

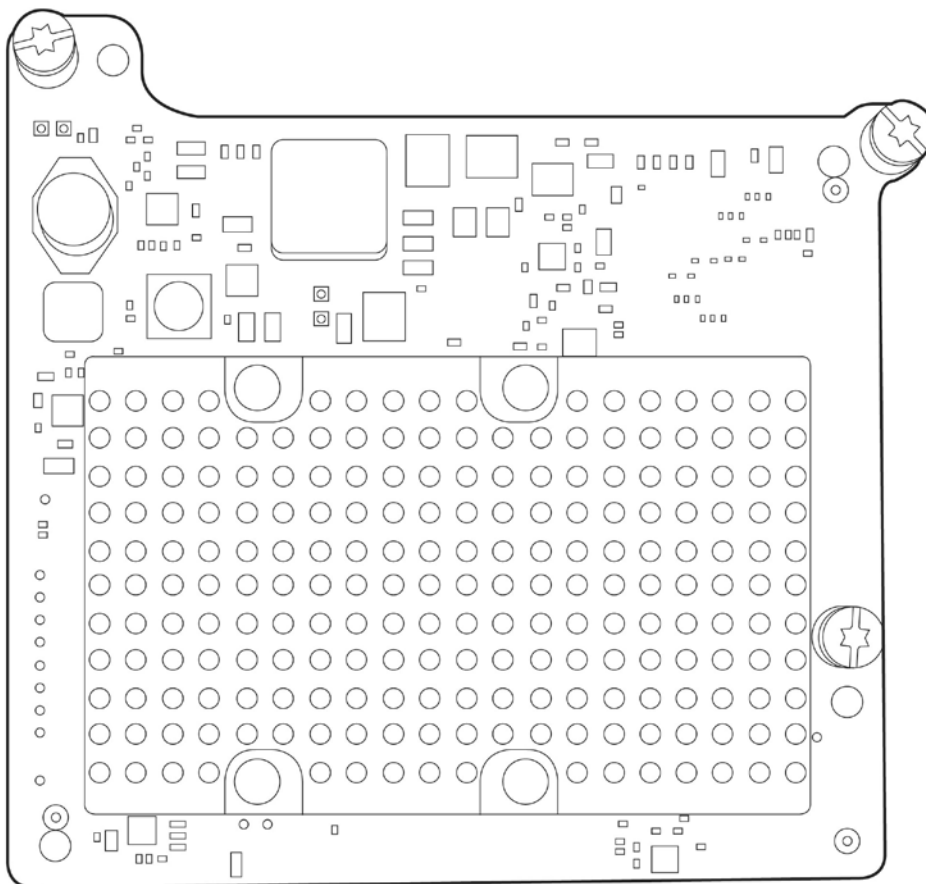
Overview

HPE QMH2672 16Gb FC HBA for BladeSystem c-Class

The QMH2672 16Gb FC HBA is a dual channel Fibre Channel mezzanine card that provides reliable, high-performance connectivity at 8Gb/s or 16Gb/s. This is a Type A mezzanine card for HPE BladeSystem c-Class that is compatible with HPE ProLiant Server blades starting with Gen8. All HPE 8 Gb and 16 Gb Fibre Channel Interconnects for BladeSystem c-Class are supported by the QMH2672. It is optimized for HPE and is also supported by third-party SAN vendors. For details on supported HPE Fibre Channel SAN Switches, please consult the SAN Design Reference Guide at the following WEB address

<https://www.hpe.com/us/en/networking/switches.html>.

The HPE BladeSystem c7000 Platinum Enclosure is required to permit 16Gb/s speed. Other HPE BladeSystem c7000 Enclosures and HPE BladeSystem c3000 Enclosures will have a maximum speed of 8Gb/s.



HPE QMH2672 16Gb FC HBA for HPE BladeSystem c-Class

Models

HPE QMH2672 16Gb Fibre Channel Host Bus Adapter

710608-B21

Overview

Key Features

- Performance Optimized:
 - Capable of delivering twice the data throughput (MB/s) compared to 8Gb FC HBAs
 - High link speed combined with larger data block sizes results in improved application performance
- Virtualization Optimized:
 - Ideal for high density server virtualization environments
 - Enables more applications and Virtual Machines to run on a single server and Fibre Channel port, resulting in reduced cabling and a higher return on IT investment
- Power Optimized
 - Latest generation technology saves power
 - Reduced number of components on each FC HBA reduces overall power consumption
- RAS Optimized
 - Highest Data Integrity; Overlapping Protection Domains (OPD) extended for control and data paths
- Security Optimized
 - SAN-level authentication (FC-SP), fabric-level isolation (NPIV and end-to-end data integrity (T10))
- Management Optimized
 - Unified driver model eliminates potential interoperability issues between firmware and driver versions and reduces upgrade time
 - Common drivers for 16Gb8Gb and 4Gb
- Fault tolerant HBA Architecture
- Two 16Gb/s Fibre Channel ports
- 16/8- automatic speed negotiation without throttling down to the external SAN speed
- Multi-Path support for redundant HBAs and paths including Linux driver failover.
- Superior performance capable of sustaining more than 500,000 I/Os per second per channel
- RoHS compliance
- QLogic Converge Console management utility for centralized management and remote control of distributed HBAs.
- Operating Systems and Virtualization Software Supported: Windows Server 2012, Windows Server 2012 Hyper-V, Windows Server 2008 R2 SP1 x64, Windows Server 2008 SP2 x86 and x64, Windows Server 2008 R2 SP1 Hyper-V x64, VMware 5.1 x64, RHEL 5.8, RHEL 5.9, RHEL 6.3 x64, RHEL 6.4 x64, SLES 11.

NOTE: For more operating system support & certification information, please visit:

http://h17007.www1.hp.com/us/en/enterprise/servers/supportmatrix/redhat_linux.aspx#.V4e8tPkrJD8

Kit Contents

1. HPE QMH2672 16Gb FC HBA for HPE BladeSystem c-Class
2. Quick install card
3. Product warranty statement

Product Highlights

BladeSystem Compatibility

- Supported HPE ProLiant Server Blades**
- BL460c Gen9
 - BL660c Gen9
 - WS460c Gen9

NOTE: The HPE QMH2672 16Gb FC HBA for HPE BladeSystem c-Class must be deployed with the BladeSystem c-Class infrastructure and will only work with the BL c-Class Server Enclosures.

NOTE: The HPE BladeSystem c7000 Platinum Enclosure is required to permit 16Gb/s speed. Other HPE BladeSystem c7000 Enclosures and HPE BladeSystem c3000 Enclosures will have a maximum speed of 8Gb/s.

NOTE: The HPE QMH2672 16Gb FC HBA for HPE BladeSystem c-Class is not compatible with 4Gb BladeSystem c-Class Fibre Channel interconnects.

NOTE: The HPE QMH2672 16Gb FC HBA for HPE BladeSystem c-Class is not compatible with HPE ProLiant G7 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 HPE ProLiant Gen8 Server Blades.

Switch interoperability

- HPE Storage and Third Party Switches**
- 16/8/4 Gb Switches and Directors
 - Compatible with external Fibre Channel switches including Hewlett Packard Enterprise and third party vendors including Cisco and Brocade
 - Compatible with 8Gb and 16Gb HPE BladeSystem c-Class Fibre Channel switches and Virtual Connect Modules

For details on supported HPE Fibre Channel SAN Switches, please consult the SAN Design Reference Guide at the following WEB address: <https://www.hpe.com/us/en/networking/switches.html>

Standard Features

Service and Support

NOTE: This Fiber Channel HBA is supported by the Care Packs covering the HPE Server Infrastructure. No separate Care Packs need to be purchased for this device.

HPE Technology Services for Industry Standard Servers

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Connect to HPE to help prevent problems and solve issues faster. Our support technology lets you tap into the knowledge of millions of devices and thousands of experts to stay informed and in control, anywhere, any time.

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HPE Care Pack Services enable you to order the right service level, length of coverage and response time as you purchase your new server, giving you full entitlement for the term you select.

Connect your devices to HPE:

Unlock all of the benefits of your technology investment by connecting your products to HPE. Achieve up to 77% reduction in down time, near 100% diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

HPE Support Center

Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with HPE experts, access support resources or collaborate with peers. Learn more <https://www.hpe.com/us/en/services/it-support.html>

The HPE Support Center Mobile App* allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime.

HPE Insight Remote Support and HPE Support Center are available at no additional cost with a HPE warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement.

*The Hewlett Packard Enterprise Support Center Mobile App is subject to local availability.

Parts and materials

Hewlett Packard Enterprise will provide HPE-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.

Service Coverage

For ProLiant servers and storage systems, the Care Pack service on the main product covers HPE-branded hardware options not designated by HPE as requiring separate coverage that are qualified for the server, are purchased at the same time or afterward, and are internal to the enclosure. For BladeSystem enclosures, this service covers the enclosure, power supplies, fans, enclosure devices, and options not designated by HPE as requiring separate coverage.

Technical Specifications

System Unit	Dimensions (H x W)	3.5 in x 3.9 in	
	Media	N/A (Always connects 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).
	Power Consumption	Max	13 W

Environment-friendly Products and Approach **End-of-life Management and Recycling**

Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <https://www.hpe.com/us/en/living-progress.html>. To recycle your product, please go to: <https://www.hpe.com/us/en/living-progress.html> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise 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 Enterprise web site at: <https://www.hpe.com/us/en/living-progress.html>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HPE OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

Summary of Changes

Date	Version History	Action	Description of Change
10-Feb-2017	From Version 4 to 5	Changed	Overview, Compatibility, Standard Features and Technical Specifications sections were updated.
14-Oct-2016	From Version 3 to 4	Changed	Rebranding edition
24-Apr-2015	From Version 2 to 3	Added	Service and Support was revised.
		Changed	Service and Support was revised.
		Removed	Service and Support was revised.
18-Apr-2014	From Version 1 to 2	Changed	Service and Support was revised.



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