Overview

The HP StoreFabric SN1000 16Gb Host Bus Adapters are designed to support ProLiant Servers with PCI-Express I/O slots to connect to HP Storage Arrays using the 16/8/4 Gb Fibre Channel protocol.

The HP SN1000 16Gb Host Bus Adapters bring datacenter infrastructure components to a higher level of performance and efficiency with the ability to deliver twice the I/O performance of 8Gb HBAs. A 16Gb FC HBA purchased today is backward compatible with 8 and 4 Gb storage networks and will protect future investments. When using storage intensive applications, such as backup/restore, database transactions, virtualization, and rich media, the increased performance of the 16 Gb infrastructure enables more rapid storage and retrieval of critical information. Designed for environments with greater virtual machine density and bandwidth requirements, the SN1000 16Gb HBAs enable more applications and VMs to run on a single server and Fibre Channel port, resulting in reduced cabling and a higher return on IT investment

What's New

- HP SN1100E 16Gb Single-Port Fibre Channel Host Bus Adapter (C8R38A)
- HP SN1100E 16Gb Dual-Port Fibre Channel Host Bus Adapter (C8R39A)

Key Features and Benefits

Performance	Delivers, up to six times the IOPS, twice the data throughput (MB/s) and cuts latency by half compared to 8Gb FC HBAs • Best Fibre Channel IOPS, latency and throughput performance enables increased application and database transactions per second, enables faster large block transfers and increases the number of VMs that can be supported per server.
Support for greater Server Virtualization	Ideal for high density server virtualization environments • Enables more applications and VMs to run on a single server and Fibre Channel port, resulting in reduced cabling and a higher return on IT investment
Provides HP ProLiant Connectivity to Storage And Network	Robust interoperability testing • Provides an HP-branded HBA solution which has undergone extensive HP interoperability testing for connecting HP ProLiant servers into storage and networking environments. • Optimal for connecting to HP's16Gb FC edge/core network switches.
Improved IOPS performance per watt	Power savings result in lower Operating expenditure.

Models

	Description	Part Number
SN1000E Single Port	HP SN1000E 16Gb 1-port PCIe Fibre Channel Host Bus Adapter	QR558A
SN1000E Dual Port	HP SN1000E 16Gb 2-port PCIe Fibre Channel Host Bus Adapter	QR559A
SN1000Q Single Port	HP StoreFabric SN1000Q 16GB 1-port PCIe Fibre Channel Host Bus Adapter	QW971A
SN1000Q Dual Port	HP StoreFabric SN1000Q 16GB 2-port PCIe Fibre Channel Host Bus Adapter	QW972A
SN1100E Single Port	HP StoreFabric SN1100E 16Gb Single Port Fibre Channel Host Bus Adapter	C8R38A
SN1100E Dual Port	HP StoreFabric SN1100E 16Gb Dual Port Fibre Channel Host Bus Adapter	C8R39A

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 and 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.

Service and Support

Services to accelerate time to results

HP Storage Services bring you a rich portfolio of consulting and support services designed to add value to our core storage products and solutions. We have the know-how and experience to put storage technology to work for you. We work closely with you as your strategic partner, leveraging our full services portfolio to make sure that everything works to optimize your enterprise.

- Choose from services aligned to our storage product offerings and lifecycle. From mission-critical onsite services to innovative web-based remote support, you choose the precise level of attention and support your business demands.

Discover, plan, and design

Choose from a rich portfolio of services to make the most of HP StoreFabric Storage, so you can efficiently and affordably consolidate, manage, and extract value from unstructured data.

HP Services can help you discover needs and create a plan for simplifying the environmen reducing risk, and maximizing your storage investments

HP Backup Recovery Efficiency Analysis - Assessment of how efficiently backup components ar being used as the amount of data to be backed up continues to grow exponentially via analysis intelligence and a snapshot of your current backup environment.
http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8490ENW.pdf

HP Backup Recovery Impact Analysis - Focus placed on service requirements and design as the key to success for gaining a clear understanding of the role of increasingly diverse data protection strategies. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1175ENW.pdf

HP Backup Recovery Modernization - Initial discovery, interviews, reference architecture design, proposal content development, vendor grading, and final recommendations carried out so as to require minimal resources and locations on your part.
http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-1199ENW.pdf

- **HP Storage Cloud Design Service -** Build a scalable, low-cost enterprise storage environment with inherent cloud benefits to meet big data needs.

Deploy and integrate

We can help you configure, set up, and efficiently use your HP StoreFabric Storage, as wel as help migrate data, improve capacity utilization, and establish information management standards used across backup, replication, and archiving needs.

HP Enhanced Implementation Service for SANs - Select this service for complete design and implementation support for Fibre Channel, FCoE, FCIP, SAS, and iSCSI SAN connectivity components

HP Storage Data Migration Services - End-to-end data migration service providing seamless discovery, assessment, planning, and design, completely customizable to your organization's storage area network or network attached storage environment and using innovative software to help you migrate to HP storage quickly and efficiently.
http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-0774ENW.pdf

HP Storage and Data Consultant Residency Service - Strategic augmentation of your current environment with HP resources who become your trusted advisor to provide answers that are right for your storage and backup environment.

Service and Support, HP Care Pack and Warranty Information

http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA3-9481ENW.pdf

HP Proactive Select - A flexible way to purchase services to fit your environment with an extensive menu of HP Proactive Select event and technical services, such as onsite firmware upgrades, health checks, assessments, and education.
http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENW.pdf

Operate and support	**Choose the right support to maximize uptime, free up your resources, and achieve improve value-as you get the most out of the existing IT assets while accelerating time-to-revenue.** **HP Proactive Care 24x7 -** Hardware and software support services designed specifically for your technology with rapid access to Advanced Solution Center Specialists plus firmware and software management and best practice advice http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855ENW.pdf **HP Proactive Care Personalized Support -** An option-if you have HP Proactive Care- to bring increased personalization of the Proactive Care support experience through the assignment of an Account Service Manager (ASM) who provides IT best practice advice to help address IT issues and projects. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA4-3446ENW.pdf **HP Support Plus 24 -** Support for environments where proactive help from HP is not required, with 24x7 hardware and software support onsite that includes third-party support with a maximum four-hour onsite response. http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf **HP Education Services -** Comprehensive training for new, as well as experienced, storage administrators designed to expand your skills and keep you up to speed with the latest storage and virtualization technology from HP Storage. http://education.hp.com/curr-storsan.htm
Optimized Care - Delivers the highest levels of performance and stability through deployment and proactive management practices	**Choose from three levels of operate and support care** **HP Proactive Care 24x7-Plus, 20 credits per year** **Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additiona HP Proactive Select credits per year**
Standard Care-maintains high level of uptime, along with expert help to cut the cost and complexity of implementation and support	**HP Proactive Care 24x7-Plus, 10 credits per year** **Additional options - HP Proactive Care Personalized Support (once per Proactive Care support new environment), an additional day of HP Personalized Support, and 10 additiona HP Proactive Select credits per year**
Basic Care-Minimum recommended support	Support Plus 24- Plus, 10 credits per year **Additional options -** 10 HP Proactive Select credits per year
Remote Support Automation	HP Insight Remote Support-Available at no additional cost to all warranty, HP Care Pack Service and service agreement customers, uses proven technology to deliver secure, reliable 24x7 remote monitoring, diagnosis and problem resolution. http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-4676ENW.pdf http://h18004.www1.hp.com/products/servers/management/insight-remote-support/overview.html
For more information	www.hp.com/services/storage

Service and Support, HP Care Pack and Warranty Information

To learn more on HP Storage Services, please contact your HP sales representative or HP Authorized Channel Partner

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.
- Customers purchasing from a commercial reseller can find HP Care Pack Services at www.hp.com/go/lookuptool

Technical Specifications

	QR558A	QR559A	QW971A	QW972A	C8R38A	C8R39A
Number of channels	Single	Dual	Single	Dual	Single	Dual
Port Speed	16 Gbps	16 Gbps	16 Gbps	16 Gbps	16Gbps	16Gbps
Slot type supported	PCI Express 2.0 to Fibre Channel	PCI Express 2.0 to Fibre Channel	PCI Express 3.0 to Fibre Channel	PCI Express 3.0 to Fibre Channel	PCI Express 3.0 to Fibre Channel	PCI Express 3.0 to Fibre Channel
OS Supported **NOTE:** Always refer to the HP Single Point of Connectivity Knowledge for HP Storage Products at: www.hp.com/storage/spock for specific product support information and specific OS versions supported.						
Windows Server 2008	x86, x64	x86, x64	x86, x64	x86, x64	x86, x64	x86, x64
Windows Server 2008 R2 Hyper-V	x64	x64	x64	x64	x64	x64
RHEL	x64	x64	x64	x64	x64	x64
VMware ESX/ESXi	x64	x64	x64	x64	x64	x64
SLES	x86, x64	x86, x64	x86, x64	x86, x64	x86, x64	x86, x64
Servers Supported	Select HP ProLiant G7 and HP ProLiant Gen8 servers **NOTE:** Refer to server QuickSpecs for details regarding supported options.					
Array Platforms Supported	Refer to www.hp.com/storage/spock for specific product support information					
What's Included in the Box?	16 Gbps HBA with standard bracket, one 16 Gbps SFP+, low-profile bracket, documentation	16 Gbps HBA with standard bracket, two 16 Gbps SFP+, low-profile bracket, documentation	16 Gbps HBA with standard bracket, one 16 Gbps SFP+, low-profile bracket, documentation	16 Gbps HBA with standard bracket, two 16 Gbps SFP+, low-profile bracket, documentation	16 Gbps HBA with standard bracket, one 16 Gbps SFP+, low-profile bracket, documentation	16 Gbps HBA with standard bracket, two 16 Gbps SFP+, low-profile bracket, documentation
Environmental - Operating Temperature	32º F to 113º F (0º C to 45º C)	32º F to 113º F (0ºC to 45º C)	32º F to 131º F (0º C to 55º C)	32º F to 131º F (0ºC to 55º C)	32º F to 113º F (0º C to 45º C)	32º F to 113º F (0ºC to 45º C)
Environmental - Storage Temperature	-40º F to 158º F (-40º C to 70º C)	-40º F to 158º F (-40º C to 70º C)	-4º F to 158º F (-20º C to 70º C)	-4º F to 158º F (-20º C to 70º C)	-40º F to 158º F (-40º C to 70º C)	-40º F to 158º F (-40º C to 70º C)
Environmental - Relative Humidity - Operating	15% to 80% RH at 40º C (non-condensing)	15% to 80% RH at 40º C (non-condensing)	10% to 90% RH at 40º C (non-condensing)	10% to 90% RH at 40º C (non-condensing)	15% to 80% RH at 40º C (non-condensing)	15% to 80% RH at 40º C (non-condensing)
Product Dimensions (W x D x H)	6.60 x 2.71 in. (167.64 x 68.91mm)	6.60 x 2.71 in. (167.64 x 68.91mm)	6.63 x 0.63 in. (119 x 168 x 16mm)	6.63 x 0.63 in. (119 x 168 x 16mm)	9 x 5 x 1.25 in. (230 x 130 x 35mm)	9 x 5 x 1.25 in. (230 x 130 x 35mm)
Media	Multi-mode Optic (SFP+)	Multi-mode Optic (SFP+)	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	Short wave laser with LC type connector	Short wave laser with LC type connector
PCIe Connector	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 3.0 x4	PCIe 3.0 x4	PCIe 3.0 x8	PCIe3.0x8
Auto-negotiation	16/8/4 Gbps	16/8/4 Gbps	16/8/4 Gbps	16/8/4 Gbps	16/8/4 Gbps	16/8/4 Gbps
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	Shipped with both ½ height and full-height brackets	Shipped with both ½ height and full-height brackets

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