

# Emulex LPe16000 Datasheet



## Emulex LPe16000 Gen 5 16GFC PCIe 3.0 Single-port Fibre Channel Host Bus Adapter

### LPe16000

Exceptional price/performance, advanced management functionality that can shave days off installing and managing adapters, coupled with up to 3x better IOPS performance per watt, make Emulex LightPulse 16G Fibre Channel (16GFC) host bus adapters (HBAs) the clear choice for the toughest virtualized, cloud and mission critical deployments. The LightPulse single-channel LPe16000 and dual-channel LPe16002 feature the Emulex bullet-proof driver-stack, backward compatibility to 4 and 8G Fibre Channel HBAs and rock-solid reliability with a heritage that spans back to the first generation of Fibre Channel adapters to today's 16GFC adapters. Emulex is trusted by data centers the world-over, with more than 12 million HBA ports shipped and installed to date.

### Key Benefits

- Maximum performance—over 1 million input/output operations per second (IOPS) to support larger server virtualization deployments and scalable cloud initiatives, as well as performance to match new multi-core processors, SSDs and faster server host bus architectures
- 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

- vScale™ performance and scalability—multi-core ASIC engine with eight cores supports 255 VFs, 1024 MSi-X and 8192 logins/open exchanges for maximum VM density—up to 4x more than other adapters
- 2x management functionality, and takes half the time to manage with OneCommand Manager - Unique OneCommand Manager plug-in for VMware vCenter for centralized management of adapters within a VMware environment
- GreenState™ power efficiency—reduces data center power consumption and associated OPEX by delivering exceptional power to port ratios
- vEngine™ CPU offload—lowers CPU burden on host server, enabling support for more VMs
- Rock-solid reliability and thermal characteristics, essential for mission-critical, cloud and virtualized applications
- Support for Message Signaled Interrupts eXtended (MSI-X), improves host utilization and enhances application performance
- Support for 16G, 8G and 4G FC devices
- Comprehensive virtualization capabilities with support for N\_Port ID Virtualization (NPIV) and Virtual Fabric
- Host-to-fabric Fibre Channel Security Protocol (FC-SP) authentication
- Common driver model, allows a single driver to support all Emulex HBAs on a given OS

## Specifications

## 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; FC-SP-2; 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; 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 2.0
- PCIe card electromechanical spec 2.0
- Fibre Channel class 2 and 3
- PHP hot plug-hot swap

## Architecture

- Single-channel (LPe16000-E) or dual-channel (LPe16002-E)
- 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 Support

- Windows
- Linux
- Solaris
- VMware ESX/ESXi
- 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 um OM1 MMF
  - 35m at 16Gb on 50/125 um OM2 MMF
  - 100m at 16Gb on 50/125 um OM3 MMF
  - 125m at 16Gb on 50/125 um OM4 MMF

For more specifications of this LPe16000, please visit below Broadcom website:

<https://docs.broadcom.com/doc/12356119>

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