Shape the Future of QuickSpecs - Your Input Matters

HPE Storage Fibre Channel Switch B-series SN6700B QuickSpecs

64 Gb Fibre Channel is the modern storage network infrastructure for mission-critical storage, enabling organizations to realize a self-learning, self-optimizing, and self-healing autonomous SAN.

It combines powerful analytics and advanced automation capabilities to accelerate data access, adapt to evolving requirements, and drive always-on business operations. The 64 GbHPE SN6700B Fibre Channel switch with ultra-low latency and unmatched 64 Gbps performance is a building block for modern infrastructures that simplifies deployment, configuration, and management of SAN resources in medium to large environments.

Overview

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With the growing adoption of flash storage and the ramp-up of NVMe-based storage, organizations will move more data through a SAN than ever before, requiring additional I/O capacity to keep up with ever-increasing demand. Coupled with rising complexity and higher expectations for availability, organizations need a network that is capable of maximizing performance and reducing latency, while simplifying and automating management. These capabilities are required to help enterprises increase the productivity and efficiency of their storage investments and resources

To meet these requirements, the network needs to evolve. HPE B-series 64 GbpFibre Channel infrastructure unleashes the performance of NVMe workloads with reduced latency and increased bandwidth. In addition, this infrastructure lays the foundation for an autonomous SAN by combining powerful analytics and advanced automation capabilities to maximize performance and ensure reliability. Autonomous SAN technologies enable organizations to realize a self-learning, self-optimizing, and self-healing SAN.

The HPE Storage Fibre Channel Switch B-series SN6700B, with unmatched 64 Gbps performance and industry leading port density, provides a building block that supports data growth, demanding workloads, and data-center consolidation. With a 50% latency reduction compared to the previous generation, the HPE Storage Fibre Channel Switch B-series SN6700B enables the maximum performance of NVMe storage.

The HPE Storage Fibre Channel Switch B-series SN6700B utilizes built-in analytics to optimize performance and eliminate disruptions. This switch collects comprehensive telemetry data across the fabric to enable advanced analytics. HPE SANnav Management Portal enables organizations to easily visualize and understand the health and performance of the SAN. By leveraging automation, SAN admins gain the ability to automate repetitive tasks to save time and mitigate disruptions.

The HPE Storage Fibre Channel Switch B-series SN6700B simplifies deployment, configuration, and management of SAN resources with a collection of easy-to-use tools. With EZSwitchSetup, organizations can reduce the number of steps to deploy and configure a switch. In addition, the simplified user interface of Web Tools makes the SAN easier to manage. To further simplify operations and increase visibility, the HPE Storage Fibre Channel Switch B-series SN6700B includes HPE B-series Fabric Vision technology to monitor and analyze the SAN. This technology provides actionable insights to quickly identify problems and meet critical service-level agreements (SLAs). To streamline management workflows, organizations can also leverage SANnav Management Portal to accelerate the deployment of new applications, switches, servers, and storage. Furthermore, a modernized graphical user interface (GUI) improves operational efficiencies with visual dashboards for instant visibility and faster troubleshooting.

The HPE Storage Fibre Channel Switch B-series SN6700B meets the demands of hyper-scale virtualization, larger cloud infrastructures, and growing flash storage-based IT environments by delivering market-leading 64 Gbps Fibre Channel technology. It provides a high-density foundation for increased scalability, designed to support growth, demanding workloads, and data center consolidation in medium to large-scale enterprise infrastructures. It is built for maximum flexibility, scalability, and ease of use. Organizations can scale from 24 to 56 ports, providing up to 64 connections with the use of SFP-DD transceivers, in an efficient 1U form factor that delivers industry-leading port density and space utilization. It also provides a simplified deployment process and a point-and-click user interface-making it both powerful and easy to use.

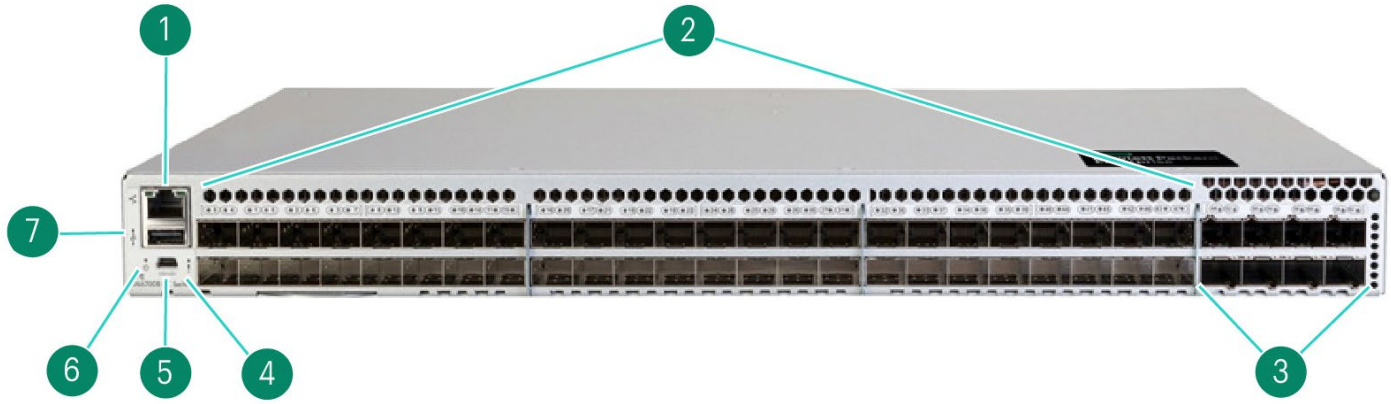
Overview

With the HPE Storage Fibre Channel Switch B-series SN6700B, organizations gain the best of both worlds: high-performance access to industry-leading storage technology and "pay-as-you-grow" scalability to support an evolving storage environment.

The SN6700B is available in two airflow options bundled with either 24 32Gbps or 24 64Gbps Secure Short Wave Transceivers:

- HPE SN6700B 64Gbps 56/24 24-port 32Gbps Short Wave SFP28 Integrated Fibre Channel Switch
- HPE SN6700B 64Gbps 56/24 24-port 32Gbps Short Wave SFP28 Port Side Intake Integrated FC Switch
- HPE SN6700B 64Gbps 56/24 24-port 64Gbps Short Wave SFP56 Integrated Fibre Channel Switch
- HPE SN6700B 64Gbps 56/24 24-port 64Gbps Short Wave SFP56 Port Side Intake Integrated FC Switch

All offerings include the software features of Power Pack+: Fabric Vision and IO Insight, ISL Trunking, Extended Fabric, FICON CUP and Integrated Routing



HPE Storage Fibre Channel Switch B-series SN6700B

Item	Description	Item	Description
1.	Management Ethernet Port	5.	UART Mini-USB Serial Console Port
2.	48 SFP+ 64 Gb FC Ports (FC Ports 0–47)	6.	System Power LED
3.	8 DD 64 Gb Ports (FC Ports 48–62)	7.	USB Port
4.	System Status LED		

Models

HPE SN6700B 64 Gbps FC Switch with 32Gbps Short Wave Transceivers

Description	SKU
HPE SN6700B 64Gb 56/24 24-port 32Gb Short Wave SFP28 Integrated Fibre Channel Switch	R6B05A
HPE SN6700B 64Gb 56/24 24-port 32Gb Short Wave SFP28 Port Side Intake Integrated FC Switch	R6B06A

HPE SN6700B 64 Gbps FC Switch with 64 Gbps Short Wave Transceivers

HPE SN6700B 64Gb 56/24 24-port 64Gb Short Wave SFP56 Fibre Channel Switch	R7M13A
HPE SN6700B 64Gb 56/24 24-port 64Gb Short Wave SFP56 Port Side Intake Integrated FC Switch	R7M14A

Standard Features

Key Features and Benefits

- Delivers 64 Gbps performance with up to 56 ports, providing up to 64 connections with the use of SFP-DD transceivers, in an energy-efficient, 1U form factor, providing maximum flexibility for diverse deployment and cooling strategies
- Features Ports on Demand (PoD) capabilities for fast, easy, and cost-effective scaling from 24 to 64 ports in 8-port increments. PoD upgrades are available in 8-port upgrade kits, including both the license and 8 optics under one part number.
- Increases scalability by using SFP-DD transceivers that provide dual SN connections allowing organizations to connect more servers, storage, or switches in a small footprint. Each transceiver supports two independent connections of 64 Gb Fibre Channel via a two-lane electrical interface.
- HPE Storage Fibre Channel Switch B-series SN6700B is available in two airflow configurations both bundled with 32Gbps Secure transceivers providing flexibility to customers.
- Accelerate critical workloads with 64 Gbps links
- Maximize performance of NVMe storage with 50% lower switching latency than 32Gb
- Simplify troubleshooting by identifying and isolating issues
- Collect comprehensive telemetry data across the fabric to enable powerful analytics
- Visualize the data to easily understand the health and performance of the SAN
- Automate repetitive tasks to save time and eliminate human error
- Support high-density server virtualization, cloud architectures and flash-based storage environments
- Provides proactive, non-intrusive, and real-time monitoring and alerting of SAN health and performance with IO Insight (IO Insight takes advantage of the industry's first integrated network sensors)
- Increases resiliency by automatically discovering and recovering from device or network errors
- Simplifies troubleshooting with real-time and historical visibility in a single dashboard
- Provides a flexible, simple, and easy-to-use SAN solution with industry-leading technology
- Supports highly virtualized, flash storage with multi-tenancy and non-stop operations
- Offers best-in-class port density and scalability for midrange enterprise SAN switches, along with redundant, hot-pluggable components and non-disruptive software upgrades
- In-flight encryption (FOS 8.2.0 onwards) and compression included, ensuring efficient link utilization.
- Yields exceptional price/performance value, exceeding comparable Ethernet storage-based alternatives
- Congestion Notification that detects and corrects congestion, link integrity and delivery issues providing the self-healing benefits of the autonomous SAN.

The combination of SAN analytics and automation technologies unlocks the capabilities to deliver a self-learning, self-optimizing, and self-healing autonomous SAN.

Self-Learning

- Gather and transform millions of data points into network intelligence
- Visualize application and device-based performance and health metrics
- Detect abnormal traffic behaviors and performance degradation
- Eliminate operational steps by automatically learning application flows

Self-Optimizing

- Optimize critical application performance by automatically prioritizing traffic
- Maximize application performance by proactively monitoring and actively shaping traffic
- Eliminate human errors and performance impacts through open DevOps automation technology
- Optimize administrative resources with cloud-like SAN orchestration

Standard Features

Self-Healing

- Instantly notify end devices of congestion for automatic resolution
- Ensure data delivery with automatic failover from physical or congestion issues
- Detect and automatically reconfigure out-of-compliance fabrics
- Eliminate performance impacts by automatically taking corrective action on misbehaving devices

SN6700B 64 Gbps FC Switch

- Simplifies enterprise SAN deployment by combining higher edge switch port density with exceptional scalability, performance, and reliability
- Delivers 24, 32, 40, 48, 56 or 64-ports in a 1U enclosure
  - There are 56 physical ports with 8 ports accepting double-density (DD) optics enabling up to 64 FC connections.
- Provides 8, 10, 16, 32 and 64 Gbps* performance
- Employs optional Inter-Switch Link (ISL) Trunking to provide a high-speed data path between switches which enables a high speed data path between 64 Gbps switches up to 512 Gbps

Notes: * 64 Gbps performance can be obtained between two 64 Gbps capable devices.

Configuration Support

https://support.hpe.com/hpsc/doc/public/display?docId=c00403562

High-availability features

- Two integrated redundant, hot swappable power supplies with integrated cooling fans
- Enhanced Fault Detection Logic
- Parity protection on all data paths and system memory

Advanced Fabric Services

- Hardware Enforced Zoning
- Frame Filtering
- Built-in Web browser management tools
- In-flight Compression/ Encryption
- Access Gateway
- Dynamic and System Monitoring Capabilities for High Reliability
- Virtual Fabrics

Cabinet Support

HPE (22U, 36U, and 42U) 10000 G2 Series, the Intelligent Series racks, and HPE (14U, 22U, 36U, 42U, and 47U) 11000 G2 Series racks.

Notes: To order factory integration, add #0D1 after the part number on your sales order.

Hardware and Software Features on Standard Models

Frame Filtering

An ASIC based capability that enables new applications and features. The switch has the ability to "view" the first 64 bytes of the Fibre Channel frame. At this time, Frame Filtering enables advanced capabilities such as Advanced Zoning.

Advanced Zoning

WWN Zoning and Access Control are enforced by hardware that provides the same simple administration previously enforced only with software. Administrators can organize a physical fabric into logical groups and prevent unauthorized access by devices outside the Zone.

Web Tools

Web Tools is an intuitive and easy-to-use graphical interface that enables organizations to monitor and manage SAN fabrics. Tasks can be performed through a Java-capable Web browser from a standard laptop, desktop PC or workstation from any location within the enterprise.

In-flight Encryption

In-flight encryption provides security for frames while they are in flight between two switches. This allows frames to be encrypted at the egress point of an ISL between two B-series switches, and then to be decrypted at the ingress point of the ISL. This can be enabled (FOS 8.2.0 and above) for both E_Ports and EX_Ports on a per-port basis and no additional license is required.

In-flight Compression

In-flight compression optimizes network performance within the data center and over long-distance links. Data is compressed at the source and uncompressed at the destination. Performance varies by data type, but generally achieve 2:1 compression with minimal impact on performance.

Congestion Notification

Introduced in Fabric OS v9.0 Fabric Congestion Notification is a built-in feature that detects congestion, link integrity and delivery issues with automatic notification to end devices. Fabric OS or the end device may then mitigate and recover from the condition without user interaction providing the self-healing benefits of the autonomous SAN.

Adaptive Networking

Adaptive Networking (AN) is a family of technologies which allow flexible control of traffic movement within the fabric which deliver application aware management of fabric resources. Applications may be used with multiple protocols and multiple classes of service. It includes the following features:

- Ingress Rate Limiting:
  - Allows the ingress bandwidth of a port to be throttled to a rate lower than negotiated with the SAN node. This could be very useful for enterprises offering stepped levels of service and enforcing SLAs.
- Quality of Service (QoS):
  - Enables zones with high, medium, and low priorities within a fabric on a zone by zone basis. This can be very useful for prioritizing array replication over MANs and WANs over less critical traffic.

Standard Features

- Traffic Isolation Zones:
  - Defines paths through a fabric for some or all nodes. Failover allows a non-preferred path to be used if the preferred fails. TIZs use failover by default but it can be disabled if traffic should stop if a preferred path fails. TIZ can be used to manually map out traffic flows within a fabric based on application, priority, and topology.

Software Components

SN6700B 64 Gbps Switch

Both of the HPE Storage Fibre Channel Switch B-series SN6700B offerings include the software features traditionally associated with the Power Pack+ Software Bundle. This includes the following**:**

- Fabric Vision and IO Insight
- Extended Fabric
- ISL Trunking
- Integrated Routing
- Ficon CUP ISL Trunking

Fabric Vision and IO Insight

Fabric Vision technology provides a breakthrough hardware and software solution that helps simplify monitoring, maximize network availability, and dramatically reduce costs. Featuring innovative monitoring, management, and diagnostic capabilities, Fabric Vision technology enables administrators to avoid problems before they impact operations, helping their organizations meet SLAs. It Includes

- IO Insight: Proactively and non-intrusively monitors storage device IO performance and behavior through integrated network sensors at the storage tier, providing deep insight into problems and ensuring service levels
- Monitoring and Alerting Policy Suite (MAPS): A policy-based monitoring tool with pre-built rules and automation that simplifies fabric-wide threshold configuration and monitoring. Configuration and Operational Monitoring Policy Automation Services Suite (COMPASS): Simplifies deployment, safeguards consistency, and increases operational efficiencies of larger environments with automated switch and fabric configuration services. Administrators can configure a template or adopt an existing configuration to seamlessly deploy a configuration across the fabric.
- ClearLink Diagnostics: Ensures optical and signal integrity for Fibre Channel optics and cables, simplifying deployment and support of high-performance fabrics. ClearLink Diagnostic Port (D_Port) is an advanced capability of Fibre Channel platforms
- Flow Vision: A comprehensive tool that enables administrators to identify, monitor, and analyze specific application data flows in order to simplify troubleshooting, maximize performance and avoid congestion without using taps to ensure optimized performance
- Health and performance dashboard: A single customizable screen displayed in HPE SANnav Management Portal that contains all critical SAN information for convenient review and analysis

Extended Fabric

Optional license which extends all of the scalability, reliability, and performance benefits of Fibre Channel Storage Area Networks (SANs) beyond the native 10 km distance specified by the Fibre Channel standard.

Standard Features

ISL Trunking

For high performance enhanced Trunking, this logically groups up to eight 32 Gbps ports per ISL trunk or up to two 128 Gbps QSFP ports per ISL trunk to provide a high bandwidth trunk between two switches. Each 32Gb switch needs its own license. The switch operating system views the trunk as a single, high bandwidth resource (up to 256Gb) when routing connections between 32Gb switches. Connections are load-balanced across the individual links, which comprise the logical trunk group.

Integrated Routing

Integrated Routing is an included license which provides native Fibre Channel Routing (FCR) on a per-port basis, rather than limiting routing ports to those on a dedicated routing switch or blade. Integrated Routing uses EX_Ports to import/export devices between fabrics, enabling selective device sharing while maintaining remote fabric isolation. Integrated Routing provides architecture flexibility to route on a port-by-port basis, enabling increased scalability and fault isolation.

CUP

FICON CUP is an included license which enables host control of switches in mainframe environments. FICON Accelerator is an optional software license that increases the speed of FICON disk and tape read and writes, while maintaining the integrity of command and acknowledgement sequences.

HPE SANnav Management Software

HPE SANnav Management Software is the next-generation SAN management application suite for HPE B-series SAN environments. It consists of SANnav Management Portal Software and SANnav Global View Software:

- SANnav Management Portal is a next-generation SAN management application with a simple browser-based user interface (UI) streamlining common workflows, such as configuration, zoning, deployment, troubleshooting, and reporting.
- SANnav Global View helps administrators visualize the health, performance and inventory of multiple SANnav Management Portal instances at data centers across the globe or a single multi-tenant data center using a simple, intelligent dashboard.
- SANnav Management Portal and SANnav Global View not only transform SAN telemetry data into useful insights, such as health and performance scores, but also enable administrators to quickly associate real-time data with historical metrics and logs for in-depth analysis. This can help with spotting trends, establishing baselines, and identifying any behavioral changes over time.

HPE SANnav Management Software is available as a term-license for 1-year, 3-year and 5-year periods as both – physical and electronic License-to-Use (LTU). It supports 8 Gbps, 16 Gbps and 32 Gbps FC Switches and Directors.

Standard Features

HPE Smart SAN for 3PAR

HPE Smart SAN, optional software for HPE 3PAR, makes end-to-end SAN configuration and management simple and reduces the probability of errors through automation. It is an application embedded in SAN components (array, hosts and switches) that enables 3PAR arrays to orchestrate configuration, settings and policies across the SAN. Smart SAN is supported with B-series Switches, HPE Fibre Channel adapters (HBAs) and 3PAR storage. HPE Smart SAN for 3PAR through its Target Driven Peer Zoning (TDPZ) feature enables customers to automate peer zoning, resulting in the creation of fewer zones and enables configuration of zones in minutes and not in hours. Through automation, it reduces the probability of errors and potential downtime.

Notes:

- Supports B-series 64 Gbps, 32 Gbps, 16 Gbps and 8Gbps FC switches.
- A list of supported HPE FC Adapters can be found at http://www.hpe.com/storage/spock
- Supports 3PAR StoreServ storage with 3.2.2 or later with only 16Gbps target ports on HPE 3PAR StoreServ storage.

Service and Support

Warranty

Switch Warranty

(3-3-3) Hardware Warranty; 3-year parts; 3-year on-site (standard business hours, next business day response) and 3-year labor.

Notes:

- All other miscellaneous hardware not explicitly identified above such as POD Kits, optics and cables have a (1-1-1) hardware warranty - 1-year parts; 1-year on-site (standard business hours, next business day response) and 1-year labor.
- The hardware warranty covers firmware and embedded non-saleable software. For extended hardware installation and maintenance information, click the link below: https://ssc.hpe.com.
- Certain restrictions and exclusions apply. Consult the Customer Support Center for details.
- Hardware or Software product installation is not included in the warranty, but is available and highly recommended.

HPE Services

No matter where you are in your transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.
https://www.hpe.com/services

Consulting services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.
https://www.hpe.com/services/consulting

SAN Fabric Integration and Migration service

HPE Data Storage Services - SAN Fabric Integration and Migration simplifies the introduction of and migration to new HPE B-series SAN fabric devices. It helps maximize the value of your investment in your new HPE B-series SAN fabric devices by leveraging HPE Services expertise and best practices.
https://www.hpe.com/psnow/doc/a50011015enw

HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.
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Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.
https://www.hpe.com/services/operational

Recommended Services

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.
https://www.hpe.com/services/techcare

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

Other related services from HPE Services

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

https://www.hpe.com/services/lifecycle

For a list of the most frequently purchased services using service credits, see the HPE Service Credits Menu

Service and Support

HPE SAN Deployment Service

Hewlett Packard Enterprise delivers complete design and implementation services for Fibre Channel, FCoE, FCIP, SAS, and iSCSI SAN connectivity components.

Learn more: https://www.hpe.com/psnow/doc/5981-8527enw?jumpid=in_lit-psnow-red

HPE Installation Service

Provides for the basic hardware installation of HPE branded servers, storage devices and networking options to assist you in bringing your new hardware into operation in a timely and professional manner.

Learn more: https://h20195.www2.hpe.com/v2/Getdocument.aspx?docname=5981-9356enw

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.

https://www.hpe.com/services/training

Defective Media Retention

An option available with HPE-Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.

Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE 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.

How to purchase services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at https://ssc.hpe.com/portal/site/ssc/

Service and Support

AI Powered and Digitally Enabled Support Experience

Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience.

Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.

https://support.hpe.com/hpesc/public/home/signin

Consume IT on your terms

HPE GreenLake edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are—the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" https://www.hpe.com/us/en/contact-hpe.html

For more information: http://www.hpe.com/services

Configuration Information

Step 1 - Base Configuration (Select one)

Description	SKU
HPE SN6700B 64Gb 56/24 24-port 32Gb Short Wave SFP28 Integrated Fibre Channel Switch	R6B05A

Notes: 64 Gbps 56-port* FC Switch with 24 active ports; accessory kit (Rackmount kit, enterprise safety and regulatory information), power cords, serial cable, and the following software: Advanced Fabric OS, Advanced Web Tools, Advanced Zoning, Fabric Vision, ISL Trunking, Extended Fabric, Integrated Routing and FICON CUP

HPE SN6700B 64Gb 56/24 24-port 32Gb Short Wave SFP28 Port Side Intake Integrated FC Switch	R6B06A

Notes: 64 Gbps 56-port* FC Switch with 24 active ports and Port Side Intake airflow; accessory kit (Rackmount kit, enterprise safety and regulatory information), power cords, serial cable, and the following software: Advanced Fabric OS, Advanced Web Tools, Advanced Zoning, Fabric Vision, ISL Trunking, Extended Fabric, Integrated Routing and FICON CUP

HPE SN6700B 64Gb 56/24 24-port 64Gb Short Wave SFP56 Fibre Channel Switch	R7M13A

Notes: 64 Gbps 56-port* FC Switch with 24 active ports; accessory kit (Rackmount kit, enterprise safety and regulatory information power cords, serial cable, and the following software: Advanced Fabric OS, Advanced Web Tools, Advanced Zoning, Fabric Vision, ISL Trunking, Extended Fabric, Integrated Routing and FICON CUP

HPE SN6700B 64Gb 56/24 24-port 64Gb Short Wave SFP56 Port Side Intake Integrated FC Switch	R7M14A

Notes:

- 64 Gbps 56-port* FC Switch with 24 active ports and Port Side Intake airflow; accessory kit (Rackmount kit, enterprise safety and regulatory information), power cords, serial cable, and the following software: Advanced Fabric OS, Advanced Web Tools, Advanced Zoning, Fabric Vision, ISL Trunking, Extended Fabric, Integrated Routing and FICON CUP
- *There are 56 physical ports with 8 ports accepting double-density (DD) optics enabling up to 64 FC connections.

Step 2 – Options

Ports on Demand (PoD) Kits

Description	SKU
HPE SN6700B 8-port POD Upgrade License with 32Gb SFP28 Short Wave Transceiver Kit	R6B09A
HPE SN6700B 64Gb 8-port Short Wave SFP56 Fibre Channel Upgrade License with Transceiver Kit	R7M18A
HPE SN6700B 64Gb 16-port Short Wave 8SFP56-DD Fibre Channel Upgrade License with Transceiver Kit	R8U65A

Notes: The above PoD Kits are available as a physical upgrade package only, these are not available as an e-license because they include the optics. PoD Kits include Secure optics.

Fibre Channel Transceivers - Secure

HPE B-series 32Gb SFP28 Short Wave 1-pack Secure Transceiver	R6B12A
HPE B-series 32Gb SFP28 Short Wave 8-pack Secure Transceiver	R6W26A
HPE B-series 32Gb SFP28 Long Wave 10km 1-pack Secure Transceiver	R6B13A
HPE B-series 32Gb SFP Extended Long Wave 25km 1-pack Secure Transceiver	R7M17A

Configuration Information

Description	SKU
HPE B-series 32Gb SFP28 Extended Long Wave 25km 1-pack Secure Transceiver	R9S31A
Notes: R9S31A requires a minimum FOS version of 9.1.1 and must use the same optic cable on both ends.	
HPE B-series 64Gb SFP56 Short Wave 1-pack Secure Transceiver	R7M15A
HPE B-series 64Gb SFP56 Short Wave 8-pack Secure Transceiver	R7M16A
HPE B-series 64Gb SFP56 Long Wave 10km 1-pack Secure Transceiver	R9S29A
HPE B-series 64Gb SFP56 Long Wave 10km 8-pack Secure Transceiver	R9S30A
HPE B-series 64Gb SFP56 Extended Long Wave 25km 1-pack Secure Transceiver	R9S28A
HPE B-series 10Gb SFP+ Short Wave 1-pack Secure Transceiver	R6B14A
HPE B-series 10Gb SFP+ Long Wave 10km 1-pack Secure Transceiver	R6B15A
HPE B-series 64Gb SFP56-DD SN SR 1-pack Secure Transceiver	R8U66A
HPE B-series 64Gb SFP56-DD SN SR 8-pack Secure Transceiver	R8U67A

Other Optics

Notes: HPE Storage Fibre Channel Switch B-series SN6700B supports Smartoptics. For more information regarding Smartoptics reference Brocade Fabric OS Open Systems Compatibility Matrix

Accessories

Description	SKU
HPE B-series 4G USB Drive	N9Y63A

Optical Cables

Performance

Distance - Maximum	HPE Standard OM3 Cable	HPE PremierFlex OM3+ Cable	HPE PremierFlex OM4 Cable
64 Gb performance	70 meters	70 meters	100 meters
32 Gb performance:	70 meters	70 meters	100 meters
16 Gb performance:	100 meters	100 meters	125 meters

HPE PremierFlex OM4 Fiber Optic Cables

Description	SKU
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 1m Cable	QK732A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 2m Cable	QK733A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 5m Cable	QK734A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 15m Cable	QK735A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 30m Cable	QK736A
HPE Premier Flex LC/LC Multi-mode OM4 2 Fiber 50m Cable	QK737A

Configuration Information

HPE PremierFlex SN/LC OM4 Fiber Optic Cables

Description	SKU
HPE Premier Flex SN to LC OM4 2 Fibers 1m Cable	R8U73A
HPE Premier Flex SN to LC OM4 2 Fibers 2m Cable	R8U74A
HPE Premier Flex SN to LC OM4 2 Fibers 5m Cable	R8U75A
HPE Premier Flex SN to LC OM4 2 Fibers 15m Cable	R8U76A
HPE Premier Flex SN to LC OM4 2 Fibers 30m Cable	R8U77A

Notes: The above cables are for use with double-density transceivers. The SN/LC allows the connection from double-density to standard small form factor transceivers.

HPE PremierFlex SN/SN OM4 Fiber Optic Cables

Description	SKU
HPE Premier Flex SN to SN OM4 2 Fibers 1m Cable	R8U68A
HPE Premier Flex SN to SN OM4 2 Fibers 2m Cable	R8U69A
HPE Premier Flex SN to SN OM4 2 Fibers 5m Cable	R8U70A
HPE Premier Flex SN to SN OM4 2 Fibers 15m Cable	R8U71A
HPE Premier Flex SN to SN OM4 2 Fibers 30m Cable	R8U72A

Notes: The above cables are for use with double-density transceivers. The SN/SN allows the connection from double-density to double-density transceivers.

HPE OM3 LC-LC Optical Cables

Description	SKU
HPE LC to LC Multi-mode OM3 2-Fiber 0.5m 1-Pack Fiber Optic Cable	AJ833A
HPE LC to LC Multi-mode OM3 2-Fiber 1.0m 1-Pack Fiber Optic Cable	AJ834A
HPE LC to LC Multi-mode OM3 2-Fiber 2.0m 1-Pack Fiber Optic Cable	AJ835A
HPE LC to LC Multi-mode OM3 2-Fiber 5.0m 1-Pack Fiber Optic Cable	AJ836A
HPE LC to LC Multi-mode OM3 2-Fiber 15.0m 1-Pack Fiber Optic Cable	AJ837A
HPE LC to LC Multi-mode OM3 2-Fiber 30.0m 1-Pack Fiber Optic Cable	AJ838A
HPE LC to LC Multi-mode OM3 2-Fiber 50.0m 1-Pack Fiber Optic Cable	AJ839A

Step 3 - Optional Software

Notes: For Fabric OS (FOS) minimum requirements, please refer to: https://h20272.www2.hpe.com/spock/

SANnav Software Licenses

Notes:

- For users purchasing SANnav licenses for the first time, one of the following SKUs should be purchased.
- For users wanted to renew a SANnav license, a renewal license should be selected from the SANnav Renewal Software License in the next section.

Configuration Information

Description	SKU
HPE SANnav Management Portal Base 1yr E-LTU	R3P45AAE
HPE SANnav Management Portal Enterprise 1yr E-LTU	R3P46AAE
HPE SANnav Global View 1yr E-LTU	R3P47AAE
HPE SANnav Management Portal Base 3yr E-LTU	R3P48AAE
HPE SANnav Management Portal Enterprise 3yr E-LTU	R3P49AAE
HPE SANnav Global View 3yr E-LTU	R3P50AAE
HPE SANnav Management Portal Base 5yr E-LTU	R4P29AAE
HPE SANnav Management Portal Enterprise 5yr E-LTU	R4P30AAE
HPE SANnav Global View 5yr E-LTU	R4P31AAE

Notes:

- The Base edition of HPE SANnav Management Portal does not support management of director class switches.
- HPE SANnav Management Software License-to-Use (LTU/E-LTU) includes maintenance and support for the duration of the license. At the end of the license period, customers have the option to renew the license, maintaining the same license key, by selecting from the SANnav Renewal Software License section below Software renewal via HPE Services is not allowed/supported.
- Trial Licenses: depending on the version of SANnav license, the trial period is different.
  - 90-day trial license available with all SANnav releases through v2.2.0
  - 30-day trial license available with SANnav v2.2.1 and v2.2.2
  - No trial license available with SANnav v2.3.0

SANnav Renewal Software Licenses

Notes:

- For users who currently have a SANnav license and want to renew their software license, one of the following licenses should be selected.
- The SANnav license must align with the current type of software license i.e. in order to renew a Base license, the Base renewal licenses will need to be selected.

Description	SKU
HPE SANnav Management Portal Base 1-year Renewal E-LTU	S1S52AAE
HPE SANnav Management Portal Enterprise 1-year Renewal E-LTU	S1S55AAE
HPE SANnav Global View 1-year Renewal E-LTU	S1S58AAE

Notes:

- The Base edition of HPE SANnav Management Portal does not support management of director class switches.
- HPE SANnav Management Software License-to-Use (LTU/E-LTU) includes maintenance and support for the duration of the license.
- Trial Licenses – depending on the version of SANnav license, the trial period is different.
  - 90-day trial license available with all SANnav releases through v2.2.0
  - 30-day trial license available with SANnav v2.2.1 and v2.2.2
  - No trial license available with SANnav v2.3.0

Family Information

Features	SN3000B 16 Gbps FC Switch	SN3600B 32 Gbps FC Switch	SN6000B 16Gbps FC Switch and SN6000B 16Gbps FC Power Pack+
Targeted Environment	Workgroups, Departments	Workgroups, Departments	Workgroups, Departments
Fibre Channel Port Bandwidth	16 Gbps	32 Gbps	16 Gbps
Aggregate device bandwidth	384 – 768 Gbps full duplex	768 Gbps end-to-end full duplex	384- 768 Gbps
OS Support	**Notes:** Please Refer to SPOCK: https://h20272.www2.hpe.com/spock/		
Storage system support	Primera, Nimble, 3PAR StoreServ, StoreVirtual, P9500/XP7, MSA		
FC Ports	12 or 24 enabled 24 Max	8 or 24 Enabled 24 Max	24 or 48 Enabled 48 Max
SFP	B-series	B-series	B-series
Advanced Trunking	Included with Power Pack+ Upgrade	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade
Adaptive Networking	Included	Included	Included
Form factor	1U	1U	1U
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Optional	No	Yes
Hot plug fans	Yes (integrated with power supply)	Yes (integrated with power supply)	Yes (integrated with power supply)

Technical Specifications

Features	SN6600B 32 Gbps FC Switch and SN6600B 32 Gb FC Switch	SN6700B 64 Gbps FC Switch
Targeted Environment	Workgroups, Departments	Workgroups, Departments
Fibre Channel Port Bandwidth	32 Gbps	64 Gbps
Aggregate device bandwidth	2 Tbps	3.5 Tbps
OS Support	**Notes:** Please Refer to SPOCK**:** https://h20272.www2.hpe.com/spock/	
Storage system support	Primera, Nimble, 3PAR StoreServ, StoreVirtual, P9500/XP, MSA	
FC Ports	24 or 48 enabled 64 Max	24 Enabled 56 Max
SFP	B-series Optics (16 Gbps or 32 Gbps)	B-series Secure 24 32 Gbps SFP28 or 64 Gbps SFP56 included
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included in Power Pack+ on all switches
Adaptive Networking	Included	Included
Form factor	1U	1U
Zoning Software	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes
Hot plug fans	Yes (integrated with power supply)	Yes (integrated with power supply)

Technical Specifications

Features	2600 Extension SAN Switch	SN4000B SAN Extension Switch
Targeted Environment	Data Centers	Data Centers
Fibre Channel Port Bandwidth	32Gbps	16 Gbps
Ethernet	1/10Gbps Ethernet	1/10/40 Gbps Ethernet
OS Support	**Notes:** Please Refer to SPOCK**:** https://h20272.www2.hpe.com/spock/	
Storage system support	Primera, Nimble, 3PAR StoreServ, StoreVirtual , P9500/XP, MSA	
FC Ports	4 or 12 Enabled 12 Max	24 Enabled 24 Max
Ethernet Ports	2 or 6 Enabled 6 Max	16 ports 1/10 GbpsE Enabled 16 Max 2 – 40 GbpsE ports
SFP	B-series	B-series
Advanced Trunking	Included with Optional Upgrade	Included
Adaptive Networking	Included	Included
Form factor	1U	2U
Zoning Software	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes
Hot plug fans	Yes	Yes

Technical Specifications

Features	SN8000B 4-Slot SAN Director and 4-Slot SAN Director Power Pack+	SN8600B 4-slot SAN Director Power Pack+	SN8700B 4-Slot SAN Director Power Pack
Targeted Environment	Cloud Optimized Data Centers	Cloud Optimized Data Centers	Cloud Optimized Data Centers
Port Bandwidth	Up to 16 Gbps	Up to 32 Gbps	Up to 64 Gbps
Aggregate device bandwidth	5.1 Tbps	10.24 Tbps	15.5 Tbps
OS Support	**Notes:** Please Refer to SPOCK: https://h20272.www2.hpe.com/spock/		
Storage system support	Primera, Nimble, 3PAR StoreServ, StoreVirtual P9500/XP, MSA		
Ports	Up to 256 SFP	Up to 256 32 Gbps ports or a 320-port equivalent with 16 ICL ports.	256 ports - 192 device ports with a 64 Gbps data rate plus 16 4x50 Gbps ICLs or 320 ports - 256 device ports with a 32 Gbps data rate plus 16 4x50 Gbps ICLs
SFP	B-series	B-series	B-series Secure
Advanced Trunking	Included with Power Pack Optional Upgrade	Included with Power Pack	Included with Power Pack
Adaptive Networking	Included	Included	Yes (included)
Form factor	9U	9U	9U
Zoning Software	Yes (included)	Yes (included)	Yes (included)
Hot plug, redundant power supplies	Yes	Yes	Yes
Hot plug fans	Yes	Yes	Yes

Technical Specifications

Features	SN8000B 8-Slot SAN Director Power Pack+	SN8600B 8-Slot SAN Director Power Pack+	SN8700B 8-Slot SAN Director Power Pack+
Targeted Environment	Cloud Optimized Data Centers	Cloud Optimized Data Centers	Cloud Optimized Data Centers
Port Bandwidth	Up to 16 Gbps	Up to 32 Gbps	Up to 64 Gbps
Aggregate device bandwidth	10.2 Tbps	16.2 Tbps	31 Tbps
OS Support	**Notes:** Please Refer to SPOCK: https://h20272.www2.hpe.com/spock/		
Storage system support	Primera, Nimble, 3PAR StoreServ, StoreVirtual P9500/XP, MSA		
Ports	Up to 512 SFP	384 32 Gbps ports or a 512-port equivalent with 128 Gbps (32 Gbps×4 QSFP ports)	512 ports - 384 device ports with a 64 Gbps data rate plus 32 4x50 Gbps ICLs or 640 ports - 512 device ports with a 32 Gbps data rate plus 32 4xGen7 ICLs
SFP	B-series	B-series	B-series Secure
Advanced Trunking	Included with Power Pack	Included with Power Pack	Included with Power Pack
Adaptive Networking	Included	Included	Yes (included)
Form factor	14U	14U	14U
Zoning Software	Yes (included)	Yes (included)	Yes (included)
Hot plug, redundant power supplies	Yes	Yes	Yes
Hot plug fans	Yes	Yes	Yes

Technical Specifications

Features	Brocade 16Gbps SAN Switch for HPE c-Class BladeSystem	Brocade 16Gbps Fibre Channel SAN Switch Module for HPE Synergy
Targeted Environment	Enterprise, Datacenters, Workgroups, Departments	Enterprise, Datacenters, Workgroups, Departments
Port Bandwidth	16 Gbps	16 Gbps
Aggregate device bandwidth	448 Gbps	576 Gbps
OS Support	**Notes:** Please Refer to SPOCK: https://h20272.www2.hpe.com/spock/	
Storage system Support	Primera, Nimble, 3PAR StoreServ, StoreVirtual, P9500/XP, MSA	
Ports	12 external /16 internal	8 SFP+ external, 4 QSFP external /12 internal
SFP	B-series	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade
Adaptive Networking	Included	Included
Form factor	Embedded	Embedded
Zoning Software	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame
Hot plug fans	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame

System Architecture

Fibra Channel ports	**Switch mode (default):** Minimum of 24 ports and maximum of 56 ports configuration. Port numbers above minimum are enabled through 8-port increments via Ports on Demand (PoD) Kits (which include PoD licenses and 8 transceivers). Universal ports self-configure as E_Ports, F_Ports, N_Ports, or D_Ports. Ex. Ports can be activated on a per-port basis with the included Integrated Routing license. Access Gateway default port mapping: 48 F_Ports, 8 N_Ports
Scalability	Full fabric architecture with a maximum of 239 switches: https://support.hpe.com/hpsc/doc/public/display?docId=c00403562
Certified maximum	6,000 active nodes; 56 switches, 19 hops in Fabric OS® fabrics; larger fabrics certified as required Refer to SAN Design Guide for current configuration information: https://support.hpe.com/hpsc/doc/public/display?docId=c00403562
Interoperability	– SN4000B SAN Extension Switch – SN2600B SAN Extension Switch – SN8000B 8-Slot SAN Backbone Director – SN8600B 8-Slot SAN Director Power Pack+ – SN8700B 8-Slot SAN Director Power Pack+ – SN8000B 4-Slot SAN Director – SN8600B 4-Slot SAN Director Power Pack+ – SN8700B 4-Slot SAN Director Power Pack+ – SN6500B Fibre Channel Switch – SN6650B Fibre Channel Switch – SN6000B Fibre Channel Switch – SN6600B Fibre Channel Switch – SN3000B Fibre Channel Switch – SN3600B Fibre Channel Switch – Brocade 16Gb SAN Switch for HPE BladeSystem c-Class – Brocade 16Gb Fibre Channel SAN Switch Module for HPE Synergy – Brocade 32Gb Fibre Channel SAN Switch Module for HPE Synergy
Performance	Fibre Channel: 8.5Gbps/s line speed, full duplex; 10.53Gbps/s line speed, full duplex; 14.025Gbps/s line speed, full duplex; 28.05Gbps/s line speed, full duplex; 57.8Gbps/s line speed, full duplex; auto-sensing of 8, 10, 16, 32, and 64 Gbps/s port speeds. 10Gbps/s optionally programmable to fixed port speed.
ISL Trunking	Frame-based trunking with up to eight SFP+ ports per ISL trunk; up to 512Gbps/s per ISL trunk. Exchange-based load balancing across ISLs with DPS included in Fabric OS. There is no limit to how many trunk groups can be configured in the switch.
Aggregate bandwidth	4.096 Tbps
Maximum Fabric latency	Port-to-port latency is minimized to 460 ns (including FEC) is minimized by using cut-through frame switching.
Maximum frame size	2112-byte payload
Frame buffers	24K per switching ASIC
Classes of service	Class 2, Class 3, Class F (Inter-switch frames)

Technical Specifications

Port types	D_Port (ClearLink Diagnostic Port), E_Port, EX_Port, F_Port, AE_Port; optional port-type control Access Gateway mode: F_Port and NPIV-enabled N_Port
Data traffic types	Fabric switches supporting unicast
Media types	Hot-pluggable, Small Form Factor Pluggable (SFP), LC connector; Short-Wave Laser (SWL), Long-Wave Laser (LWL); Extended Long-Wave (ELWL), distance depends on fiber-optic cable and port speed. Supports 64 Gb, 32 Gb and 10 Gb optical transceivers.
USB	One USB port for system log file downloads or firmware upgrades
Fabric services	BB Credit Recovery; Advanced Zoning (Default Zoning, Port/WWN Zoning, Peer Zoning); Congestion Signaling; Dynamic Path Selection (DPS); Extended Fabrics; Fabric Performance Impact Notification (FPIN); Fabric Vision; FDMI; FICON CUP; Flow Vision; F_Port Trunking; FSPF; Integrated Routing; ISL Trunking; Management Server; NPIV; NTP v3; Port Decommission/Fencing; QoS; Registered State Change Notification (RSCN); Name Server; Target-Driven Zoning; Traffic Optimizer; Virtual Fabrics(Logical Switch, Logical Fabric); VMID and App Server.
Extension	Fibre Channel, in-flight encryption/compression; integrated optional 10Gbps Fibre Channel for DWDM MAN connectivity
Options	SFP media, USB Device
Management	
Management software supported	HTTP/HTTPS; SNMP v1/v3 (FE MIB, FC Management MIB); SSH; Brocade Advanced Web Tools; Brocade SANnav Management Portal and SANnav Global View; EZSwitch Setup; Command Line Interface (CLI);RESTful API; trial licenses for add-on capabilities.
Security	DH-CHAP (between switches and end devices), FCAP switch authentication; HTTPS, IPsec, IP filtering, LDAP with IPv6, OpenLDAP, Port Binding, RADIUS, TACACS+, user-defined Role-Based Access Control (RBAC), Secure Copy (SCP), Secure RPC, Secure Syslog, SFTP, SSH v2, SSL, Switch Binding, Trusted Switch, Secure Boot, TLS v1.3
Management access	10/100/1000 Mbps Ethernet (RJ-45), in-band over Fibre Channel, serial port (mini-USB), and one USB port
Diagnostics	Active Support Connectivity (ASC) and Brocade Support Link (BSL); built-in flow generator; Clear Link optics and cable diagnostics, including electrical/optical loopback, link traffic/latency/distance; Fabric Performance Impact Monitoring (FPI); flow mirroring; Forward Error Correction (FEC); frame viewer; IO Insight for SCSI and NVMe monitoring; Monitoring and Alerting Policy Suite (MAPS); nondisruptive daemon restart; optics health monitoring; POST and embedded online/offline diagnostics, including environmental monitoring, FCping and Pathinfo (FC traceroute); power monitoring; RAS trace logging ;Rolling Reboot Detection (RRD); Syslog/Audit Log; VM Insight.
Mechanicals	
Enclosure	Back-to-front airflow (non-port-side intake) or Front-to-back airflow (non-port-side exhaust); power from back, 1U
Size	Width: 440 mm (17.32 in.) Height: 43.9 mm (1.73 in.) Depth: 355.6 mm (14 in.)
System Weight	7.17 kg (15.8 lb) with two power supply FRUs, without transceivers

Technical Specifications

Environment	
Operating environment	Temperature : 0° to 40° C (32° to 104° F) Humidity: 10% to 85% (non-condensing)
Non-operating	Temperature: -25° to 70° C (-13° to 158° F) Humidity: 10% to 90% (non-condensing)
Operating Altitude	Up to 3,000 m (9,842 ft)
Storage altitude	Up to 12 km (39,370 ft)
Shock	Operating: Up to 20 G, 6 ms half-sine Non-operating: Half-sine, 33 G 11 ms, 3/eg axis
Vibration	Operating: 0.5 g sine, 0.4 grms random, 5 to 500 Hz Non-operating: 2.0 g sine, 1.1 grms random, 5 to 500 Hz
Heat dissipation	64 ports at 1,192 Btu/hr
Power	
Power Supply	Dual, hot-swappable redundant power supplies with integrated system cooling fans
AC input	90 V to 264 V, maximum input current 4.5A
AC Input line frequency	47 Hz to 63 Hz
AC Power Consumption	349 W with all 64 ports operating at 64 G (48 ports populated with 64 G SWL transceivers and 8 ports populated with 2x64 G SFP-DD SWL transceivers). 57 W for empty chassis with no optics

Summary of Changes

Date	Version History	Action	Description of Change
02-Feb-2026	Version 16	Changed	HPE Rebranding applied
07-Oct-2024	Version 15	Changed	Standard Features and Configuration Information sections were updated Removed all references to SFM / Storage Fabric Manager
03-Sep-2024	Version 14	Changed	Service and Support section was updated
15-Apr-2024	Version 13	Changed	Rebranding Series Name applied
13-Nov-2023	Version 12	Changed	Standard Features, Service and Support and Configuration Information sections were updated HPE Services Rebranding Added HPE Greenlake for Storage Fabric Management
05-Jun-2023	Version 11	Changed	Standard Features, Configuration Information and Technical Specifications sections were updated SANnav renewal offering added
06-Feb-2023	Version 10	Changed	Service and Support and Configuration Information sections were updated
01-Aug-2022	Version 9	Changed	Added 32 Gb and 64 Gb LW & ELW optics
11-Jul-2022	Version 8	Changed	Configuration Information section was updated
05-Jul-2022	Version 7	Changed	Updated with double-density offerings
17-Jan-2022	Version 6	Changed	Updated frame buffer spec
01-Nov-2021	Version 5	Changed	Updated references to optic types
04-Oct-2021	Version 4	Changed	Service and Support section was updated.
02-Aug-2021	Version 3	Changed	Service and Support section was updated.
07-Jun-2021	Version 2	Changed	Overview, Configuration Information and Technical Specification sections were updated.
07-Dec-2020	Version 1	New	New QuickSpecs

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