Overview

HPE B-series SN3600B Fibre Channel Switch

Today's mission-critical storage environments require greater consistency, predictability, and performance to keep pace with growing business demands. Faced with explosive data growth, the all-flash data centers need more IO capacity to accommodate the massive amounts of data, applications, and workloads. In addition to this surge in data, the collective expectations for availability continue to rise. Users expect applications to be available and accessible from anywhere, at any time, on any device.

To meet these dynamic and growing business demands, organizations need to deploy and scale up applications quickly. As a result, many are moving to higher Virtual Machine (VM) densities to enable rapid deployment of new applications and deploying all-flash storage to help those applications that demand more performance and reduced latency, scaling to support thousands of users. To increase agility, reduce expenses, and realize the full benefits of these architectures, organizations need the storage network to deliver the performance required by today's server and all-flash storage environments. In addition, storage networks are becoming increasingly important to application performance, which means that they also must become easier to administer and manage. By treating the network as a strategic part of a highly virtualized environment, organizations can increase optimization and efficiency even as they rapidly scale their environments.

The HPE SN3600B Fibre Channel Switch meets the demands of hyper-scale virtualization, larger cloud infrastructures, and growing all-flash-based storage environments by delivering market-leading 32Gb Fibre Channel technology and capabilities. It provides a high-density building block for increased scalability, designed to support growth, demanding workloads, and data center consolidation in small to large-scale enterprise infrastructures. It is built for maximum affordability and flexibility, performance, and ease of use.

The HPE SN3600B is an affordable entry-level 8-24-port 32Gb Fibre Channel switch that doesn't compromise on 32Gb functionality offering 24 x 32 Gigabyte per second (Gbps) SFP+ ports in a 1U form-factor. You can start small with as little as 8-ports and select 16Gb FC or 32Gb FC optics to meet your budget requirements. And for low cost deployments, it is available preconfigured with 8 Short Wave 16Gb SFP+ for customers transitioning to next gen IT technology. Each of the twenty-four (24) SFP+ ports supports 4, 8, 16 and 32 Gbps Fibre Channel speeds. The HPE SN3600B is designed to support the SAN requirements of a small to medium-sized workgroup as well as customers who demand enterprise SAN switch capabilities. With industry leading highest FC port density in a slim 1U height, the HPE SN3600B enables the creation of very dense fabrics in a relatively small space for tighter budgets.

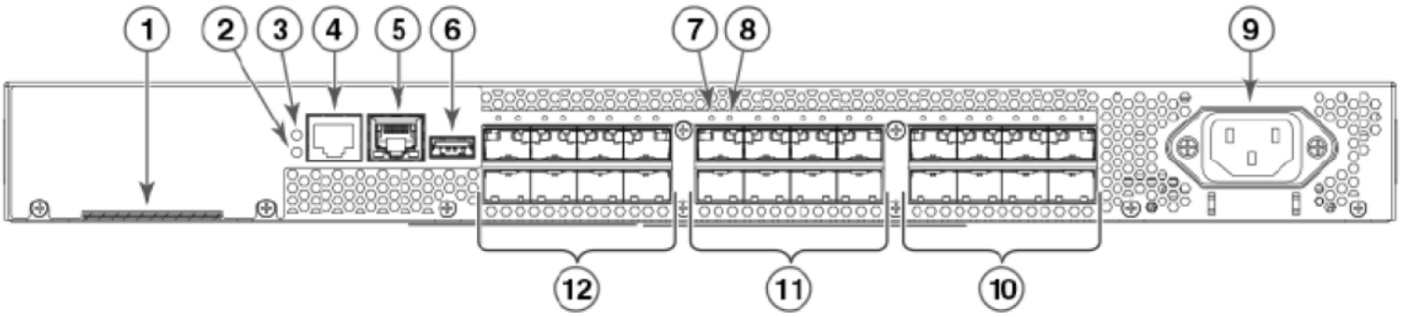
With its flexible Ports on Demand (PoD) capability, the HPE SN3600B provides excellent overall value as the foundation of a SAN with the ability to grow with an organization's SAN needs. Even as an entry-level switch, the HPE SN3600B delivers operational simplicity as it can be configured in as little as 3-steps. The switch provides excellent SAN management and SAN health tools with HPE PowerPack + Software for optimal SAN health, and it supports HPE Smart SAN for 3PAR all–flash fabric deployments (SAN zoning) in just a few click of a mouse all centralized from the array. It also delivers high IOPs, high bandwidth and low-latency with flash-ready performance and always on reliability, while delivering seamless interoperability and ease of use advantages found only in the HPE B-series product family.

The SN3600B is available in the following models

- HPE SN3600B 32Gb 24/8 Fibre Channel Switch
- HPE SN3600B 16Gb 24/8 8-port Short Wave SFP+ Fibre Channel Switch
- HPE SN3600B 32Gb 24/8 8-port 32Gb Short Wave SFP28 Fibre Channel Switch
- HPE SN3600B 32Gb 24/24 Fibre Channel Switch
- HPE SN3600B 32Gb 24/24 Power Pack+ Fibre Channel Switch
- HPE SN3600B 32Gb 24/24 24-port 16Gb Short Wave SFP28 Power Pack+ Fibre Channel Switch
- HPE SN3600B 32Gb 24/24 24-port 32Gb Short Wave SFP28 Power Pack+ Fibre Channel Switch

HPE Power Pack+ Software includes additional software: Fabric Vision, ISL Trunking, and Extended Fabric. HPE Power Pack+ Software provides the SAN administrator with the necessary tools to monitor the health and performance of the network, while also ensuring the highest levels of security, scalability and manageability.

Overview



HPE B-series SN3600B Fibre Channel Switch

1.	Switch ID pull-out tab	7.	SFP+ FC port 8 (upper) status LED
2.	System status LED	8.	SFP+ FC port 12 (lower) status LED
3.	System power LED	9.	AC power receptacle
4.	System RS232 console port (RJ-45)	10.	Trunk port group 2 (SFP+ FC ports 16-23)
5.	Ethernet port with two Ethernet status LEDs	11.	Trunk port group 1 (SFP+ FC ports 8-15)
6.	USB port	12.	Trunk port group 0 (SFP+ FC ports 0-7)

Models

HPE SN3600B 32 Gb FC Switch Models

Description	SKU
HPE SN3600B 32Gb 24/8 8-port 16Gb Short Wave SFP+ Fibre Channel Switch	R4G55B
HPE SN3600B 32Gb 24/8 8-port 32Gb Short Wave SFP28 Fibre Channel Switch	R7R97A
HPE SN3600B 32Gb 24/24 Power Pack+ 24-port 16Gb Short Wave SFP+ Fibre Channel Switch	R8P29A
HPE SN3600B 32Gb 24/24 Power Pack+ 24-port 32Gb Short Wave SFP28 Fibre Channel Switch	R8P28A

Standard Features

Key Features and Benefits

- Delivers 32 Gb flash ready-performance, affordability, in as little as 8-ports with no compromise in 32Gb functionality, with up to 24 ports in an energy-efficient 1U form factor, providing maximum flexibility for diverse deployment and tighter budgets.
- Industry-leading reliability and quality with an unprecedented lifetime warranty*
- Investment protection SAN interoperability as the SN3600B is capable of replacing two generations of entry-level FC switches, including the 8/24 8 Gb FC SAN Switch and SN3000B 16 Gb FC Switch.
- Features dynamic Ports on Demand (PoD) capabilities for fast, easy, and cost-effective scaling in small 8-port Port on Demand (PoD) increments. PoD upgrades are available in 8-port upgrade kits, including both the license and 8 optics under one part number or, the PoD licenses and optics can be purchased separately.
- HPE SN3600B supports 32Gb FC SFP+ and the more affordable 16 Gb SFP+ optics providing flexibility for users to accommodate their budgets and slower FC speeds such as 8Gb FC
- NVMe over Fabric Ready support – available support when the SAN infrastructure supports it and demands it for all-flash environments that are latency sensitive
- Virtual Machine Identity (VMID) support via VM Insight – provides granular visibility of virtualized applications which allows storage admins to obtain granular performance stats which helps them troubleshoot and classify VM IO flows to the fabric for better performance outcomes.
- Support for HPE Smart SAN for 3PAR –Automated SAN orchestration for 3PAR all-flash Fibre Channel SAN deployments, simplifying traditional SAN zoning from hours to minutes.
- Support high-density server virtualization, cloud architectures and flash-based storage environments.
- Supports F/E/M_Port and D_Port types on the SFP+ ports with FOS v8.1.0
- Inter-Switch Link (ISL) Trunking allows up to eight ports between a pair of switches to be combined to form a single logical ISL with a speed of up to 256 Gbps (512 Gbps full duplex) for optimal bandwidth utilization, high availability and load balancing.
- Port-to-port latency is minimized to <900 nanoseconds with no contention (destination port is free) through the use of cut-through frame switching at 32 Gbps for latency sensitive applications and 768 end-to-end full duplex aggregate bandwidth for all-flash storage SANs.
- Real time power monitoring enables users to monitor the power usage of the switch in real time.
- Supports only Back-to-front (non port-side intake) airflow.

Notes: *Lifetime warranty is applicable to the R7R97A, R4G55B, R8P28A and R8P29A models.

SN3600B 32 Gb FC Switch

- Delivers 8, 16 and 24-ports in a 1U enclosure.
- Provides 4 Gbps, 8 Gbps, 16 Gbps, 32 Gbps* performance
  - 32Gb/s optical transceiver can autonegotiate to 32Gb/s, 16Gb/s, or 8Gb/s
  - 16Gb/s optical transceiver can autonegotiate to 16Gb/s, 8Gb/s, or 4Gb/s
- Employs optional Inter-Switch Link (ISL) Trunking to provide a high-speed data path between switches which enables a high speed data path between 32 Gbps switches up to 256 Gbps (512 Gbps full duplex).

Notes: *32 Gbps performance can be obtained between two 32 Gbps capable devices.

Configuration Support

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

Standard Features

High-availability features

- Integrated single power supply and 4 built-in cooling fans (Minimum 2 fans required for the switch to continue functioning properly).
- Achieve continuous uptime with the industry's lowest failure rate and high availability.
- Monitor proactively the overall health of your storage network and VM performance with Power Pack+ Software.
- 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.
- Access Gateway.
- Dynamic and System Monitoring Capabilities for High Reliability.

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.

Software Components, Standard, Base 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.

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.
- **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.

Standard Features

Software Components, Optional

SN3600B 32 Gb Switch Power Pack+ Software Bundle

The HPE Power Pack+ Software Bundle comes with the SN3600B 32 Gb 24/24 Power Pack+ Software. The customers can purchase it separately as an optional software bundle for the SN3600B 32 Gb FC Switch. Power Pack+ Software includes the following:

- Fabric Vision
- Extended Fabric
- ISL Trunking

Fabric Vision

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:

- 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 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.

ISL Trunking

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

HPE GreenLake for Storage Fabric Management

HPE GreenLake for Storage Fabric Management provides cloud-based as-a-service management of multi-protocol storage data fabrics. It accelerates configuring, monitoring, and managing your storage networking fabrics while providing advanced automation and orchestration capabilities. Key features of HPE GreenLake for Storage Fabric Management include:

- Single pane of glass framework for data center environment discovery and management
- Automated discovery of network and SAN infrastructure, storage, server options, backups, and replication
- Protocol-agnostic, real-time fabric diagnostics
- Configuration assurance through HPE SPOCK
- Standardization and optimization of environment configuration through templates
- Accessible using a published REST API

Standard Features

HPE GreenLake for Storage Fabric Management modernizes the storage network enabling businesses to increase productivity, scale, and improve the efficiency of storage investments. Powered by HPE GreenLake edge-to-cloud platform, it is a key element of HPE's storage as a service platform offering. It reduces SAN administration operational and management overhead, optimizes SAN management costs, and delivers unparalleled benefits to your organization.
HPE GreenLake for Storage Fabric Management is available as a prepaid upfront license for 1-year, 3-year, 4-year, and 5-year terms.

More information is available at the following websites:

- Overview Video
- Demo
- HPE GreenLake for Storage Fabric Management

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-years and 5-years period as both – physical and electronic License-to-Use (LTU). It supports 8Gb, 16Gb and 32Gb FC Switches and Directors.

HPE Smart SAN for 3PAR

HPE Smart SAN for 3PAR software automatically orchestrates SAN fabrics for HPE 3PAR all-flash deployments. The software defined networking solution simplifies fabric deployments and reduces the probability of human errors through Fibre Channel T-11 Standards-based Target Driven Peer Zoning (TDPZ), all from the 3PAR CLI or 3PAR SSMC. It is a distributed application embedded in HPE 3PAR StoreServ Storage and SAN components (array, hosts and switches) that enables 3PAR arrays to orchestrate host configuration, settings and SAN diagnostics across the SAN. HPE Smart SAN is supported with HPE B-series (32 Gb, 16 Gb and 8 Gb FC Switches), (32 Gb, 16 Gb and 8 Gb FC) HBAs, HPE FlexFabric 5900 Series Switches and 3PAR storage.
HPE Smart SAN for 3PAR through its Target and 3PAR Federated Driven Peer Zoning features enables storage administrators to automate switch zoning in a few clicks of a mouse, 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.

Additional information can be found here:
https://www.hpe.com/us/en/product-catalog/storage/storage-software/pip.hpe-smart-san-for-3par.8295863.html

Notes:

- Supports B-series 32 Gb, 16 Gb and 8 Gb FC switches with FOS 7.4.0a or later.
- A list of supported HPE (32 Gb, 16 Gb and 8 Gb) FC HBAs can be found at: **https://h20272.www2.hpe.com/spock/**
- Supports 3PAR StoreServ storage with 3.2.2 or later with only 16 Gb target ports on HPE 3PAR StoreServ storage.
- For 3PAR SSMC support, you need 3PAR SSMC 3.1 and OS version 3.3.1.

Service and Support

Warranty

Models Q1H70B, R4G55A, Q1H71B and Q1H72B have the following warranty:
(1-1-1) Hardware Warranty; 1-year parts; 1-year on-site (standard business hours, next business day Response) and 1-year labor.

Models R7R97A, R4G55B, R8P28A and R8P29A have the following warranty:
Lifetime Warranty

- Warranty Duration: Lifetime
  - The warranty extends only for as long as the original end user owns the product and is limited to five (5) years from the end of sale date (end of service life).
- Hardware Replacement: Next Business Day
  - Includes coverage of hardware excluding optical transceivers for the entire warranty period.
- Software FOS Releases – As long as owned
  - Includes all generally available FOS releases offered for the specific products listed, when and if available, for as long as the original end user owns the product and the product has not reached end of service life.
- Does not include on-site support.

Notes:

- The hardware warranty covers firmware and embedded non-saleable software. For extended hardware installation and maintenance information, click the following link: **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

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.
HPE Managed Services | HPE

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

Service and Support

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**

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**

Service and Support

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/**

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

Service and Support

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 SN3600B 32Gb 24/8 8-port 16Gb Short Wave SFP+ Fibre Channel Switch	R4G55B

32 Gb 24-port FC Switch with 8 active ports; eight short wave 16Gb SFP+; accessory kit (Rackmount kit, enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, serial cable, base software of Advanced Fabric OS, Advanced Web Tools, Advanced Zoning.

Notes: The B version of the product includes the lifetime warranty, the A version does not.

HPE SN3600B 32Gb 24/8 8-port 32Gb Short Wave SFP28 Fibre Channel Switch	R7R97A

32 Gb 24-port FC Switch with 8 active ports; eight short wave 32Gb SFP28; accessory kit (Rackmount kit, enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, serial cable, base software of Advanced Fabric OS, Advanced Web Tools, Advanced Zoning

Notes: This product includes the lifetime warranty.

HPE SN3600B 32Gb 24/24 Power Pack+ 24-port 16Gb Short Wave SFP+ Fibre Channel Switch	R8P29A

32 Gb 24-port FC Switch with 24 active ports; 24 short wave 16Gb SFP+; accessory kit (Rackmount kit, enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, serial cable, and Power Pack+ software.

Notes: This product includes the lifetime warranty.

HPE SN3600B 32Gb 24/24 Power Pack+ 24-port 32Gb Short Wave SFP28 Fibre Channel Switch	R8P28A

32 Gb 24-port FC Switch with 24 active ports; 24 short wave 32Gb SFP+; accessory kit (Rackmount kit, enterprise safety and regulatory information, installation guide, rack-mounting instructions), power cords, serial cable, and Power Pack+ software.

Notes: This product includes the lifetime warranty.

Step 2 – Options

The HPE B-series SN3600B Fibre Channel Switch supports the use of the following transceivers.

Fibre Channel Transceivers

Description	SKU
HPE B-series 16Gb SFP+ Short Wave Transceiver	QK724A

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
HPE B-series 16Gb SFP+ Short Wave 1-pack Secure Transceiver	R6B10A
HPE B-series 16Gb SFP+ Short Wave 8-pack Secure Transceiver	R6W28A
HPE B-series 16Gb SFP+ Long Wave 10km 1-pack Secure Transceiver	R6B11A
HPE B-series 16Gb SFP+ Extended Long Wave 25km 1-pack Secure Transceiver	R6B21A

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

Configuration Information

Accessories

HPE B-series 4G USB Drive	N9Y63A

Notes: The Accessory Kit contains a Rack Mount Kit including rails, rail mounting hardware and plenum and HPE product documentation including Read Me First, Safety Guides, User License, and Warranty.

Optical Cables

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
HPE PremierFlex OM4 QSFP Fiber Optic Cables	
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 1m Cable	Q1H63A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 2m Cable	Q1H64A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 5m Cable	Q1H65A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 10m Cable	QK729A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 15m Cable	Q1H66A
HPE Premier Flex MPO/MPO Multi-mode OM4 12 Fiber 30m Cable	Q1H67A
HPE Premier Flex MPO/MPO Multi-mode OM4 8 Fiber 50m Cable	QK731A
HPE Premier Flex MPO/MPO OM4 100m Cable	H6Z30A
HPE PremierFlex MPO to 4xLC OM4 Splitter Cables	
HPE Multi Fiber Push On to 4 x Lucent Connector 5m Cable	K2Q46A
HPE Multi Fiber Push On to 4 x Lucent Connector 15m Cable	K2Q47A
HPE Premier Flex MPO to 4xLC 30m Cbl	Q1H68A
HPE OM3 LC-LC Optical Cables	
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

Port On Demand (POD) Kits

HPE SN3600B 16Gb 8-port Short Wave SFP+ Fibre Channel Upgrade License with Transceiver Kit	R7M10A
HPE SN3600B 32Gb 8-port Short Wave SFP28 Fibre Channel Upgrade License with Transceiver Kit	R7M09A

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.

Configuration Information

Step 3 - Optional Software*

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

Software for SN3600B 32 Gb FC Switch

HPE GreenLake for Storage Fabric Management
For more information reference, the HPE Greenlake for Storage Fabric Management QuickSpecs.

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.

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 or later

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.

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.

Configuration Information

- 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 or later

Description	SKU
HPE Smart SAN for HPE 3PAR StoreServ 8200/8400/8440/8450 E-LTU	L7D49AAE
Notes: (Physical License - L7D49A)	
HPE SN3600B Power Pack+ Upgrade E-LTU	Q1Z11BAE
Notes: (Physical License – Q1Z11B)	

Notes:

- The Power Pack+ Software Bundle kit includes Fabric Vision, ISL Trunking and Extended Fabric.
- Universal Temporary Licenses (UTLs) are available for trial usage or to test select features before purchasing permanent licenses. These UTLs enable optional features on B-series Directors and Switches on a temporary basis for one-time usage. Additional information can be found at the following URL using your HPE Passport credentials: **https://h20392.www2.hpe.com/portal/swdepot/displayProductInfo.do?productNumber=BROCADETRIAL**

Technical Specifications

Family Information

Features	SN3000B 16 Gb FC Switch	SN3600B 32 Gb FC Switch	SN6000B 16 Gb FC Switch and SN6000B 16 Gb FC Power Pack+
Targeted Environment	Workgroups, Departments	Workgroups, Departments	Workgroups, Departments
Fibre Channel Port Bandwidth	16 Gbps	32 Gbps	16 Gbit/sec
Aggregate device Bandwidth	384 – 768 Gb full duplex	768 Gb end-to-end full duplex	384- 768 Gbit/sec
OS Support	**Notes:** Please Refer to SAN Design Guide **https://www.hpe.com/storage/sandesignguide**		
Storage system support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050		
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)

Features	SN6600B 32 Gb FC Switch and SN6600B 32 Gb FC Power Pack+	SN6600B 32 Gb Bundled (SFP+) FC Switch and SN6600B 32 Gb Power Pack+ Bundled (SFP+) FC Switch	SN6700B 64Gb FC Switch
Targeted Environment	Workgroups, Departments	Workgroups, Departments	Workgroups, Departments
Fibre Channel Port Bandwidth	32 Gbit/sec	32 Gbit/sec	64Gb
Aggregate device bandwidth	2 Terabyte per second (Tbps)	2 Tbps	3.5 Tbps
OS Support	**Notes:** Please Refer to SAN Design Guide **https://www.hpe.com/storage/sandesignguide**		
Storage system support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050		
FC Ports	24 or 48 enabled 64 Max	24 or 48 Enabled 64 Max	24 Enabled 56 Max
SFP	B-series (16 Gb or 32 Gb)	B-series, 24 or 48 32 Gb SFP+ included in the box	B-series Secure 24 32Gb SFP28 or 64Gb SFP56 included
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Included in Power Pack+ on all switches
Adaptive Networking	Included	Included	Included
Form factor	1U	1U	1U
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included
Hot plug, redundant power supplies	Yes	Yes	Yes
Hot plug fans	Yes (integrated with power supply)	Yes (integrated with power supply)	Yes (integrated with power supply)

Technical Specifications

Features	1606 Extension SAN Switch	SN4000B SAN Extension Switch
Targeted Environment	Data Centers	Data Centers
Fibre Channel Port Bandwidth	8 Gbit/sec	16 Gbit/sec
Ethernet	1 Gb Ethernet	1/10/40 Gb Ethernet
OS Support	**Notes:** Please Refer to SAN Design Guide **htpps://www.hpe.com/storage/sandesignguide**	
Storage system support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050	
FC Ports	4 or 16 Enabled 16 Max	24 Enabled 24 Max
Ethernet Ports	2 or 6 Enabled 6 Max	16 ports 1/10GbE Enabled 16 Max 2 – 40 GbE ports
SFP	B-series	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included
Adaptive Networking	Included	Included
Form factor	1U	2U
Features	1606 Extension SAN Switch	SN4000B SAN Extension Switch
Zoning Software	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes
Hot plug fans	Yes	Yes

Features	SN8000B 8-Slot SAN Director Power Pack+	SN8600B 8-Slot SAN Director Power Pack+
Targeted Environment	Cloud Optimized Data Centers	Cloud Optimized Data Centers
Port Bandwidth	Up to 16 Gbit/sec	Up to 32 Gbit/sec
Aggregate device bandwidth	10.2 Terabit per second (Tbit/sec)	16.2 Tbit/sec
OS Support	**Notes:** Please Refer to SAN Design Guide **htpps://www.hpe.com/storage/sandesignguide**	
Storage system support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050	
Ports	Up to 512 SFP	384 32 Gb ports or a 512-port equivalent with 128 Gb (32 Gbps×4 QSFP ports)
SFP	B-series	B-series
Advanced Trunking	Included with Power Pack	Included with Power Pack
Adaptive Networking	Included	Included
Form factor	14U	14U
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+
Targeted Environment	Cloud Optimized Data Centers	Cloud Optimized Data Centers
Port Bandwidth	Up to 16 Gbit/sec	Up to 32 Gbit/sec
Aggregate device bandwidth	5.1 Tbit/sec	8.1 Tbit/sec
OS Support	**Notes:** Please Refer to SAN Design Guide **htpps://www.hpe.com/storage/sandesignguide**	
Storage system support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050	
Ports	Up to 256 SFP	Up to 192 32 Gbps ports or a 256-port equivalent with 16 UltraScale ICL ports.
SFP	B-series	B-Series
Advanced Trunking	Included with Power Pack or Optional Upgrade	Included with Power Pack
Adaptive Networking	Included	Included
Form factor	9U	9U
Zoning Software	Yes (included)	Yes (Included)
Hot plug, redundant power supplies	Yes	Yes
Hot plug fans	Yes	Yes

Features	Brocade 16 Gb SAN Switch for HPE c-Class BladeSystem	Brocade 8 Gb SAN Switch for HPE c-Class BladeSystem	Brocade 16 Gb Fibre Channel SAN Switch Module for HPE Synergy
Targeted Environment	Enterprise, Datacenters, Workgroups, Departments	Workgroups, Departments	Enterprise, Datacenters, Workgroups, Departments
Port Bandwidth	16 Gbit/sec	8 Gbit/sec	16 Gbit/sec
Aggregate device bandwidth	448 Gbit/sec	192 Gbit/sec	576 Gbit/sec
OS Support	**Notes:** Please Refer to SAN Design Guide **htpps://www.hpe.com/storage/sandesignguide**		
Storage system Support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050		
Ports	12 external /16 internal	4 or 8 external / 8 or 16 internal	8 SFP+ external, 4 QSFP external /12 internal
SFP	B-series	B-series	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade
Adaptive Networking	Included	Included	Included
Form factor	Embedded	Embedded	Embedded
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame
Hot plug fans	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame

Technical Specifications

Features	Brocade 16 Gb SAN Switch for HPE c-Class BladeSystem	Brocade 8 Gb SAN Switch for HPE c-Class BladeSystem	Brocade 16 Gb Fibre Channel SAN Switch Module for HPE Synergy
Targeted Environment	Enterprise, Datacenters, Workgroups, Departments	Workgroups, Departments	Enterprise, Datacenters, Workgroups, Departments
Port Bandwidth	16 Gbit/sec	8 Gbit/sec	16 Gbit/sec
Aggregate device bandwidth	448 Gbit/sec	192 Gbit/sec	576 Gbit/sec
OS Support	**Notes:** Please Refer to SAN Design Guide **htpps://www.hpe.com/storage/sandesignguide**		
Storage system Support	HPE Primera, 3PAR StoreServ, Nimble, StoreVirtual 4000, P9000/XP7, MSA 2050/1050		
Ports	12 external /16 internal	4 or 8 external / 8 or 16 internal	8 SFP+ external, 4 QSFP external /12 internal
SFP	B-series	B-series	B-series
Advanced Trunking	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade	Included with Power Pack+ or Optional Upgrade
Adaptive Networking	Included	Included	Included
Form factor	Embedded	Embedded	Embedded
Zoning Software	Yes (Included)	Yes (Included)	Yes (Included)
Hot plug, redundant power supplies	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame
Hot plug fans	Yes, in BladeSystem Enclosure	Yes, in BladeSystem Enclosure	Yes, in Synergy Frame

Technical Specifications

System Architecture

Fibre Channel ports	Switch mode (default): 8, 16, and 24-port configurations (8-port increment through Ports on Demand [PoD] license); E, F, M, S and D ports. Access Gateway default port mapping: 16 F_Ports, 8 N_Ports
Scalability	Full-fabric architecture with a maximum of 239 switches.
Certified maximum	9,000 active nodes; 56 switches, 19 hops in Fabric OS® fabrics; larger fabrics certified as required.
Performance	Fibre Channel: 8.5 Gbps line speed, full duplex; 14.025 Gbps line speed and 28.05 Gbps line speed, full duplex; auto-sensing of 4, 8, 16 and 32 Gbps port speeds.
ISL trunking	Frame-based Trunking with up to eight 32 Gbps ports per ISL trunk; up to 256 Gbps per ISL trunk. Exchange-based load balancing across ISLs with DPS included in Fabric OS.
Aggregate bandwidth	768 Gb end-to-end full duplex.
Maximum fabric latency	Latency for locally switch ports is 900 ns (including FEC).
Maximum frame size	2,112-byte payload.
Frame buffers	2,000 dynamically allocated.
Classes of service	Class 2, Class 3, Class F (inter-switch frames).
Port types	F_Port, E_Port, M_Port, D_Port (ClearLink Diagnostic Port) on 24 SFP+ ports. Access Gateway mode: F_Port and NPIV-enabled N_Port.
Data traffic types	Fabric switches supporting unicast.
Media types	32 Gbps: HPE SN3600B requires HPE hot-pluggable SFP+, LC connector; 32 Gbps SWL, LWL. 16 Gbps: HPE SN3600B requires HPE hot-pluggable SFP+, LC connector; 16 Gbps SWL, LWL, ELWL. Fibre Channel distance subject to fiber-optic cable and port speed.
USB	One USB port for system log file downloads or firmware upgrades.
Fabric services	Monitoring and Alerting Policy Suite (MAPS); Flow Vision; Adaptive Networking (Traffic Isolation, QoS); Fabric Performance Impact (FPI) monitoring; Slow Drain Device Quarantine (SDDQ); Advanced Zoning (default zoning, port/WWN zoning, broadcast zoning, peer zoning, target driven zoning); Dynamic Fabric Provisioning (DFP); Dynamic Path Selection (DPS); Extended Fabrics; Enhanced BB credit recovery; FDMI; Frame Redirection; Frame-based Trunking; FSPF; ISL Trunking; Management Server; NPIV; NTP v3; Registered State Change Notification (RSCN); Reliable Commit Service (RCS); Simple Name Server (SNS Read Diagnostics Parameter (RDP), VM Insight. **Notes:** Some fabric services do not apply or are unavailable in Access Gateway mode.

Technical Specifications

Management

Supported management software	HTTP, SNMP v1/v3 (FE MIB, FC Management MIB), SSH; Auditing, Syslog; Advanced Web Tools; Network Advisor SAN Enterprise or Network Advisor SAN Professional/Professional Plus; HPE SANnav Management Software, Command Line Interface (CLI); SMI-S compliant; 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.
Management access	10/100/1000 Mb Ethernet (RJ-45), in-band over Fibre Channel, serial port (RJ-45) and one USB port.
Diagnostics	ClearLink optics and cable diagnostics, including electrical/optical loopback, link traffic/latency/distance; flow mirroring; built-in flow generator; POST and embedded online/offline diagnostics, including environmental monitoring, FCping and Pathinfo (FC traceroute), frame viewer, non-disruptive daemon restart, optics health monitoring, power monitoring, RAStrace logging, and Rolling Reboot Detection (RRD).

Mechanical

Enclosure	Back-to-front airflow (non-port-side intake); power from back, 1U
Size	Width: 42.88 mm (16.88 in.) Height: 4.29 mm (1.69 in.) Depth: 30.66 mm (12.07in.)
System weight	5.76 kg (12.65 lb.) with one integrated power supply, without transceivers.

Environment

Operating environment	Temperature: 0°C to 40°C/32°F to 104°F. Humidity: 10% to 85% (non-condensing).
Non-operating environment	Temperature: -25°C to 70°C/-13°F 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 Gb 11 ms, 3 Gb axis.
Vibration	Operating: 0.5 g sine, 0.4 grms. random, 5 Hz to 500 Hz. Non-operating: 2.0 g sine, 1.1 grms. random, 5 Hz to 500 Hz.
Heat dissipation	24 ports at 215 BTU/hr @100VAC(typical); 209.56 BTU/hr @ 200VAC (typical)

Power

Power supply	Base switch includes a single, fixed power supply with four integrated system cooling fans.
AC input	90 V to 264 V. (Nominal: 100–240 VAC)
Maximum input current	2.2 A.
Input line frequency	47 Hz to 63 Hz. (Nominal: 50/60 Hz)
Power consumption	76.52 W with all 24 ports populated with 32 Gbps SWL optics. 55.83 W for idle configuration (all optics loaded but not initialized).

Summary of Changes

Date	Version History	Action	Description of Change
13-Nov-2023	Version 19	Changed	Standard Features, Service and Support and Configuration Information sections were updated. HPE Services Rebranding Added reference to Storage Fabric Manager
24-Jul-2023	Version 18	Changed	Overview, Standard Features and Configuration information sections were updated. Removed Network Orchestrator
05-Jun-2023	Version 17	Changed	Overview and Configuration Information sections were updated
19-Sep-2022	Version 16	Changed	Configuration Information section was updated. Obsolete SKU was removed
15-Aug-2022	Version 15	Changed	Configuration Information was updated. Obsolete SKUs were removed
04-Apr-2022	Version 14	Changed	Added back SKUs with extended lifecycle dates
06-Dec-2021	Version 13	Changed	Service and Support and Standard Features sections were updated Obso SKUs were removed
04-Oct-2021	Version 12	Changed	Service and Support section was updated Obso SKU was removed
07-Sep-2021	Version 11	Changed	Added three new lifetime warranty models
02-Aug-2021	Version 10	Changed	Service and Support and Configuration Information sections were updated.
07-June-2021	Version 9	Changed	Added PoD Kit offering and Secure Optics
06-Jul-2020	Version 8	Changed	Overview and Configuration Information sections were updated.
18-May-2020	Version 7	Changed	PN correction for the new bundled offering
04-May-2020	Version 6	Changed	Overview, Standard Features and Configuration information sections were updated.
06-Apr-2020	Version 5	Changed	Added new SKU bundled with 8-16Gb optics.
03-Feb-2020	Version 4	Changed	Configuration Information section was updated.
03-Sep-2019	Version 3	Changed	Added SANnav description and SKU details
01-Oct-2018	Version 2	Changed	Features & Benefits, Name, and Configuration information sections were updated.
23-Jan-2017	Version 1	New	New QuickSpecs

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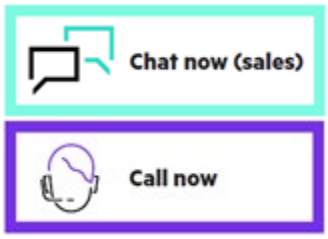

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