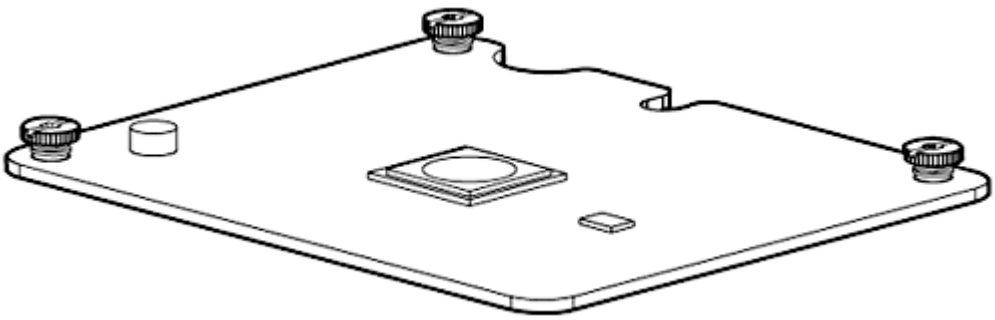
Overview

Brocade 8Gb FC Host Bus Adapters offer high performance connectivity, extend fabric features to the server and applications, and integrate seamlessly with management software such as DCFM to provide a complete end-to-end data center solution.

Brocade FC HBAs support the Server Application Optimization (SAO) license to extend Brocade data center fabric technologies to the server infrastructure, thereby improving overall application performance and virtual machine scalability. SAO enables individual traffic flows to be specifically configured, prioritized, and optimized throughout the data center. SAO is enabled via software licensing on Brocade switches and directors, and is deployed along with Brocade FC HBAs to help IT organizations more easily manage SAN services across next-generation data centers.

Brocade FC HBAs achieve up to 500,000 IOPs per port and deliver line rate throughput performance, making the adapters suitable for I/O intensive applications such as database, backup/restore, virtualization, and rich media. The high performance capabilities of Brocade 8Gb FC HBAs improve server consolidation ratios and reduce overall total cost of ownership for virtualized and non-virtualized environments.

Finally, Brocade FC HBAs seamlessly integrate into HP's StorageWorks Data Center Fabric Manager, providing customers a single pane of view of the data center to easily configure and manage all devices from a central location.



Brocade 804 8Gb FC HBA for HP BladeSystem c-Class

Models

Brocade 804 8Gb FC HBA for HP BladeSystem c-Class	590647-B21

Key Features

- Server Application Optimization
  - Application oriented Quality of Service (AQoS) providing the ability to configure, prioritize, and optimize traffic flows from virtual machines and/or applications to the target port.
- Superior Performance
  - PCIe 8Gb FC HBAs deliver not only 2x better throughput than 4Gb HBAs, but also 500,000 IOPs to better drive I/O intensive applications and enable higher consolidation ratios.
- Unified Manageability
  - Integrates with StorageWorks DCFM to provide a single pane of control and visibility of both the server edge and the fabric switches.

Overview

Features and Benefits

- Virtualization Focused
  - Server Application Optimization (SAO) enables virtualization scalability without compromising service levels
- High Performance
  - Outperforms competition with up to 500K IOPS
- Simplified Management
  - Unified management of SAN fabric and server connectivity resources from a single pane of glass
- Comprehensive Virtualization
  - Support for N_Port ID virtualization with up to 256 vports to enhance server consolidation and asset utilization.
- Fabric Based Boot LUN Discovery
  - Simplifies boot from SAN configurations by automating the diskless boot process with centralized configuration on the switch and offering the ability to deploy large scale bare metal provisioning.
- Security Support
  - Provides "host to fabric" Fibre Channel Security Protocol (FC-SP) authentication support to protect the SAN from potential threats such as WWN spoofing, and compromised applications accessing storage.
- Target Rate Limiting
  - Ensures maximum throughput of the link between the server and switch by throttling the traffic flow to individual targets, regardless of storage data rate.
- Interrupt Routing
  - Improves host utilization and enhances application performance by supporting Message Signaled Interrupted eXtended (MSI-X)
- Brocade FC HBAs provide low power consumption.
- Virtualization Focused
  - Server Application Optimization (SAO) enables virtualization scalability without compromising service levels

BladeSystem Compatibility

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

	Mezz Slot 1		Mezz Slot 2		Mezz Slot 3	
	Port 1	**Port 2**	**Port 1**	**Port 2**	**Port 1**	**Port 2**
Half Height Servers						
BL280c G6	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
BL460c G6	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
BL460c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
BL465c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
BL490c G6	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
BL490c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	No Mezz Slot 3 on this model	
Full Height Servers						
BL620c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb
BL680c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb
BL685c G6	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb
BL685c G7	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb	Up to 8Gb

NOTE: The Brocade 804 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: HP ProLiant Generation (G5) and earlier server blades do not support the Brocade 804 8Gb FC HBA for HP BladeSystem c-Class.
NOTE: HP ProLiant BL465c G6 and the BL495c G6 do not support the Brocade 804 8Gb FC HBA for HP BladeSystem c-Class.

Switch interoperability

HP StorageWorks and Third Party Switches

- 8Gb Switches and Directors
- 4Gb Switches and Directors
- 2Gb Switches and Directors
- Compatible with Fibre Channel switches including HP StorageWorks and third party vendors including Cisco, Brocade, and McDATA

Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

NOTE: Server Options Limited Warranty includes 1 year Parts.

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMware-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution
  HP has introduced a new building block approach which allows customers to purchase the right coverage at the right time whether purchasing an initial server blade plus enclosure or purchasing additional ProLiant server blades over time. HP will offer two sets of Care Pack services, one designed to support the server blade and one designed to support the enclosure.

HP Care Pack services for HP ProLiant 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.

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 Ethernet devices covered include the Ethernet Pass-Through Module, Fibre Channel Pass-Through Module, Cisco Catalyst 3020 Blade Switch and GbE2c Ethernet Blade Switch.

NOTE: For more information regarding the Blade service portfolio visit our worldwide web site on the internet at: http://h20219.www2.hp.com/services/cache/81725-0-0-225-121.html
NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: http://www.hp.com/hps/carepack
NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: http://www.hp.com/hps
NOTE: Additional information regarding worldwide limited warranty and technical support is available at: http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html
(1-1-1) Hardware Warranty - One-year on-site warranty, 8x5, next business day response, installation not included.
NOTE: The hardware warranty covers firmware and embedded non-saleable software. Saleable software carries its own warranty, please see below.

Software Warranty: HP warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery.
EXCLUSIVE REMEDY: The entire liability of HP and its suppliers and your exclusive remedy for software that does not conform to this Limited Warranty shall be the repair or replacement of the defective media. This warranty and remedy are subject to your returning the defective media during the warranty period to HP in the country in which you obtained the software.

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	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UE458E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE459E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE460E
	Support Plus 24	
	Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	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 Ethernet devices covered include the Ethernet Pass-Through Module, Fibre Channel Pass-Through Module, Cisco Catalyst 3020 Blade Switch and GbE2c Ethernet Blade Switch.	
	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UE477E
	NOTE: Uplifts the Ethernet devices to the same level of warranty as the c-class enclosure.	
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UE478E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE479E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE480E
	NOTE: The HP Care Pack service part numbers below covers the HP 4Gb, 12 Port SAN Switch & 4Gb, 12 Port SAN Switch Upgrade LTU.	
	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage 3 Years, Electronic	UC007E
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UC008E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UC009E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UC023E
	NOTE: The HP Care Pack service part numbers below covers the HP 4Gb, 24 Port SAN Switch.	
	Hardware Services On-site Service	
	Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	UE436E
	4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	UE437E
	4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE438E
	6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	UE439E
	Hardware Installation, Electronic	U5988E
	NOTE: The HP Care Pack service part numbers below covers the HP 4Gb, 24 Port SAN Switch Power Pack.	
	Hardware Services On-site Service	
	Support Plus	

Related Options

Onsite HW support, 8am-9pm, M-F, 4hr response and SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	UE728E
Support Plus 24	
Onsite HW support 24x7, 4hr response and SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic	UE729E
Installation & Start-up Services	
HP Installation & Startup Service for HP BladeSystem Infrastructure, Electronic	UE602E
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.	
ProLiant BL c-Class Blade Server Hardware Installation, Electronic	UE493E
ProLiant BL c-Class Enclosure and Server Blade Hardware Installation, Electronic	UE494E
Provides for the Installation and Start-up of ProLiant Essentials Rapid Deployment Pack, Electronic	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.	
Provides for the Installation and Start-up of Rapid Deployment Pack Implementation of Rapid Deployment Pack (Basic) (Electronic)	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.	
Provides for the Installation and Start-up of System Insight Manager (Electronic)	UA041E
Provides for the Installation and Start-up of System Insight Manager Agents (Electronic)	UA040E
NOTE: For more information, customer/resellers can contact http://www.hp.com/hps/carepack/services/	
Software Operating Environment Care Packs	
Microsoft Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic)	U8169E
Red Hat Software Operating Environment Software Telephone 9x5 - 10 incident (Electronic)	U3402E
SUSE Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic)	U9615E
ProLiant Essentials Operating Environment, - 5 Day, 9x5,1 year, 3 incident (Electronic)	U8222E
ProLiant Essentials Operating Environment, - 5 Day, 24x7,1 year, 3 incident (Electronic)	U8301E
ProLiant Essentials Operating Environment, - 5 Day, 9x5,1 year, 10 incident	UE006E
ProLiant Essentials Operating Environment, - 5 Day, 24x7,1 year, 10 incident	UE116E
ProLiant Essentials Operating Environment, - 5 Day, 9x5,1 year, 25 incident	UE117E

Related Options

ProLiant Essentials Operating Environment, - 5 Day, 24x7,1 year, 25 incident	UE118E
ProLiant Essentials Operating Environment, - 5 Day, 9x5,1 year, 50 incident	UE119E
ProLiant Essentials Operating Environment, - 5 Day, 24x7,1 year, 50 incident	UE120E
ProLiant Essentials Operating Environment, - 5 Day, 9x5,1 year, unlimited SW Tech Support	UE121E
ProLiant Essentials Operating Environment, - 5 Day, 24x7,1 year, unlimited SW Tech Support	UE452E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 3 year, unlimited SW Tech Support	UE453E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 3 year, unlimited SW Tech Support	UE454E

NOTE: For more information, customer/resellers can contact http://www.hp.com/hps/carepack/services/

Technical Specifications

System Unit	**Dimensions** (H x W)	4.460" x 3.970"	
	Media	N/A (Backplane connection to Virtual Connect, Switch or Pass-Thru Module)	
	Ports	Two	
	Power requirement	10W maximum	
	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.

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