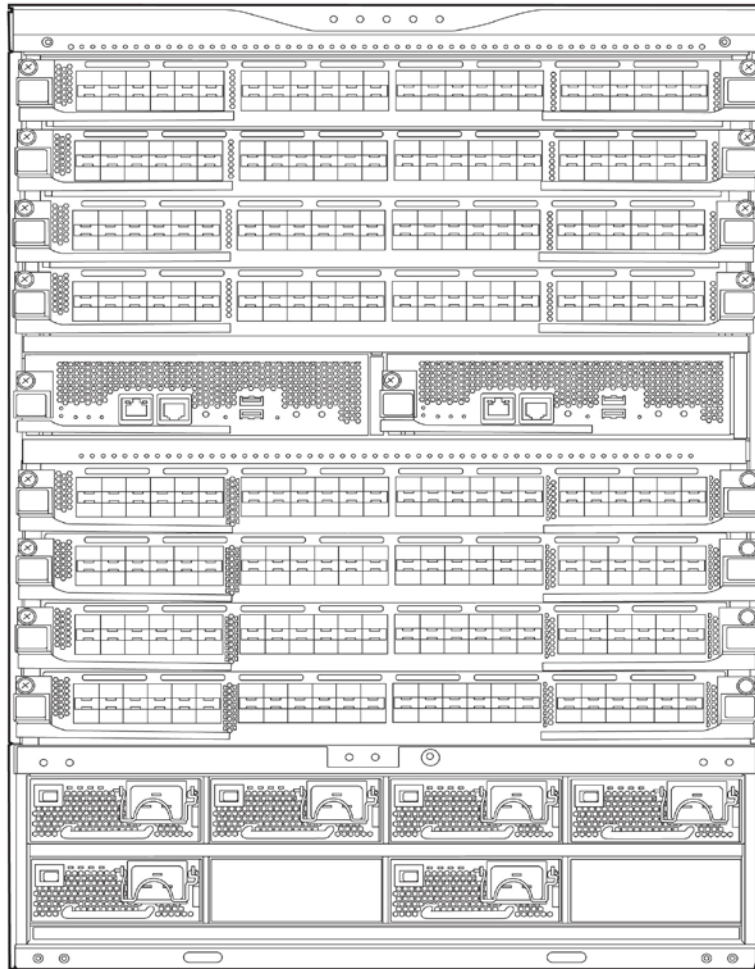


### Overview

### HP StoreFabric SN8500C Director Switch



For a converged and virtualized environment to exist, there is pressure on the IT organization to manage fewer devices, utilize less energy and resources, and transfer data faster, all while handling similar or higher volumes of work than a traditional environment. When large amounts of data need to be transferred between data centers, arrays, or sites, a faster link can allow the same tasks to be completed in less time.

With virtualization taking a strong hold in the datacenter, and the resulting increase in the storage networking traffic, customers want high performance, high capacity, and a reliable storage area network (SAN) enabling them to deploy enterprise class applications. This high density virtualization combined with new storage technologies is driving even higher I/O and bandwidth requirements in the SAN and this problem is solved with 16Gb Fibre channel switching products and solutions from HPE Storage.

The HP StoreFabric C-series SN8500C Director delivers many unique innovations for constructing powerful, large scale storage networks. With these innovations, users can build highly scalable, always available, high performance storage network solutions

## Overview

with comprehensive security and unified management. The HP StoreFabric SN8500C 8-slot 16Gb FC Director delivers industry-leading scalability and performance (up to 24-Tbps front panel FC switching bandwidth), high port density (up to 384-ports in an SN8500C 8-Slot Director) and high availability to lower TCO and enable integrated SAN infrastructures. HPE delivers the StoreFabric SN8500C 8-slot 16Gb FC Director with high availability features inherent in the design. The base units include an 8-slot modular chassis with 2 hot swappable redundant Supervisor 1 Modules, and 6 hot swappable redundant 3000W Power Supplies to help ensure smooth, continuous operation and non-disruptive upgrade capability. The HP StoreFabric SN8500C 8-slot and 4-slot 16Gb FC Directors also include 3 hot swappable Fabric 1 Modules which provides full line rate performance across a full chassis of 384 and 192 ports, respectively. The open expansion slots of the SN8500C Directors can be filled by HP StoreFabric C-series Family Modules, which include a 48-port 16Gb FC Module and a 48-port FCoE Module.

Layered, intelligent features also include integration with fabric-based applications to fabric-wide services for a wide range of solutions for business continuance, storage virtualization, network assisted backup and information life cycle management.

## Key Features and Benefits

- **Reduced Total Cost of Ownership (TCO) for SAN Infrastructure**
  - Enables storage consolidation, simplified management of SAN environment
- **High Port Density**
  - Up to 384 Fibre Channel ports (auto-sensing 16/8/4 or 10Gbps) in single chassis
    - Up to 1152 4/8/16-Gbps Fibre Channel ports in a standard rack
  - Up to 384 FCoE Channel ports (autosensing 10Gbps) in single chassis
    - Up to 1152 10-Gbps FCoE ports in a standard rack
- **Scalable**
  - Supports throughput up to 256Gb in a single PortChannel 'ISL Trunk'
    - Offers 48 to 384 Fibre Channel ports in a single chassis
    - Offers 48 to 384 FCoE Channel ports in a single chassis
- **Highly Available**
  - Grid Redundancy on Power Supply and 1+1 redundant Supervisors
  - Combines non-disruptive software upgrades, stateful process restart and failover, and full redundancy of all major components
  - Provides full 16Gbps line rate performance (768 Gbps each direction) for each slot in the chassis
- **Interoperable**
  - Broad range of Hewlett Packard Enterprise servers and operating systems
  - Disk and tape storage devices
  - Common architectural platform across all SN8500C and MDS9700 family products
- **Integrated Management**
  - Unified SAN management: includes built-in storage network management with all features available through a command-line interface (CLI)
  - Provides intelligent diagnostics, protocol decoding, and network analysis tools
  - Embedded Device Manager
  - Integration with Cisco Works Resource Manager Essentials (RME)
- **Hardware Assisted Encryption Security**
- **Comprehensive network security framework**
  - Comprehensive security framework consisting of RADIUS and TACACS+, Fibre Channel Security Protocol (FC-SP), Secure File Transfer Protocol (SFTP), Secure Shell (SSH) Protocol, and Simple Network Management Protocol Version 3 (SNMPv3). Please note that the SN8500C Enterprise Package License may be required.

## Product Highlights

**SN8500C Director** Supports up to 384 ports capable of 16/8/4 Gbps (with the use of the SN8500C 48 port FC Modules). Supports up to 384 FCoE ports capable of 10-Gbps (with the use of the SN8500C 48 port FCoE Modules).

- Network-based Intelligent Storage Applications**
- Integrated hardware-based VSANs and Inter-VSAN Routing (IVR) (with optional SN8500C Enterprise Package license activated)
  - Data replication and backup
  - Smart Zoning

**Security** Supports role-based access control, VSANs, hardware-enforced Zoning, FC-SP, ACLs, RADIUS authentication and TACACS+, SNMPv3, SSH, SFTP, and IPsec. Please note that the SN8500C Enterprise Package license may be required.

- High Performance**
- Up to 24 Terabits/sec front-panel Fibre-Channel switching bandwidth and 21 Tbps of FCoE bandwidth
  - Port Channel: Up to 16 ports (the channel can span any speed-matched port on any module in the chassis)

**Intelligent network services** Please note that some services require the optional SN8500C Enterprise Package license to be activated.

- Integrated hardware-based VSANs and Inter-VSAN Routing (IVR):
- SAN device virtualization
- Data replication
- Network-Assisted Back-up IP and FC network acceleration Virtual SANs (VSANs and Inter-VSAN routing)
- Quality of Service (QoS)
- Management Security
- Embedded Diagnostics

- High Availability**
- Online non-disruptive software upgrades
  - Stateful process restart/failover
  - Redundancy of all major components
  - Hot swappable components including switch fabric modules

**Embedded Diagnostics** Provides intelligent diagnostics, protocol decoding and network analysis tools including Fibre Channel ping and trace route, SPAN, Zone and VSAN merge analysis.

**Port Channels** Allows users to aggregate up to 16 physical links into one logical bundle. The bundle can consist of any port in the chassis, ensuring that the bundle remains active in the event of a port, ASIC, or module failure. The bundle can sustain the failure of any physical link without causing a reset. Additionally, Fabric Shortest Path First (FSPF) multipath provides the intelligence to load balance across up to 16 FC equal cost paths and, in the event of a switch failure, to dynamically reroute traffic.

- Access Control**
- Hardware-based intelligent frame processing
  - Role based access control within VSANs

## Product Highlights

- Hardware-enforced zoning

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### Traffic management

- Virtual Output Queue (VOQ)
- Buffer credits: 48-port line-rate 16Gbps advanced Fibre Channel modules:
  - Up to 500 per port (dedicated-mode ports) standard
  - Up to 4095 on an individual port (dedicated-mode ports with optional SN8500C Enterprise Package license activated)
- Port Channels (up to 16 ISLs)
- Fabric Shortest Path (FSPF) based multipathing

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### Management modes

- Cisco MDS 9000 Family Command Line Interface (CLI)
- Cisco Device Manager
- Integration with third-party management tools
- Cisco Data Center Network Manager

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### Interoperability

Offers compatibility with a broad range of Hewlett Packard Enterprise servers and operating systems, as well as disk and tape storage devices.

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### Product Family Models

- HP StoreFabric SN8500C 8-slot 16Gb FC Director (MDS 9710)
  - Intelligent, multi-protocol 8-slot Director with up to 384 16/8/4 Gb Fibre Channel ports in a single chassis. Also, the HP StoreFabric SN8500C 48-port 16Gb FC Module and the included Fabric 1 modules provide up to 384 ports of full 16Gbps line-rate performance across all ports or 384 10GbE FCoE ports in a single chassis or up to 1152 FCoE ports in a single rack with the use of the SN8500 FCoE module.
- HP StoreFabric SN8500C 4-slot 16Gb FC Director (MDS 9706)
  - Intelligent, multi-protocol 4-slot Director with up to 192 16/8/4 Gb Fibre Channel ports in a single chassis. Also, the HP StoreFabric SN8500C 48-port 16Gb FC Module and the included Fabric 1 modules provide up to 192 ports of full 16Gbps line-rate performance across all ports or 192 10GbE FCoE ports in a single chassis.
- HP SN6500C 16Gb Multi-service Switch (MDS 9250i)
  - Intelligent multi-protocol Fabric Switch with twenty active fixed 16Gb Fibre Channel ports, two fixed 1/10 Gigabit Ethernet FCIP ports, and eight fixed 10 Gigabit Ethernet FCoE ports. Provides up to forty active 16/8/4 Gb Fibre Channel ports through a port upgrade license.
- HP SN6010C 16Gb Fabric Switch (MDS 9148S)
  - With up to 48 Auto-Sensing 16/8/4 Gb Fibre Channel ports
  - "Pay as you grow" scalability starting at 12 ports

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## Software Components, Standard

### NX-OS

New MDS 9000 NX-OS provides deterministic hardware performance and a comprehensive feature set that allows virtual machines to have the same SAN attributes as a physical server. The SN8500C Director with 2 Supervisor 1 modules supports NX-OS 6.2(1) or later. The SN8500C 48port FCoE Module requires NX-OS 6.2(7) or later.

### Cisco Data Center Network Manager

Cisco Data Center Network Manager is a responsive, easy-to-use Java application that simplifies management across multiple switches and fabrics. Cisco Data Center Network Manager enables administrators to perform vital tasks such as topology discovery, fabric configuration and verification, LUN security, monitoring, and fault resolution. All functions are available through a secure interface, which enables remote management from any location. Cisco Data Center Network Manager may be

## Product Highlights

used independently or in conjunction with third-party management applications. Cisco provides an extensive API for integration with third-party and user developed management tools.

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## Software Components, Optional

**HP StoreFabric SN8500C Enterprise Package** Cisco MDS switches have a set of advanced traffic engineering and advanced security features that are recommended for all Enterprise SANs. These features are bundled together in a management application called the HP StoreFabric SN8500C Enterprise Package (for the SN8500C Director). Please refer to Cisco's MDS Enterprise Package Data Sheet for more information:

[http://www.cisco.com/c/en/us/products/collateral/storage-networking/mds-9000-software-licensing/product\\_data\\_sheet09186a00801ca6ac.html](http://www.cisco.com/c/en/us/products/collateral/storage-networking/mds-9000-software-licensing/product_data_sheet09186a00801ca6ac.html)

**HP StoreFabric Data Center Network Manager Package** The "Standard" Cisco Data Center Network Manager software that is included at no charge with the SN8500C Director provides basic switch configuration and troubleshooting capabilities. HP's C-series StoreFabric Data Center Network Manager (DCNM) Package (for the SN8500C director) extends Cisco Data Center Network Manager by providing historical performance data collection for network traffic hot-spot analysis, centralized management services and advanced application integration.

**Integrated mainframe support** The HP StoreFabric SN8500C Mainframe FICON LTU is required for using the SN8500C 8-slot 16Gb Directors (MDS 9710) or the SN8500C 4-slot 16Gb Directors (MDS 9706) in mainframe storage networks, including FICON protocol and CUP management, switch cascading, fabric binding, and intermixing. FICON support for the SN8500C 4-slot Director (MDS 9706) is introduced with NX-OS 6.2(11c) firmware.

## HPE Support Services and Warranty Information

### Warranty

The SN8500C 16Gb Director offers (3-3-3) Hardware Warranty – Three-year warranty, 24x7, 4-hour remote response, installation not included.

The SN8500C FCoE Module, SN8500C FC Module (3-3-3) Hardware Warranty – Three-year warranty, 24x7, 4-hour remote response, installation not included.

**NOTE:** The hardware warranty covers firmware and embedded non-saleable software. Saleable software carries its own warranty, see below.

Software Warranty - Hewlett Packard Enterprise warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery.

**EXCLUSIVE REMEDY:** The entire liability of HPE and its suppliers and your exclusive remedy for software that does not conform to this Limited Warranty shall be the repair or replacement of the defective media. This warranty and remedy are subject to your returning the defective media during the warranty period to HPE in the country in which you obtained the software.

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

<http://www.hp.com/services/deployment>

**NOTE:** 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.

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### Protect your business beyond warranty with HPE Support Services

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

### Connect your devices

Unlock all of the benefits of your technology investment by connecting your products to HP Enterprise. Achieve up to 77%<sup>1</sup> reduction in down time, near 100%<sup>2</sup> diagnostic accuracy and a single consolidated view of your environment. By connecting, you will receive 24x7 monitoring, pre-failure alerts, automatic call logging, and automatic parts dispatch. HPE Proactive Care Service and HPE Datacenter Care Service customers will also benefit from proactive activities to help prevent issues and increase optimization. All of these benefits are already available to you with your server storage and networking products, securely connected to HPE support.

1- IDC

2 - HP CSC reports 2014 - 2015

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### Optimized Care

#### HPE Proactive Care Advanced\* - 24x7 coverage, three year Support Service

This services helps achieve a higher return on your product investment with personalized support from a local assigned Account Support Manager who will share best practice advice and personalized recommendations designed to help improve availability and performance to increase stability and reduce unplanned downtime. Leverage your system's ability to connect to HPE for pre-failure alerts, automatic call logging and parts dispatch. For business critical incidents, this service offers critical event management to reduce mean time to resolution. This recommendation provides 24x7 coverage with four-hour response for hardware and collaborative support that offers two-hour callback for

## HPE Support Services and Warranty Information

supported software issues. Collaborative software management is included with independent software vendors unless you have your software support from HPE where we own all cases from start through to resolution.

<https://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA5-3259ENW&cc=us&lc=en>

### Standard Care

#### **HPE Proactive Care\* with 24x7 coverage, three year Support Service**

HPE Proactive Care gives customers an enhanced call experience plus helps preventing problems and maintains IT stability by utilizing personalized proactive reports with recommendations and advice when your products are connected to HPE. This Service combines three years' proactive reporting and advice with our 24x7 coverage, four hour hardware response time when there is a problem.

<http://www.hpe.com/h20195/v2/GetPDF.aspx/4AA3-8855ENW.pdf>

\*HPE Proactive Care and HPE Proactive Care Advanced require that the customer connect their devices to make the most of these services and receive all the deliverables.

### Basic Care

#### **HPE Foundation Care 24x7, three-year Support Service**

HPE Foundation Care 24x7 gives you access to HPE 24 hours a day, seven days a week for assistance on resolving issues. This service includes need based Hardware onsite response within four hours. Simplify your support experience and make HPE your first call to help resolve hardware or software problems.

<http://www.hpe.com/h20195/V2/GetDocument.aspx?docname=4AA4-8876ENW&cc=us&lc=en>

### Related Services

#### **HPE SAN Deployment Service**

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

<http://h20195.www2.hpe.com/V2/GetPDF.aspx/5981-8527EN.pdf>

### For more information

<http://www.hp.com/services/storage>

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

HPE Support Services are sold by HPE 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 HPE Support Services at <http://www.hp.com/go/lookuptool>

Family Information

	<b>HP StoreFabric SN8500C 4-slot 16Gb FC Director</b>	<b>HP StoreFabric SN8500C 8-slot 16Gb FC Director</b>	<b>SN6010C 16Gb Fabric Switch</b>	<b>HP SN6500C 16Gb Multi-service Switch</b>
<b>Switch Type</b>	Multilayer Director	Multilayer Director	Multilayer Fabric Switch	Multi-service Fabric Switch
<b>Maximum ports</b>	192 16 Gbps Fibre Channel ports, 192 FCoE ports	384 16 Gbps Fibre Channel ports, 384 FCoE ports	Up to 48 16 Gbps Fibre Channel ports	Up to 40 16 Gbps FC ports, 2 fixed 10GbE FCIP ports, 8 fixed 10GbE FCoE ports
<b>Number of slots per chassis</b>	Four	Eight	One fixed	Two fixed

**NOTE:** For additional switch support information, refer to the C-series FC Switch Connectivity Stream on the Single Point of Connectivity Knowledge (SPOCK) website at: <https://h20272.www2.hpe.com/spock/>. You must sign up for an Hewlett Packard Enterprise Passport to enable access. Once logged in, click Switches under Other Hardware in the last navigation panel of the window to access the Fibre Channel Switch Streams. Click on the C-Series FC Switch Connectivity Stream to open the document.



## Configuration Information

### Step 1 - Base Configurations

Select one:

Model	Part Number
HP StoreFabric SN8500C 8-slot 16Gb Fibre Channel Director Switch	C8S71B

**NOTE:** Base unit includes a 14U, (8) slot chassis with 2 hot swappable redundant Supervisor 1 Modules, three hot swappable redundant SN8500C 8-slot Fabric-1 Modules, 6 hot swappable redundant 3000W Power Supplies, fans, six wall power cords and six PDU power cords, firmware, accessory kit and documentation. Supports up to eight optional expansion port modules.

HP StoreFabric SN8500C 4-slot 16Gb Fibre Channel Director Switch	K2Q18A
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**NOTE:** Base unit includes a 9U, (4) slot chassis with 2 hot swappable redundant Supervisor 1 Modules, three hot swappable redundant SN8500C 4-slot Fabric-1 Modules, 4 hot swappable redundant 3000W Power Supplies, fans, four wall power cords and four PDU power cords, firmware, accessory kit and documentation. Supports up to four optional expansion port modules.

\*\* Appropriate country power cords and PDU cords will be included for each AC power supply for the SN8500C Director based on Ship To destination information.

### Step 2 - Options

Select each type of required options with quantities specified:

**NOTE:** For a complete list of supported switching modules in the SN8500C Director, please refer to the C-series FC Switch Connectivity Stream on the Single Point of Connectivity Knowledge (SPOCK) website at <https://h20272.www2.hpe.com/spock/>.

Model Description	Part Number
HP StoreFabric SN8500C 48-port 16Gb Fibre Channel Module	C8S70B
<b>NOTE:</b> SFPs required; supports 8, 10 and 16Gb FC SFPs	
HP StoreFabric C-series 16 Gb Fibre Channel SW SFP+ Transceiver	C8S72A
HP StoreFabric C-series 16 Gb Fibre Channel LW SFP+ Transceiver	C8S73A
HP MDS 9000 8Gb FC SFP+ Short Range Transceiver	AJ906A
HP MDS 9000 8Gb FC SFP+ Long Range Transceiver	AJ907A
HP C-series 10Gb Fibre Channel Short Wave SFP+ Transceiver	QW928A
HP C-series 10Gb Fibre Channel Long Wave SFP+ Transceiver	QW929A
HP StoreFabric SN8500C 8-slot Director Fabric-1 Module	C8S74B
HP StoreFabric SN8500C 4-slot Director Fabric-1 Module	K2Q19A
HP StoreFabric SN8500C 3000 Watt Power Supply	K2Q20A
HP StoreFabric SN8500C FCoE Module	E7Y66A
<b>NOTE:</b> SFPs required; supports 10GE SR & LR SFPs, shown here	
HP C-series 10Gb Ethernet SR SFP+ Transceiver	AP783A
HP C-series 10GbE LR SFP+ Transceiver	E7Y65A

### Optional Software Licenses

## Configuration Information

HP StoreFabric SN8500C Enterprise Package License	TC459A
<b>NOTE:</b> Set of advanced traffic-engineering and advanced security features	
HP StoreFabric SN8500C Data Center Network Manager LTU	TC470A
HP StoreFabric SN8500C Mainframe FICON LTU	D4U61A

### Installation Services

MDS9506/9509/SN8500C Install	HA113A1#5D1
<b>NOTE:</b> 1 per switch	

## Step 3 - Additional Options

### Recommended Cables

#### HPE PremierFlex OM4+ Fiber Optic Cables

HP Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable	QK732A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable	QK733A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable	QK734A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable	QK735A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable	QK736A
HP Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable	QK737A

#### HPE OM3 LC-LC Optical Cables

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

#### Copper SFP+ Cables

HP StoreFabric C-series 3M Passive Copper SFP+ Cable	K2Q21A
HP StoreFabric C-series 5M Passive Copper SFP+ Cable	K2Q22A

## Technical Specifications

### Fibre Channel and FCoE Protocols

- FC-PH, Revision 4.3 (ANSI/INCITS 230-1994)
- FC-PH, Amendment 1 (ANSI/INCITS 230-1994/AM1 1996)
- FC-PH, Amendment 2 (ANSI/INCITS 230-1994/AM2-1999)
- FC-PH-2, Revision 7.4 (ANSI/INCITS 297-1997)FC-PH-3, Revision 9.4 (ANSI/INCITS 303-1998)
- FCP, Revision 12 (ANSI/INCITS 269-1996)
- FCP-2, Revision 8 (ANSI/INCITS 350-2003)
- FC-SB-2, Revision 2.1 (ANSI/INCITS 349-2001)
- FC-SB-3, Revision 1.6 (ANSI/INCITS 374-2003)
- FC-SB-3, Amendment 1 (ANSI INCITS 374-2003/AM1-2007)
- FC-SB-4, Revision 3.0 (ANSI INCITS 466-2011)
- FC-SB-5, Revision 2.00 (ANSI INCITS 485-2014)
- FC-BB-3, Revision 6.8 (ANSI INCITS 414-2006)
- FC-BB-4, Revision 2.7 (ANSI INCITS419-2008)
- FC-BB-5, Revision 2.0 (ANSI INCITS 462-2010)FC-PH-3, Revision 9.4 (ANSI/INCITS 303-1998)
- FC-PI, Revision 13 (ANSI/INCITS 352-2002)
- FC-FS, Revision 1.9 (ANSI/INCITS 373-2003)
- FC-AL-2, Amendment 1 (ANSI/INCITS 332-1999/AM1-2003)
- FC-SW-2, Revision 5.3 (ANSI/INCITS 355-2001)
- FC-SW-3, Rev. 6.6 (ANSI/INCITS 384-2004)
- FC-GS-3, Revision 7.01 (ANSI/INCITS 348-2001)
- FC-GS-4, Rev. 7.91 (ANSI/INCITS 387-2004)
- FC-GS-5, Revision 8.51 (ANSI INCITS 427-2007)
- FC-GS-6, Revision 9.4 (ANSI INCITS 463-2010)
- FCP-3, Revision 4 (ANSI INCITS416-2006)
- FCP-4, Revision 2b (ANSI INCITS 481-
- FC-BB-2, Rev. 6.0 (ANSI/INCITS 372-2003)
- FC-VI, Revision 1.84 (ANSI/INCITS 357-2002)
- FC-FLA, Revision 2.7 (INCITS TR-20-1998)
- FC-PLDA, Revision 2.1 (INCITS TR-19-1998)
- FC-Tape, Revision 1.17 (INCITS TR-24-1999)
- FC-MI, Revision 1.92 (INCITS TR-30-2002)
- FC-SP, Revision 1.8
- FC-SP-2, Revision 2.71 (ANSI INCITS 496-2012)
- FAIS, Revision 1.03 (ANSI INCITS 432-2007)
- FAIS-2, Revision 2.23 (ANSI INCITS 449-2008)
- FC-IFR, Revision 1.06 (ANSI INCITS 475-2011)FC-DA, Revision 3.1(INCITS TR-36-2004)
- FC-DA-2, Revision 1.06 (INCITS TR-49-2012)
- FC-MSQS, Revision 3.2 (INCITS TR-46-2011)
- IP over Fibre Channel (RFC 2625)
- Extensive IETF-standards based TCP/IP, SNMPv3, and Remote Monitoring (RMON) MIBs
- FC-PI-2, Revision 10 (ANSI INCITS 404-2006)
- FC-PI-3, Revision 4 (ANSI INCITS 460-2011)
- FC-PI-4, Revision 8 (ANSI INCITS 450-2008)
- FC-PI-5, Revision 6 (ANSI INCITS 479-2011)
- FC-FS-2, Revision 1.01 (ANSI INCITS 424-2007)
- FC-FS-2, Amendment 1 (ANSI INCITS 424-2007/AM1-2007)
- FC-FS-3, Revision 1.11 (ANSI INCITS 470-2011)
- FC-LS, Revision 1.62 (ANSI INCITS433-2007)
- FC-LS-2, Revision 2.21 (ANSI INCITS 477-2011)
- FC-MI-2, Revision 2.6 (INCITS TR-39-2005)
- FC-MI-3, Revision 1.03 (INCITS TR-

## Technical Specifications

2011)

48-2012)

### HP StoreFabric SN8500C 16Gb FC Weights, Dimensions, Environmental, Power and Packaging

#### Diagnostics

Cisco GOLD (Generic Online Diagnostics) is a suite of diagnostic facilities to verify that hardware and internal data paths are operating as designed.

Boot-time diagnostics, continuous monitoring, standby fabric loopback tests, and on-demand and scheduled tests are part of the Cisco GOLD feature set. This industry-leading diagnostics subsystem enables the rapid fault isolation and continuous system monitoring critical in today's continuously operating environments.

#### Compatibility

**Fibre Channel protocols** See table above

**Classes of service** Class 2, Class 3, Class F

**Port types** Fibre Channel :E, F, FL, B, Enhanced SD, ST, TE; FCoE: VE, VF

**Internet standards** RFC 2625, RFC 4338, IEEE 802.1Qbb-2011, IEEE 802.3db-2011, IEEE 802.1Qaz-2011, Extensive IETF-standards-based TCP/IP, SNMPv3, and remote monitoring (RMON) MIBs

**O/S Support** MDS NX-OS Release 6.2(1)- Min. Revision; NX-OS 6.2(7) for FCoE Module

#### Performance

##### Transfer Rate

- 8/16 Gb/FC port
- 10 Gb/FC port
- 10 Gbps FCoE port

##### Devices/Ports

- 384 FC ports, 384 FCoE ports

##### Interface

- 4/8/10/16 Gb FC ports
- 10 Gb FCoE Ports
- 10/100/1000 Mb Ethernet port (management)
- RS-232 RJ-45 console port

#### Connectors/Cables

##### Connectors

- RJ-45 Interface Cable Connector
- LC-type-fiber optic SFP

##### Cables

- RJ-45 to RJ-45 rollover cable
- RJ-45 to DB-25 female DTE adapter (labeled "Terminal ")
- RJ-45 to DB-25 male DCE adapter (labeled "Modem")
- LC-type cable

#### Dimensions

##### Description

##### Out-of-box

##### Shipping

**8-Slot Base unit w/o ports(14U)**

24.35 x 17.3 x 34.0 in.  
(61.9 x 43.9 x 86.4 cm)

32 x 32 x 23 in  
(81.28 x 81.28 x 58.42 cm)

**4-Slot Base unit w/o ports(9U)**

15.6 x 17.3 x 32.0 in.  
(39.62 x 43.9 x 81.3 cm)

n/a

**3000W AC**

22.04 x 3.95 x 1.6 in.  
(55.98 x 10.03 x 4.06 cm)

n/a

#### Environment

##### Non-operating temp

40° to 158° F (-40° to 70° C), ambient non-operating and storage

##### Non-operating Humidity

10 to 95%, ambient (non-condensing) non-operating and storage

##### Operating temp

32° to 104° F (-40° to 70° C), ambient operating

##### Operating Humidity

10 to 90%, ambient (non-condensing) operating

#### Electrical

##### Line Voltage

3000W AC: 100 to 240 VAC ±10%

## Technical Specifications

<b>Line Frequency</b>	3000W AC: 50 to 60 Hz (nominal) ( $\pm 3\%$ for full range)	
<b>Typical Input Current</b>	3000W AC: <ul style="list-style-type: none"> <li>• 16A max at 200 to 240 VAC at 3000W output,</li> <li>• 16A max at 100 to 120 VAC at 1451W output</li> </ul>	
<b>LED Indicators</b> (On front panel)	<b>Switch System</b>	<ul style="list-style-type: none"> <li>• Power Supply Status</li> <li>• Fan Status</li> <li>• Supervisor Module Status</li> <li>• Fabric Module Status</li> <li>• I/O Modules Status</li> </ul>
	<b>Supervisor</b>	<ul style="list-style-type: none"> <li>• Supervisor ID</li> <li>• Supervisor Status</li> <li>• System Status</li> <li>• Active/Standby</li> <li>• Power Management</li> <li>• Ethernet Activity (management)</li> <li>• USB Flash Activity</li> <li>• Slot 0 Activity</li> </ul>
<b>LED Indicators</b> (On back)	<b>Power Supply</b>	<ul style="list-style-type: none"> <li>• Input Power</li> <li>• Output Power</li> <li>• PSU Fault Indicator</li> <li>• PSU ID</li> </ul>
	<b>Fan</b>	<ul style="list-style-type: none"> <li>• Fan Tray ID</li> <li>• Fan status</li> <li>• Left Fabric Module Status</li> <li>• Right Fabric Module Status</li> </ul>

### NOTES:

1. Dimension convention is as follows:

- H (Height) is the vertical dimension when looking at the front of the component, as it would be seen in the chassis. Exception is the compact flash where H is when looking at the identification label on the part.
- W (Width) is the horizontal (left to right) dimension when looking at the front of the component, as it would be seen in the chassis. Exception is the compact flash where W is when looking at the identification label on the part.
- D (Depth) is the front to back dimension when looking at the front of the component, as it would be seen in the chassis. Exception is the compact flash where D is when looking at the identification label on the part.

2. Packaging dimensions are reference as if you were looking at the front of the chassis in the packaging, if you could see through the packaging.

## Summary of Changes

Date	Version History	Action	Description of Change
11-Nov-2016	From Version 17 to 18	Changed	Removed references to SN8000C Directors as products are, now, obsolete. Updated some urls and added clarity where Enterprise Package License is required.
08-Apr-2016	From Version 16 to 17	Changed	Removed references to MDS 8Gb Fabric Switch for HP BladeSystem as products are, now, obsolete.
18-Mar-2016	From Version 15 to 16	Changed	Updated SPOCK url to HPE. Added SN8500C Fabric1 Modules as they are supported for both directors. Added SN8500C 3000W power supply for MDS9710 director.
21-Aug-2015	From Version 14 to 15	Changed	Added FICON support for SN8500C 4-slot Director (MDS 9706) Removed SN6000C Switch due to be obsolete Sep'15
20-Feb-2015	From Version 13 to 14	Changed	Removed references to MDS9222i as switch is obsolete. Removed extraneous Fabric-1 modules for both 4-slot and 8-slot SN8500C directors as obsolete. Updated Spock info.
01-Dec-2014	From Version 12 to 13	Changed	Changes made throughout the QuickSpecs.
26-Sep-2014	From Version 11 to 12	Changed	Changes made throughout the QuickSpecs.
18-Aug-2014	From Version 10 to 11	Changed	Changes made throughout the Technical Specifications, Configuration Info and Product Highlights
18-Mar-2014	From Version 4 to 5	Changed	Changes made throughout the QuickSpecs.
3-Mar-2014	From Version 3 to 4	Changed	Changes made throughout the QuickSpecs
7-Feb-2014	From Version 2 to 3	Changed	Changes made in Step 2.
26-Aug-2013	From Version 1 to 2	Added	Added the Overview image.



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