to meet SLAs and ensure Quality of Service for prioritized traffic with ExpressLane
- Improves IT staff productivity through simplified deployment and management
- Reduces the number of cards, cables and PCIe slots required
- Exceptional performance per watt and price/performance ratios
- Integrates seamlessly into existing SANs
- Allows application of SAN best practices, tools and processes with virtual server deployments
- Assures data availability and data integrity

## Key features

- Dynamic Multi-core Architecture features eight cores that support 255 virtual functions (VFs), 1024 Message Signaled Interrupts extended (MSI-X) and 8192 logins/open exchanges for maximum virtual machine (VM) density—up to 4x more than other adapters
- Reduces data center power consumption and associated OPEX by delivering up to 4x better IOPS performance/watt
- Data integrity offload— high performance T10 Performance Information (T10 PI) end-to-end data integrity protects against silent data corruption
- Rock-solid reliability and thermal characteristics, essential for mission-critical, cloud and virtualized applications
- Support for MSI-X, improves host utilization and enhances application performance
- Comprehensive virtualization capabilities with support for N\_Port ID Virtualization (NPIV) and Windows virtual HBAs
- Secure management with role-based administration integrated with Light Directory Access Protocol (LDAP) and Active Directory (AD) services
- Common driver model, allows a single driver to support all Emulex HBAs on a given OS

## General specifications

The LPe16000B series is powered by the XE201 converged fabric controller and consists of an eight-lane (x8) PCIe 3.0 bus (backward compatibility to PCIe 2.0 supported)—the architecture enables all resources to be applied to any port that needs it, delivering up to 1.2 million IOPS on a single-port

## Industry standards

- Current ANSI/IETF Standards: FC-PI-4; FC PI-5; FC-FS-2 with amendment 1; FC-AL-2 with amendments 1 and 2; FC-LS-2; FC-GS-6; FC DA; FCP-4; FC-MJS; FC-SB-4; FC-SP; SPC-4; SBC-3; SSC-3; RFC4338
- Legacy ANSI/IETF standards: FC-PH; FC PH-2; FC-PH-3; FC-PI; FC-PI-2; FC-FS; FC-AL (2GFC/4GFC/8GFC speeds); FC-GS-2/3/4/5; FCP; FCP-2; FC-SB-2; FC-FLA; FC-HBA; FC PLDA; FC-TAPE; FC-MI; SPC-3; SBC-2; SSC-2; RFC2625
- PCIe base spec 3.0
- PCIe card electromechanical spec 3.0
- Fibre Channel class 2 and 3
- PHP hot plug-hot swap

## Architecture

- Single-port (LPe16000B) or dual-port (LPe16002B)
- Supports 16GFC, 8GFC and 4GFC link speeds, automatically negotiated
- Supports up to 2 FC ports at 16GFC max (dual-port model)
- Integrated data buffer and code space memory

## Comprehensive OS and hypervisor support

- Windows Server
- Linux

- Solaris
- VMware vSphere
- Windows Hyper-V
- Additional support is available from OEMs and partners

## Hardware environments

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

## Optical

- Data rates: 14.025 Gb/s (1600Mb/s); 8.5 Gb/s (800Mb/s); 4.25 Gb/s (400 Mb/s) (auto-detected)
- Optics: Short wave lasers with LC type connector
- Cable: Operating at 16Gb
  - 15m at 16Gb on 62.5/125 μm OM1 MMF
  - 35m at 16Gb on 50/125 μm OM2 MMF
  - 100m at 16Gb on 50/125 μm OM3 MMF
  - 125m at 16Gb on 50/125 μm OM4 MMF

For more specifications of this LPe16002B, please visit below Broadcom website:

<https://docs.broadcom.com/doc/12357940>

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