

Overview

HPE SN1700 series 64Gb Fibre Channel Host Bus Adapter

The HPE SN1700E 64Gb Fibre Channel Host Bus Adapters are designed to support ProLiant Servers with PCI-Express I/O slots and allow them to connect to Hewlett Packard Enterprise Storage Arrays using the 64/32/16 Gb Fibre Channel protocol.

The HPE 64GFC Host Bus Adapters bring datacenter infrastructure components to a higher level of performance and efficiency with the ability to deliver twice the bandwidth performance of 32Gb HBAs. A 64GFC HBA purchased today is backward compatible with 32Gb and 16Gb 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 64GFC infrastructure enables rapid storage and retrieval of critical information. Designed for environments with greater virtual machine density and bandwidth requirements, the 64GbFC HBAs enable more applications and VMs to run on a single host server and Fibre Channel port, resulting in reduced cabling and a higher return on IT investment. Enhanced diagnostics and orchestration capabilities make 64Gb Fibre Channel adapters well suited to deliver on SLA requirements and application performance.

Models

Description	SKU
Single Port HPE SN1700E 64Gb 1-port Fibre Channel Host Bus Adapter	R7N77A
Dual Port HPE SN1700E 64Gb 2-port Fibre Channel Host Bus Adapter	R7N78A

Standard Features

Key Features and Benefits

Performance

Up to two ports of 64Gb FC delivers up to 10 million IOPS and 25,600 MBps bandwidth across two 64GFC ports.

Advanced integration with HPE B-series 64Gb and 32Gb fabrics to speed SAN deployment and configuration, speed and simplify SAN diagnostics, improve SAN resiliency and Quality of Service.

The combination of increased Fibre Channel IOPS and throughput with reduced latency 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.

PCIe 4.0

The SN1700E HBAs are powered by the XE601 controller and use an eight-lane (x8) PCIe 4.0 bus on the single-port and dual-port models (with backward compatibility to PCIe 3.0 supported).

Support for greater Server Virtualization

Higher bandwidth and the ability to virtualize physical ports with QoS in the adapter makes these adapters ideal for high density server virtualization environments. This results in reduced cabling and a higher return on IT investment.

Connectivity to HPE Server and Storage

Provides an HPE-branded HBA solution which has undergone extensive HPE interoperability testing for connecting HPE ProLiant and Apollo servers into HPE Storage and networking environments.

LUN Prioritization and QoS

HPE 64Gb FC HBAs support Class Specific Control (CS_CTL) which allows prioritization and bandwidth allocation at the LUN level. In addition, the SN1700E adapters support Virtual Machine ID (VM-ID) which further enhances prioritization and monitoring to the virtual machine within the SAN, providing a VM-aware storage network. These features are managed using OneCommand Manager, downloadable from [HPE Software Downloads](#).

FC-NVMe

HPE 64Gb Fibre Channel Host Bus Adapters are NVMe-enabled to support emerging NVM Express (NVMe) over Fibre Channel storage networks. The HBAs are capable of running both SCSI protocol and NVME protocol on the same wire at the same time.

Active Health System

All HPE 64GFC adapters support the HPE ProLiant Active Health System. This helps administrators accurately troubleshoot and resolves problem within the server faster.

Fabric Notifications for the Modern Data Center

The SN1700E supports new industry standards that further enhance autonomous SAN innovations to self-learn, self-optimize, and self-heal, proactively keeping the SAN running at maximum speed and avoiding downtime. The new industry standards supported by Emulex around Fabric Performance Impact Notifications (FPINs) include Link Integrity notification (FPIN-LI), Congestion notification (FPIN-CN), Peer Congestion notification (FPIN-PN), and Delivery notification (FPIN-DN). Please note Emulex SAN Manager software is required for this functionality.



Standard Features

T10 Protection Information (T10-PI)

HPE 64GFC adapters support T10-PI for enhanced data integrity when connected to T10-PI enabled arrays like HPE Alletra Storage

Forward error correction (FEC)

FEC is enabled and improved at 32GFC as required by the FC Specification, automatically correcting transmission errors and improving network performance and resiliency.

Link cable beaconing (LCB)

LED beaconing for ports on both ends of a physical link simplifies cable identification and management.

D-Port Diagnostics

Quickly run automated diagnostic tests in a single step, across multiple adapters, servers, and fabric components to assess connectivity. Optics and cable problems can be quickly identified and resolved.

FDMI,FC Ping, FC Trace Route

Quickly check connectivity to SAN devices and query the switch management server for in-depth details on connected devices.

Read Diagnostic Parameters (RDP)

Identify the source of network and media errors like cyclic redundancy check (CRC) and loss of sync (LOS) by remotely accessing diagnostic information from anywhere in the fabric.

Fabric-assigned Port Worldwide Name (FA_WWN)

Administrators can preconfigure WWN settings at the switch port allowing Fibre Channel adapter to acquire port WWN address from the 64Gb or 32GFCfabric. This allows SAN administrator to configure SAN zoning without need for servers to be present.

Fabric-based Boot LUN (F_BLD)

Allows Boot-LUN information directly from 64Gb or 32GFCswitch, speeding up deployment of new servers in a SAN environment.

Firmware Integrity Protection With Hardware Root of Trust

The HPE SN1700E 64Gb FC HBA incorporates a silicon-based Root of Trust (RoT) that keeps malicious firmware from hijacking the adapter. The adapter's RoT validates embedded signatures in the firmware against hardware embedded keys during adapter initialization and firmware updates. This ensures that only valid and authorized firmware executes, and keeps firmware updates that are applied over public networks secure.

Brocade Port Trunking

SN1700E port aggregation capability (also known as trunking) provides a method to aggregate physical ports together to form a single logical port. Aggregating physical ports to make a single high-bandwidth data path increases the logical connection bandwidth for applications that need it, such as data warehousing and virtual machine migration.



Service and Support

HPE Support Services and Warranty Information

Protect your business beyond warranty with HPE Support Services

HPE Technology Services delivers confidence, reduces risk and helps customers realize agility and stability. Our integrated portfolio of Services for storage help customers reduce costs, optimize data, streamline storage management, and improve backup and recovery. HPE Support Services enable you to choose the right service level, length of coverage and response time as you purchase your new storage solution, giving you full entitlement for the support for need for your IT and business.

Recommended Services

Support for this adapter is at the level of server it is a part of. Please check the quick specs of the server.

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.

Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product QuickSpecs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

The defective media retention service feature option applies only to Disk or eligible SSD/Flash Drives replaced by Hewlett Packard Enterprise due to malfunction.

Learn More

To learn more on HPE Storage Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner

HPE Support Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners.

<http://www.hpe.com/services>

Warranty

3-0-0 Three-year parts exchange warranty. Additional warranty protection can be purchased.

HPE 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 HPE Pointnext operational packaged hardware and software services.

Notes: [Certain restrictions and exclusions apply. Consult the HPE Customer Support Center for details.](#)



Technical Specifications

Family Information

	R7N77A	R7N78A
Number of channels	Single	Dual
Port Speed	64GFC	64GFC
OS Supported	Notes: Always refer to the HPE Single Point of Connectivity Knowledge for HPE Storage Products at: http://www.hpe.com/storage/spock for specific product support information and specific OS versions supported.	
Microsoft Windows Server 2019/2016 & HyperV	x64	x64
RHEL 8.x, 7.x	x64	x64
VMware ESX/ESXi 7.0,6.7	x64	x64
SLES 15.x, 12.x	x64	x64
Servers Supported	Select HPE ProLiant and Apollo Gen10 servers Notes: Refer to server Quick Specs for details regarding supported options.	
Array Platforms Supported	Refer to http://www.hpe.com/storage/spock for specific product support information	
What's Included in the Box?	64 Gbps HBA with standard bracket, one 64 Gbps SFP+ transceiver, low-profile bracket, documentation	64 Gbps HBA with standard bracket, two 64 Gbps SFP+ transceiver, low-profile bracket, documentation
Environmental - Operating Temperature	32° F to 131° F 0° C to 55° C	32° F to 131° F 0° C to 55° C
Environmental - Storage Temperature	-4° F to 158° F (-20° C to 70° C)	-4° F to 185° F (-20° C to 85° C)
Environmental - Relative Humidity - Operating	10% to 90% RH at 40° C (non-condensing)	5% to 95% (non-condensing)
Product Dimensions (W x D x H)	6.6 x 0.43 x 2.71 in (167.64 x 10.92 x 68.83mm)	6.6 x 0.49 x 2.73 in (167.64 x 12.44 x 69.34mm)
Media	Multi-mode Optic (SFP+)	Multi-mode Optic (SFP+)
Connector	Short wave laser with LC type connector	Short wave laser with LC type connector
PCIe Connector	PCIe 4.0 x8	PCIe 4.0 x8
Auto-negotiation	64/32/16 Gbps	64/32/16 Gbps



Summary of Changes

Date	Version History	Action	Description of Change
07-Feb-2022	Version 3	Changed	QS name has changed
06-Dec-2021	Version 2	Changed	Overview, Standard Features and Technical Specification section were updated.
01-Nov-2021	Version 1	New	New QuickSpecs



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