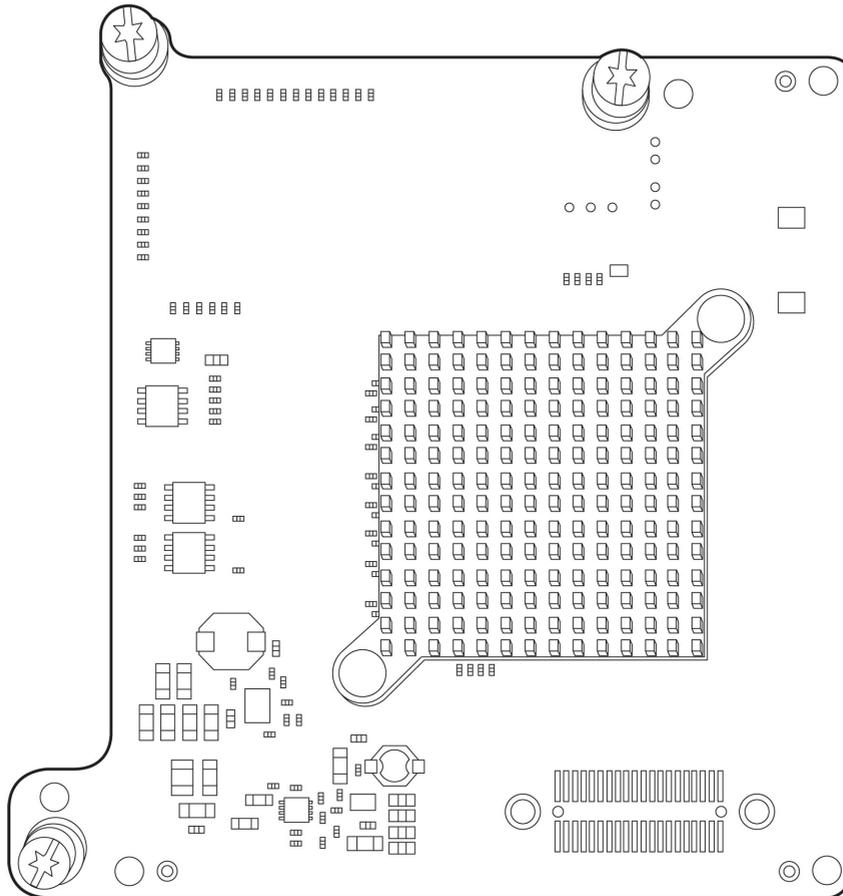## Overview

The HP LPe1205A dual port Fibre Channel HBA provides reliable, high-performance connectivity up to 8Gb/s. The HP LPe1205A also provides features such as data integrity, security and virtualization which are all complimentary to initiatives important to the enterprise data center. For greater system up time, the HP LPe1205A dual port design is the ideal Fibre Channel connectivity solution for applications that rely on high-availability for business continuity. The HP LPe1205A leverages the several generations of Fibre Channel design to provide the greatest level of performance, scalability and manageability. Using Emulex's exclusive firmware and driver architecture, the HP LPe1205A is designed to be fully driver compatible with all Emulex HBAs. Furthermore, this architecture allows firmware to be upgraded without taking the server off-line or re-booting, and without the need to upgrade the driver. This provides hardware investment protection and ensures maximizes system uptime. As with all Emulex LightPulse Fibre Channel HBAs, the HP LPe1205A is managed with Emulex OneCommand™ Manager (OCM) HBA management application. OCM provides a secure, centralized administration console to discover, and manage Emulex Fibre Channel HBAs on local and remote hosts. Powerful diagnostic tools and flexible interface options (GUI, CLI and Browser) provide the greatest level of manageability. Fibre Channel is the de-facto standard for virtual server storage connectivity and Emulex HBAs are fully qualified for virtual server environments.

HP LPe1205A 8Gb Fibre Channel Host Bus Adapter for BladeSystem c-Class

Overview

Models

HP LPe1205A-HP 8Gb Fibre Channel Host Bus Adapter for BladeSystem c-Class	659818-B21

Key Features

- Comprehensive virtualization capabilities with support for N-Port ID Virtualization (NPIV) and Virtual Fabric
  - Support for up to 255 VPorts improves server consolidation capabilities and asset utilization
- Superior performance capable of sustaining up to 200,000 I/Os per second per channel
  - Delivers the performance needed for high transaction data base environments (ie: Oracle, SQL Server, etc)
- Host to Fabric FC-SP authentication
  - Provides advanced security protecting the SAN from potential threats such as WWN spoofing, compromised servers etc.
- BlockGuard™ ready (T10-DIF) - ensures end-to-end data integrity
- Common driver model allows a single driver to support all Emulex HBAs on a given OS
- Easy deployment of new firmware with minimal server reboots
- Efficient centralized administration of Emulex HBAs via powerful management tools
- 8, 4, 2 Gb/s Fibre Channel link speed support
- Full fabric support with automatic topology and auto-negotiation
- Message Signaled Interrupts eXtended (MSI-X) Support for Greater Host CPU Utilization
  - Streamlines interrupt routing to improve overall server efficiency
- PCI Express Bus: Gen I (x8), Gen II (x4)
- Multi-Path support for redundant HBAs and paths
- Support FC-Tape devices
  Operating Systems and Virtualization Software Supported: Windows Server 2008, VMware 5.0, RHEL 5, RHEL 6, SLES 10, SLES 11, Solaris 10 x86
- Improved Power Management by monitoring the environment

Features and Benefits

- **Cost-savvy**
  - Emulex installation and management tools automate installation and provide local and remote HBA configuration and management, therefore reducing cost of HBA installations across the enterprise
  - Emulex's automated installation facilities and extensive management capabilities speed HBA deployment and device management, while reducing administration costs and protecting IT investment.
  - Emulex HBAs feature a firmware upgradeable architecture for long-term investment protection, feature and performance upgrades and seamless backward compatibility.
- **Change-ready**
  - Fully compatible with Virtual Connect
  - Emulex's unique Service Level Interface (SLI) architecture allows complete independence between HBA hardware, firmware and drivers. That means no reboots during configuration changes and no need for OS specific firmware. A single driver model simplifies management and upgrades across multiple generations of HBAs.
  - Powerful automation capabilities facilitate remote driver parameter, firmware and boot code upgrades. Advanced diagnostic features such as HBA beaconing and HBA statistics help to optimize management and network performance while the environmental monitoring feature helps to maintain optimum host to fabric connections. In addition to the GUI interface, management functions can also be performed via a scriptable Command Line Interface (CLI) as well as a web browser.
- **Energy-thrifty**
  - The Fibre Channel link rate provides greater bandwidth as a percentage of power consumed
  - Virtualization capabilities (NPIV and Virtual Fabric improve server consolidation capabilities and asset utilization
  - Frame-level Multiplexing and out-of-order frame reassembly increases link efficiency and maximizes HBA performance.

Overview

- **Time-smart**
  - A common driver model amongst all Emulex HBAs enables a customer to standardize on one driver version across their entire installed base - thus reducing the cost and complexity of managing all HBAs.
  - Superior Quality and Reliability- Emulex HBAs deliver industry-leading reliability levels which minimizes downtime and increases productivity
  - Emulex LightPulse HBA management capabilities enable secure, centralized discovery, monitoring, reporting, and administration of Emulex HBAs on local and remote hosts.
  - With in-band and out-of-band management capabilities, Emulex provides data center administrators with the greatest level of management flexibility.

Product Highlights

Superior Quality and Reliability	Emulex HBAs deliver industry-leading reliability levels by utilizing a field-proven, single-chip design that minimizes components. Emulex HBAs also use a combination of parity, CRC, ECC and other advanced error checking methods to verify the integrity of data blocks, which are passed from the host interface through the HBA.
The Most Efficient Installation and Management	Emulex management tools automate installation and provide local and remote HBA configuration and management. Emulex's unique Service Level Interface (SLI™) architecture allows complete independence of device drivers from HBA hardware and firmware. That means no reboots during most configuration changes and no need for OS specific firmware. A single driver model simplifies management across multiple generations of HBAs. In addition, Emulex HBAs have a firmware-based architecture that enables feature and performance upgrades without costly hardware changes, for long-term investment protection and seamless backward compatibility.
Maximum SAN Performance	Emulex HBAs deliver maximum performance levels in real-world application environments, with superior full-duplex data throughput and I/Os per second. And Emulex's exclusive Dynamic Frame Multiplexing ensures consistently superior performance in mixed load environments such as disk and tape back-up applications.
The Fastest Diagnosis and Recovery	Comprehensive diagnostic functions, coupled with detailed event logging and tracing, provide for fast, efficient SAN troubleshooting.
The Broadest Enterprise Deployment	With supplier formidable install base, Emulex is trusted by the world's largest, mission critical enterprises. Long-standing partnerships with leading storage vendors ensure unparalleled compatibility levels.
Software Features	A rich suite of management tools complements the LightPulse family of enterprise Fibre Channel HBAs. As a centralized management suite, OCM incorporates agent technology that provides discovery, reporting and management of local and remote HBAs with both in-band Fibre Channel and out-of-band IP support, enabling sophisticated management capabilities such as remote firmware upgrades and advanced diagnostics from a single console anywhere in the SAN. All Emulex device drivers are fully compatible with previous generations of Emulex host bus adapters. A single driver binary supports all Emulex HBAs on a given host platform, streamlining the management of device drivers in environments with multiple generations and versions of HBAs, simplifying the upgrade process, and providing investment protection. **NOTE:** For the latest Driver and Operating System options, please visit: http://h18004.www1.hp.com/products/blades/components/mezzanine/emulex/index.html

Product Highlights

BladeSystem Compatibility

8Gb c-Class HBA Mezzanine (Mezz) Card Applications

Supported HP ProLiant Server Blades	BL460c Gen8, BL420c Gen8, BL465c Gen8

NOTE: The HP LPe1205A 8Gb FC HBA for HP BladeSystem c-Class must be deployed with the c-Class BladeSystem infrastructure and will only work with the BL c-Class Server Enclosures.
NOTE: The HP LPe1205A 8Gb FC HBA for HP BladeSystem c-Class is not compatible with HP ProLiant Generation 7 and earlier server blades.
NOTE: This is a Type A mezzanine card, and can be configured in either Type A or Type B slots on HP ProLiant Gen8 Server Blades.

Switch interoperability

HP Storage and Third Party Switches	• HP Virtual Connect Products
	• 8Gb Switches and Directors
	• 4Gb Switches and Directors
	• 2Gb Switches and Directors
	• Compatible with Fibre Channel switches including HP and third party vendors including Cisco, Brocade, and McData
	• HP 4Gb Fibre Channel Pass Thru Module for BladeSystem c-Class*

*Servers must connect to a SAN and never directly to a storage device.

Service and Support	**HP Technology Services** HP Technology Services offers you consultants and support experts to solve your most complex infrastructure problems. We help keep your business running, boost availability and avoid downtime. **Protect your business beyond warranty with HP Care Pack Services** When you buy HP Options, it's also a good time to think about what level of service you may need. HP Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business need.
Recommended Services	**Recommended HP Care Pack Services for optimal satisfaction with your HP product** **3-Year HP 24x7 4 hour Response, Hardware Support Onsite Service** Provides you with rapid remote support and if required an HP authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged. http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EEE **HP ProLiant Server Hardware Installation** Provides for the basic hardware installation of HP branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner. http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-9356EN
Related Services	**Related HP Care Pack Services to enhance your HP product experience** **3-Year HP 6 hour Hardware Support Onsite Call-to-Repair Service** Provides an IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 hours of the initial service request to

Product Highlights

the HP Global Solution Center. http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-6547EN

HP Proactive Select Service
Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN

Insight Remote Support	Delivers secure remote monitoring and support for HP servers and storage, 24x7 at no additional cost. Available as part of HP Warranty, Care Pack and Service Contract offers.
Parts and materials	HP will provide HP-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements. Supplies and consumable parts will not be provided as part of this service; standard warranty terms and conditions apply. Parts and components that have exceeded their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual or the technical product data sheet will not be provided, repaired or replaced as part of this service.
Coverage	For ProLiant servers and storage systems, this service covers HP-branded hardware options qualified for the server, purchased at the same time or afterward, internal to the enclosure, as well as external monitors up to 22" and tower UPS products; these items will be covered at the same service level and for the same coverage period as the server unless the maximum supported lifetime and/or the maximum usage limitation has been exceeded. Coverage of the UPS battery is not included; standard warranty terms and conditions apply. The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by HP due to malfunction. It does not apply to any exchange of Disk or SSD/Flash Drives that have not failed. SSD/Flash Drives that are specified by HP as consumable parts and/or that have exceeded maximum supported lifetime and/or the maximum usage limit as set forth in the manufacturer's operating manual or the technical data sheet are not eligible for the defective media retention service feature option.
For more information	To learn more on services for HP ESSN Options, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: http://www.hp.com/services/proliant or www.hp.com/services/bladesystem

Related Options

Service and Support Offerings (HP Care Pack Services)	**NOTE:** The HP Care Pack service part numbers below for ProLiant BL c-Class server blades, cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.	
	Hardware Services On-site Service	
	HP 3year 4hour 13x5 c-Class Server Blade HW Support	UE458E
	HP 3year 4hour 24x7 c-Class Server Blade Hardware Support	UE459E
	HP 3year 6hour 24x7 Call to Repair c-Class Server Blade Hardware Support	UE460E
	Support Plus 24	
	HP 3year SupportPlus24 Microsoft c-ClassServer Blade Service	UE473E
	NOTE: HP Care Pack services for the c7000 and c3000 Enclosure cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP Supported devices covered include all the BladeSystem interconnects.	
	Hardware Services On-site Service	
	HP 3 year Next business day c7000 Enclosure Hardware Support **NOTE:** Uplifts the Ethernet devices to the same level of warranty as the c-class enclosure	UE477E
	HP 3 year 4 hour 13x5 c7000 Enclosure Hardware Support	UE478E
	HP 3 year 4 hour 24x7 c7000 Enclosure Hardware Support	UE479E
	HP 3 year 6 hour 24x7 Call to Repair c7000 Enclosure Hardware Support	UE480E
	NOTE: The HP Care Pack service part numbers below covers the Brocade 4/12 SAN Switch and Brocade 4/12 SAN Switch 12-port Upgrade LTU.	
	Hardware Services On-site Service	
	HP 3 year Next business day SAN Blade Switch Hardware Support	UC007E
	HP 3 year 4 hour 13x5 SAN Blade Switch Hardware Support	UC008E
	HP 3 year 4 hour 24x7 SAN Blade Switch Hardware Support	UC009E
	HP 3 year 6 hour 24x7 Call to Repair SAN Blade Switch Hardware Support	UC023E
	NOTE: The HP Care Pack service part numbers below covers the Brocade 4/24 SAN Switch.	
	Hardware Services On-site Service	
	HP 3 Years Next business day c-Class SAN Switch Hardware Support	UE436E
	HP 3 Years 4 hour 13x5 c-Class SAN Switch Hardware Support	UE437E
	HP 3 Years 4 Hour 24 hours	UE438E
	HP 3 Years 6 Hour 24x7 Call-To-Repair c-Class SAN Switch Hardware Support	UE439E
	HP Installation Storage Switches Service	U5988E
	NOTE: The HP Care Pack service part numbers below covers the Brocade 4/24 SAN Switch Power Pack.	
	Hardware Services On-site Service	
	Support Plus	
	HP 3 year Support Plus 4/24 SAN Switch Power Pack Service	UE728E
	Support Plus 24	

Related Options

HP 3 year Support Plus 24 4/24 Switch Power Pack Service	UE729E

Installation & Start-up Services

HP Startup Blade System c-Class Enhanced Network Service	UE603E

NOTE: Provides for an integrated hardware and software implementation that includes remote service planning, onsite deployment of hardware and software, installation verification testing and customer orientation. Hardware deployment covers the installation of a single BladeSystem enclosure that include server blades (up to 16), Ethernet network interconnect, and power options. Software deployment covers the installation and configuration of HP Systems Insight Manager (SIM), HP Rapid Deployment Pack (RDP), and deploy up to two operating system editions of either Windows or Linux, using scripted operating system installation software

HP Install c-Class Server Blade Service	UE493E
HP Install c-Class Enclosure & ServerBlade Service	UE494E
HP Installation and Startup for Insight Control Server Deployment - previously Rapid Deployment Pack	U5683E

NOTE: Provides installation on a Customer supplied server designated as a Deployment Server. Includes the deployment of a single server. This new server will be deployed using either one of the pre-configured scripts or an image. In addition, the service will provide for the capture and storage of the configuration of the newly deployed server and orientation on product usage. To be delivered during standard office ours, standard office days.

HP Implementation HP Rapid Deployment Pack (Basic) Service	UA042E

NOTE: Service coverage: onsite installation of the Vulnerability and Patch Management (VPM) software on a customer designated server, configuration of the VPM software to acquire security patches, enabling the VPM software to scan up to five (5) systems, applying the security patches to the designated servers, generating a report from VPM that shows the vulnerability assessment results, and providing customer with an orientation to the software.

HP Startup HP Systems Insight Manager Service	UA041E
HP Startup HP Systems Insight Manager Management Agents Service	UA040E

Software Operating Environment Care Packs

HP 1year 9x5 3incidents Microsoft/Novell Operating Environment SW Technical Support	U8169E
HP 1 year 9x5 10 incident Red Hat High Performance Computing Software Technical Support	U3402E
HP 1year 9x5 3incidents SUSE SLES8 SW Technical Support	U9615E
HP 1year 9x5 3incidents ProLiant Essentials SW Technical Support	U8222E
HP 1year 24x7 3incidents ProLiant Essentials SW Technical Support	U8301E
HP 1year 9x5 10incidents ProLiant Essentials SW Technical Support	UE006E
HP 1year 24x7 10incidents ProLiant Essentials SW Technical Support	UE116E
HP 1year 9x5 25incidents ProLiant Essentials SW Technical Support	UE117E
HP 1year 24x7 25incidents ProLiant Essentials SW Technical Support	UE118E
HP 1year 9x5 50incidents ProLiant Essentials SW Technical Support	UE119E
HP 1year 24x7 50incidents ProLiant Essentials SW Technical Support	UE120E
HP 1year 9x5 ProLiant Essentials SW Technical Support	UE121E

Related Options

HP 1year 24x7 ProLiant Essentials SW Technical Support	UE452E
HP 3y 9x5 ProLiant Esnt SW Tech Supp	UE453E
HP 3y 24x7 ProLiant Esnt SW Tech Supp	UE454E

Technical Specifications

System Unit	Dimensions (H x W)		3.5 in x 3.9 in
	Media		N/A (Always connect to BladeSystem interconnect module)
	Ports		Two
	System Inlet Temperature	Operating	10° to 70°C (55° to 158°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed. System performance may be reduced if operating with a fan fault or above 30°C (86°F).
		Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
	Relative Humidity (non-condensing)	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.
		Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
	Altitude	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
		Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
Environment-friendly Products and Approach	End-of-life Management and Recycling		Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: http://www.hp.com/go/green. To recycle your product, please go to: http://www.hp.com/go/green or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner. The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: http://www.hp.com/go/green. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

Technical Specifications