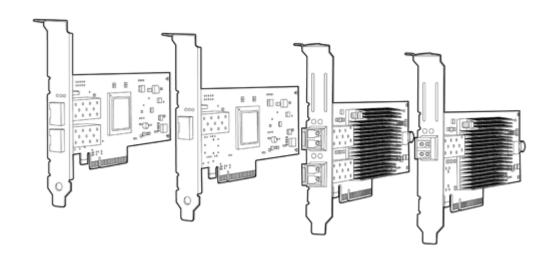# QuickSpecs

Overview

Models

	Description	Part Number
HP StorageWorks 81Q PCIe FC HBA Single Port (Qlogic)	StorageWorks 8Gb, PCIe to Fibre Channel Host Bus Adapter for Windows, Windows Server, and Linux. (Qlogic QLE2560)	AK344A
HP StorageWorks 82Q PCIe FC HBA Dual Port (Qlogic)	StorageWorks 8Gb, Dual Channel PCIe to Fibre Channel Host Bus Adapter for Windows, Windows Server, and Linux. (Qlogic QLE2562)	AJ764A
HP StorageWorks 81E PCIe FC HBA Single Port (Emulex)	StorageWorks 8Gb, PCIe to Fibre Channel Host Bus Adapter for Windows, Windows Server, and Linux. (Emulex LPe12000)	AJ762A
HP StorageWorks 82E PCIe FC HBA Dual Port (Emulex)	StorageWorks 8Gb, PCIe to Fibre Channel Host Bus Adapter for Windows, Windows Server, and Linux. (Emulex LPe12002)	AJ763A

Overview

Product Description

The introduction of the HP StorageWorks 8Gb PCIe Fibre Channel Host Bus Adapters brings datacenter infrastructure components to a higher level of performance and efficiency. The HP StorageWorks 8Gb PCIe FC Host Bus Adapters are priced only slightly higher than equivalent 4 Gb HBAs, yet, they have the ability to deliver twice the I/O performance. In addition, an 8 Gb FC HBA purchased today will protect your investment longer than if you were to purchase an equivalent 4 Gb HBA. If you are using storage intensive applications, such as rich media, the increased performance of the 8 Gb infrastructure allows you to store and retrieve critical information faster.

The virtualization of servers has become an important capability for most datacenters. The ability to improve overall server utilization, resulting in significant cost savings, has made server virtualization a "must-have" for most enterprises. By having an HBA that supports and maximizes your server virtualization efforts, you are protecting your significant investments in virtualization technology.

Since most of today's datacenters are required to be available 24 X 7, it is critical that infrastructure components have failover capabilities. By installing redundant HBAs into your servers, you can feel confident that your servers will remain connected to mission-critical stored data.

Finally, today's enterprises are becoming more and more sensitive to the power consumption within the datacenter. The 8 Gb PCIe FC Host Bus Adapters provide a number of features that work together to reduce power consumption, thus delivering a "green" benefit within the server.

Features and Benefits

Key Features - 81Q PCIe FC HBA (AK344A) and 82Q PCIe FC HBA (AJ764A)

First step into the 8 Gb future
- Better performance at a competitive price
- Well positioned for the future with 8 Gb technology
- Enhanced for storage intensive applications

Advanced embedded support for virtualized environments
- Supports virtualized servers for overall effective server utilization
- Allows multiple logical (virtual) connections to share the same physical port
- 256 queue pairs for intensive virtualization
- Prioritization of queues prevents conflicts between multiple queues

Redundant HBAs for high availability
- Failover of HBAs to prevent single point of failure
- Two single port cards are more reliable than one dual port card

Reduced power consumption
- Latest generation technology saves power
- Reduced number of components on each FC HBA reduces overall power consumption
- Lower power consumption means HBA requires lower airflow

Key Features - 81E PCIe FC HBA (AJ762A) and 82E PCIe FC HBA (AJ763A)

First step into the 8 Gb future
- Better performance at a competitive price
- Well positioned for the future with 8 Gb technology
- Enhanced for storage intensive applications

Advanced embedded support for virtualized environments
- Comprehensive virtualization capabilities with support for N-Port ID Virtualization (NPIV) and Virtual Fabric
- Virtualized server environments benefiting from industry-leading CPU offload
- Scaled up NPIV configurability (255 VPorts, larger RPI count - 4000)
- Support for large number of simultaneous transactions/exchanges (XRI count - 4000)
- Host to Fabric FC-SP authentication

Redundant HBAs for high availability
- Failover of HBAs to prevent single point of failure
- Two single port cards are more reliable than one dual port card

Enhanced Security and Performance
- Protection against corruption (BlockGuard/T10 dif) and unauthorized intrusion (FC-SP)
- Support for Message Signaled Interrupts extended (MSI-X), improves host utilization & enhances application performance
- Complete data and code parity protection
- Data parity and ECC protection
- Overlapping end-to-end data protection

Features and Benefits

Benefits At a Glance

Get better performance at a competitive price
The 8 Gb series of fibre channel host bus adapters are priced only slightly higher than equivalent 4 Gb HBAs, yet they have the ability to deliver twice the I/O performance.

Be well positioned for the future with 8 Gb technology
Since 4 Gb technology will be considered "old" soon, customers have the opportunity to move to 8 Gb technology, which is backward compatible with 4 Gb and 2 Gb and will serve them for a much longer period than 4 Gb technology.

Enhanced for storage intensive applications
When using storage intensive applications like backup/restore, database transactions, and rich media, the improved I/O performance allows you to store and retrieve data much faster

Supports virtualized servers for overall effective server utilization
Today, the average server operates at approximately 25% of its capacity and IT administrators are being challenged to increase server utilization and reduce operational costs. The 8Gb HBA support for virtualized servers will assist IT administrators in their adoption of server virtualization.

Evolving HBA technology keeps pace with the effective bandwidth of server busses.
. The new 8Gb Fibre Channel technology is a natural complement to the PCIe 2.0 bus architecture and will provide servers with ample bandwidth and throughput performance.

Redundant HBAs for high availability
Failover of HBAs to prevent single point of failure. Two single port cards have higher data availability than one dual port card.

Latest generation technology saves power
Eliminating unnecessary internal activity results in reduced power consumption and waste.(Qlogic)

Service and Support, HP Care Pack and Warranty Information

Warranty

3-0-0 Three-year parts exchange warranty. Additional Warranty protection can be purchased.
HP Global Services provides a three-year, limited warranty, fully supported by a worldwide network of resellers and service providers toll-free 7 x 24 hardware technical phone support for the duration of the warranty. In addition, available service offerings include a full range of HP Care Pack packaged hardware and software services.
NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

Software Product Services	Stand-alone telephone support
	Rights to new license version
	Media and documentation updates

Hardware Product Services	Installation services
	On-site maintenance (includes warranty support)
	Response time upgrades during the warranty period
	Post-warranty coverage
	RAID setup and performance consulting via statement of work
	For additional hardware installation and maintenance information, please refer to the URL listed below: http://www.hp.com/hps/hardware/.

Warranty Upgrade Options	Response - Upgrade on-site response from next business day to same day 4 hours
	Coverage - Extend hours of coverage from 5 days x 9 hours to 7 days x 24 hours
	Duration - Select duration of coverage for a period of 1, 3, or 5 years
	Additional Warranty protection and/or HP Installation packages can be purchased.

HP Care Pack Information Sample part numbers:

3 years, uplift to 5 x 9, Next Day Response	FM-**XHW-36
3 years, uplift to 5 x 9, 4-hour Response	FM-**4HR-36
3 years, uplift to 7 x 24, 4-hour Response	FM-**724-36
Hardware Installation	FM-**INS-IN

** Represents a two-digit, product-specific code

HP Care Pack is defined as an upgrade to the product warranty attribute, available for a specific duration and hours of coverage.

HP Care Pack is not available for less than the product's warranty duration.

HP Care Pack is available for sale anytime during the warranty period for most products, but the commencement date will be the same as the Warranty Start Date (delivery date to end user customer). Proof of purchase may be required.

HP Care Pack services are prepaid.

If ordering this HBA for a non-HP server, manually add package band 8D4 and Installation HA113A1 band 527. If ordering this HBA as an add-on to an existing HP server, manually add Installation HA113A1 band 527.

Service and Support, HP Care Pack and Warranty Information

For additional HP Care Pack (hardware & software) information, as well as orderable part numbers, please refer to the URL: http://www.hp.com/hps/carepack/

NOTE: Certain restrictions and exclusions apply. Consult the HP Customer Support Center for details.

Technical Specifications

	81E PCIe	82E PCIe Dual Port	81Q PCIe	82Q PCIe Dual Port
Number of channels	Single	Dual	Single	Dual
Port Speed	8 Gb	8 Gb	8 Gb	8 Gb
Slot type supported	PCI Express 2.0 to Fibre Channel	PCI Express 2.0 to Fibre Channel	PCI Express 2.0 to Fibre Channel	PCI Express 2.0 to Fibre Channel
OS Supported	Microsoft Windows Server 2003 (x86 and 64-bit Extended) Microsoft Windows Server 2008 Linux Red Hat Enterprise Linux 4.5/4.6 & 5.1 / 5.2 (x86, AMD64, EM64T) SUSE Linux Enterprise Server 9 &10 SP1 (x86, AMD64, EM64T)	Microsoft Windows Server 2003 (x86 and 64-bit Extended) Microsoft Windows Server 2008 Linux Red Hat Enterprise Linux 4.5/4.6 & 5.1/ 5.2 (x86, AMD64, EM64T) SUSE Linux Enterprise Server 9 & 10 SP1 (x86, AMD64, EM64T)	Microsoft Windows Server 2003 (x86 and 64-bit Extended) Microsoft Windows Server 2008 Linux Red Hat Enterprise Linux 4.5/4.6 & 5.1/ 5.2 (x86, AMD64, EM64T) SUSE Linux Enterprise Server 9 & 10 SP1 (x86, AMD64, EM64T)	Microsoft Windows Server 2003 (x86 and 64-bit Extended) Microsoft Windows Server 2008 Linux Red Hat Enterprise Linux 4.5/4.6 & 5.1 /5.2 (x86, AMD64, EM64T) SUSE Linux Enterprise Server 9 & 10 SP1 (x86, AMD64, EM64T)
Servers Supported	HP ProLiant	HP ProLiant	HP ProLiant	HP ProLiant
Array Platforms Supported	EVA4x00, EVA4400 EVA6x00, EVA8x00, MSA1000 MSA1500 MSA2000 XP128/1024 XP10000/12000 XP20000/24000	EVA4x00, EVA4400 EVA6x00, EVA8x00, MSA1000 MSA1500 MSA2000 XP128/1024 XP10000/12000 XP20000/24000	EVA4x00, EVA4400 EVA6x00, EVA8x00, MSA1000 MSA1500 MSA2000 XP128/1024 XP10000/12000 XP20000/24000	EVA4x00, EVA4400 EVA6x00, EVA8x00, MSA1000 MSA1500 MSA2000 XP128/1024 XP10000/12000 XP20000/24000
What's Included in the Box?	8 Gb HBA with standard bracket, one 8 Gb SFP, low-profile bracket, Quick-Install Guide	8 Gb HBA with standard bracket, one 8 Gb SFP, low-profile bracket, Quick-Install Guide	8 Gb HBA with standard bracket, one 8 Gb SFP, low-profile bracket, Quick-Install Guide	8 Gb HBA with standard bracket, one 8 Gb SFP, low-profile bracket, Quick-Install Guide
Environmental - Operating Temperature	32° to 131° F (0° to 55° C)	32° to 131° F (0° to 55° C)	32° to 131° F (0° to 55° C)	32° to 131° F (0° to 55° C)
Environmental - Storage Temperature	-20° to 158° F (-40° to 70° C)	-20° to 158° F (-40° to 70° C)	-20° to 158° F (-40° to 70° C)	-20° to 158° F (-40° to 70° C)
Environmental - Relative Humidity - Operating	5% to 95% non-condensing	5% to 95% non-condensing	10% to 90% non-condensing	10% to 90% non-condensing
Product Dimensions (HxW)	6.60 x 2.71 in (167.64mm x 2.71 mm)	6.60 x 2.71 in (167.64mm x 2.71 mm)	6.60 x 2.54 in (167.64 mm x 64.4 mm)	6.60 x 2.54 in (167.64 mm x 64.4 mm)
Media	Multi-mode Optic (SFP+)	Multi-mode Optic (SFP+)	Multi-mode Optic (SFP+)	Multi-mode Optic (SFP+)
Connector	Short wave laser with LC type connector	Short wave laser with LC type connector	Short wave laser with LC type connector	Short wave laser with LC type connector
PCIe Connector	PCIe x8 Max x4 lanes Gen2 Max x8 lanes Gen1	PCIe x8 Max x4 lanes Gen2 Max x8 lanes Gen1	PCIe x8 Max x4 lanes Gen2 Max x8 lanes Gen1	PCIe x8 Max x4 lanes Gen2 Max x8 lanes Gen1
Auto-negotiation	8 Gb/4 Gb/2 Gb	8 Gb/4 Gb/2 Gb	8 Gb/4 Gb/2 Gb	8 Gb/4 Gb/2 Gb

Technical Specifications

Brackets	Shipped with both ½ height and full-height brackets	Shipped with both ½ height and full-height brackets	Shipped with both ½ height and full-height brackets	Shipped with both ½ height and full-height brackets

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