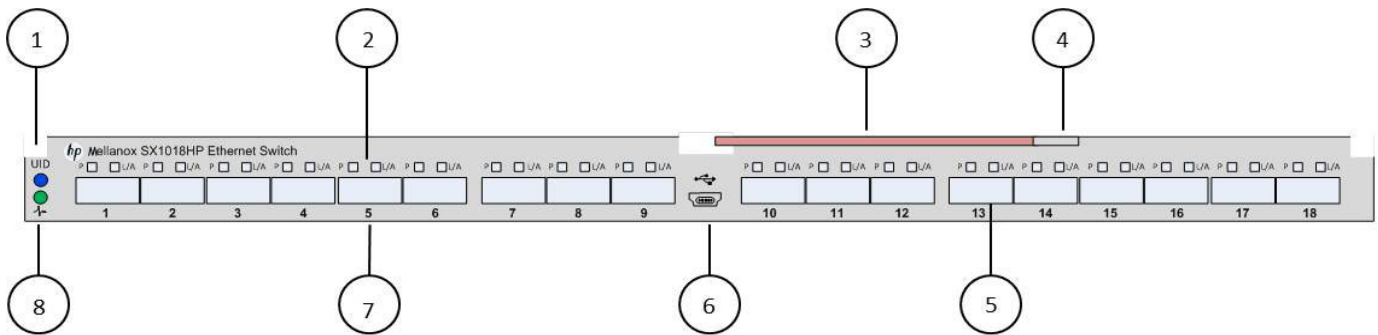


Overview

The Mellanox SX1018HP Ethernet Switch brings high bandwidth, low latency capability to the HP c-Class enclosure. Based on Mellanox's SwitchX® silicon and advanced hardware design, this switch provides sixteen downlinks capable of 40Gb per link and up to eighteen 40Gb QSFP+ ports in a double wide c-Class interconnect form factor. The SX1018HP features industry leading latency of 230nS and exceptional power efficiency while providing optimal performance for enterprise data center, financial services, web 2.0, high performance computing and cloud computing applications. The SX1018HP provides a full suite of management options, including support for Mellanox's Unified Fabric Manager® (UFM®), SNMP V1,2,3, and web user interfaces. In addition, the SX1018HP incorporates a familiar industry-standard CLI, which enables administrators to easily configure and manage the switch.



Mellanox SX1018HP Ethernet Switch

- | | |
|--------------------------|----------------------|
| 1. Switch Identifier LED | 5. 40Gb QSFP+ Port |
| 2. Port LEDs | 6. Mini USB port |
| 3. Latch | 7. Port Number |
| 4. Latch release | 8. Switch Status LED |

Models

Mellanox SX1018HP Ethernet Switch for c-Class BladeSystem

689638-B21

Compatibility

HP ProLiant Servers

- HP ProLiant BL420c Gen8
 - HP ProLiant BL460c Gen8
 - HP ProLiant BL465c Gen8
 - HP ProLiant BL660c Gen8
- NOTE:** Some servers listed above may be discontinued.

ProLiant BL c-Class Server Blade Enclosures

- HP BladeSystem c7000 Enclosure

Standard Features

Performance

- Totally Non blocking architecture
- 230ns latency at 40Gb; 250ns latency at 10Gb
- Wire speed switching on any packet size
- Eighteen QSFP+ ports support 40Gb uplinks
- Sixteen server side downlinks support 10Gb/40Gb per port
- Up to eight QSFP+ uplinks can be broken out to 4 x 10Gb with optional breakout cable
- Maximum of two SX1018HP switches per enclosure
- Efficient Cut through switching
- Hardware-based wire-speed access control lists (ACLs)
- RDMA over Converged Ethernet (RoCEE)

Management

- Remote configuration and management through Web browser or CLI
- Secure Web-based management through HTTPS
- Standards based SNMP management via SNMPv1, v2c and v3
- OOBM via Onboard Administrator
- GUI Management via Unified Fabric Manager
- Manager and operator privilege levels
- Command authorization via RADIUS
- Complete session logging for problem resolution
- LLDP Discovery protocol
- IPv6 management
- Dual flash images
- Multiple configuration files
- Syslog
- Network Time Protocol (NTP)
- MAC-based authentication with RADIUS server
- Access Control Lists (ACLs)
- Secure FTP
- STP Root Guard
- DHCP Protection from unauthorized DHCP servers
- RADIUS/TACACS+
- Secure management via SSHv2 and SNMPv3

Layer 2 Switching

- 48 K MAC addresses
- Priority based Flow Control (802.1Qbb)
- Flow Control (802.3x)
- Enhanced Transmission Selection (802.1Qaz)
- 4094 VLANs
- Jumbo packet support
- LAG, LACP (802.3ad)
- Rapid Spanning Tree Protocol RSTP (802.1W)
- IGMPv1, IGMPv2
- RSTP, STP Root Guard
- IP Multicast Snooping and data-driven IGMP

Service and Support

Service and Support

HP Technology Services for Industry Standard Servers and BladeSystem

Capitalizing on HP ProLiant server and HP BladeSystem capabilities requires a service partner who understands your increasingly complex business technology environment. That's why it makes sense to team up with the people who know HP infrastructure hardware and software best - the experienced professionals at HP Services.

Protect your business beyond warranty with HP Care Pack Services

HP Care Pack services offer complete care and support expertise with committed response choices designed to meet your IT and business needs.

HP Foundation Care services offer scalable reactive support-packages for HP servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. HP Proactive Care delivers high levels of system availability through proactive service management and advanced technical response. HP Datacenter Care provides highly flexible environmental support to address unique customer business needs.

Choose a recommended service appropriate to your product or contact your HP sales representative or authorized HP ServiceOne partner for additional HP Care Pack services information.

Recommended HP Care Pack Services for optimal satisfaction with your HP product

Optimized Support

3-Year HP 6 hour Call to Repair Response, Proactive Care

Combined reactive and proactive support for hardware and software helping optimize your systems and delivering high levels of availability through proactive service management and advanced technical response. Hardware problem resolution to return the hardware in operating condition within 6 hours of the initial service request. A Technical Account Manager, as your single point of contact, will own your call or issue end to end until resolved.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

HP Installation and Startup Service for HP BladeSystem c-Class Infrastructure for c7000 enclosure

Provides for hardware installation (c-Class ProLiant and Integrity server blades, storage blades, Ethernet Interconnects and Virtual Connect) and software installation and startup of a BladeSystem c7000 Infrastructure in a single enclosure including deployment of OS (two servers), HP Insight Control and Server Deployment (formerly RDP).

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA0-5964ENW.pdf>

HP Installation and Startup Service for HP BladeSystem c-Class Enhanced Network

HP Provides for the configuration and testing of BladeSystem Ethernet interconnect switches and Virtual Connect to facilitate proper implementation of network protocols and access to advanced features.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/4aa0-5969ENW.pdf>

Service and Support

HP Care Pack Services to enhance your HP product experience

Related Services

3-Year HP 24x7 4 hour response, Proactive Care Service

This service gives you combined reactive and proactive support including rapid access to our Advanced Solution Center to manage and prevent problems and a Technical Support Specialist with a broad level of technical knowledge that will engage with additional technical expertise as needed from HP's vast global resources.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA3-8855EEE.pdf>

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HP Proactive Care Personalized Support - Environmental Option

The Personalized Support option provides an assigned Account Support Manager who can bring best practices from across the industry plus extra technical skills to your IT team. This option is only available as an add-on to HP Proactive Care Support.

HP Proactive Select Service

Provides a flexible way to purchase HP best-in-class consultancy and technical services. You can buy Proactive Select Service Credits when you purchase your hardware and then use the credits over the next 12 months. <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA2-3842ENN.pdf>

Additional HP Care Pack services can be found at: <http://www.hp.com/go/cpc>

Insight Online/Insight Remote Support

HP Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your HP solution. Learn more about Insight Remote Support <http://www.hp.com/go/insightremotesupport> and Insight Online <http://www.hp.com/go/insightonline>

NOTE: Insight Remote Support is a prerequisite for Proactive Care.

Service and Support

HP Support Center

Personalized online support portal with access to information, tools and experts to support HP business products. Submit support cases online, chat with HP experts, access support resources or collaborate with peers. Learn more <http://www.hp.com/go/hpsc>

HP's Support Center Mobile App allows you to resolve issues yourself or quickly connect to an agent for live support. Now, you can get access to personalized IT support anywhere, anytime. HP Insight Remote Support and HP Support Center are available at no additional cost with a HP warranty, HP Care Pack or HP contractual support agreement.

NOTE: HP Support Center Mobile App is subject to local availability.

Parts and materials

HP will provide HP-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 quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

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

Warranty

Mellanox SX1018HP Ethernet Switch Limited Warranty includes 1 year Parts, 1 year Labor, 1-year on-site next business day support. Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>.

For more information

To learn more on HP ProLiant servers and HP BladeSystem servers, please contact your HP sales representative or HP Authorized Channel Partner. Or visit: www.hp.com/services/bladestystem

Related Options

Adapter options	HP InfiniBand FDR/EN 10/40Gb Dual Port 544M Adapter	644161-B22
	HP QDR/EN InfiniBand 10Gb Dual Port 544M Adapter	644160-B21
	NOTE: Only one port of each adapter is available for use with this switch regardless of mezzanine slot occupied. Two adapters and two switches are required for redundancy.	
QSFP+ Options	HP QSFP/SFP+ Adapter Kit	655874-B21
Direct Attach Cables	HP 3M FDR Quad Small Form Factor Pluggable InfiniBand Optical Cable	670760-B21
	HP 5M FDR Quad Small Form Factor Pluggable InfiniBand Optical Cable	670760-B22
	HP 7M FDR Quad Small Form Factor Pluggable InfiniBand Optical Cable	670760-B23
	HP 10M FDR Quad Small Form Factor Pluggable InfiniBand Optical Cable	670760-B24
	HP 0.5M FDR Quad Small Form Factor Pluggable InfiniBand Copper Cable	670759-B21
	HP 1M FDR Quad Small Form Factor Pluggable InfiniBand Copper Cable	670759-B22
	HP 3M FDR Quad Small Form Factor Pluggable InfiniBand Copper Cable	670759-B25
Service and Support Offerings	NOTE: HP Care Pack services for the c7000 Enclosure cover the enclosure, power supplies and fans. The Mellanox SX1018HP Ethernet Switch for c-Class BladeSystem is also covered by the c7000 enclosure Care Pack services.	
	NOTE: Some options, including Fibre Channel and InfiniBand switches for the HP c-Class BladeSystem, are not covered under the c7000 enclosure Care Packs and carry separate Care Packs. Care Pack service level support for these options should always be uplifted to match existing storage or server service level	
	Proactive Care Services for the c7000 Enclosure	
	HP 3 year 4 hour 24x7 c7000 Enclosure Proactive Care Service	U3C33E
	HP Proactive Care Personalized Support (Environmental Option)	
	HP 3yr Provides annual personalized proactive supp for existing Proactive Care ISS centric environmt	U6W98E
	Installation & Start-up Services recommended for the c7000	
	HP Startup Blade System c-Class Infrastructure Service	UE602E
	HP Startup Blade System c-Class Enhanced Network Service	UE603E
	Additional HP Care Pack services can be found at: http://www.hp.com/go/cpc	

Technical Specifications

Shipping Dimensions	Length	20.12 in (511 mm)		
	Width	14.53 in (369 mm)		
	Height	2.41 in (61 mm)		
Shipping Weight		8.82 lbs (3.680 kg)		
Product Specifications Hardware	Performance	1440 Gbps uplink port bandwidth; 640 Gbps downlink (server) port bandwidth; Forwarding rate 1.48 million pps per Gigabit port, (64-byte packets) and 14.8 million pps per 10 Gig port and 59.37 MPPS per 40GbE Non-blocking, full-wire speed for all connections		
		Forwarding Mode	Cut through	
		MAC Addresses	Supports 48K MAC addresses per switch in a BladeSystem Enclosure	
		Forwarding Table Age Time (Maximum age)	10 to 1,000,000 seconds (default: 300 seconds)	
		VLAN IDs	4096 Byte	
		IGMP Groups	5000	
		Memory	Flash Nor 128M bit, Nand Flash 16Gbit., DDR (main) - 2Gbyte, FW flash -32Mbit.	
		Connectors and Cabling	Connector	18 QSFP+ 1 mini-USB Management
			Cable Support	FCC Class A ICES-003 Class A AS/NZS 3548 Class A VCCI Class A
			Indicators	Status LED Module locator (UID) Port physical link 1/10/40GbE port link/activity, Green
		Dimensions	Length	15.28 in (388 mm)
			Width	10.87 in (276 mm)
Height	1.10 in (27.9 mm)			
Weight		7.18lbs (3.226 kg)		
Environmental Ranges	Temperature Range	Operating	50° to 95° F (10° to 35° C)	
		Non-operating	-40° to 158° F (-40° to 70° C)	
		Relative Humidity (non-condensing)	Operating 5% to 95%	
		Power Specification	Power Requirements	Passive Cables 82.6W Active Cables 95.76W Optical Cables 106.76W

Technical Specifications

Standards Support

General protocols

IEEE 802.1D MAC Bridges
IEEE 802.1p Priority
IEEE 802.1Q VLANs
IEEE 802.1w Rapid Reconfiguration of Spanning Tree
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3ae 10-Gigabit Ethernet
IEEE 802.3x Flow Control
RFC 768 UDP
RFC 792 ICMP
RFC 793 TCP
RFC 826 ARP
RFC 854 TELNET
RFC 925 Multi-LAN Address Resolution
RFC 1350 TFTP Protocol (revision 2)
RFC 1519 CIDR
RFC 2131 DHCP
RFC 4675 RADIUS VLAN & Priority

MIBs

RFC 1213 MIB II
RFC 2233 Interface MIB
RFC 2571 SNMP Framework MIB
RFC 2572 SNMP-MPD MIB
RFC 2579 SNMPv2-TC
RFC 2591 IANA-LANGUAGE-MIB
RFC 2863 IF MIB
RFC 2932 IANA-RTPROTO-MIB
RFC 3433 ENTITY SENSOR MIB
RFC 4133 Entity MIB (Version 3)
RFC 4268 ENTITY STATE MIB
RFC 4318 RSTP MIB
LLDP-MIB

Safety and Compliance

Complies with UL 60950-1 2nd Ed CAN/CSA C22.2 No.60950-1 2nd Ed cTUVus certified.

Safety Certifications

CE Marking
RoHS 6/6 compliant

Electromagnetic

FCC Part 15 Class A

Emissions Certifications

EN 55022: 1998 (CISPR22)

FCC Part 15 Class A

EN 55024: 1998 (CISPR24)

VCCI Class A

AS/NZS 3548 Class A CE

CNS 13438 Class A MIC

MIC

Technical Specifications

**Environment-friendly
Products and Approach****End-of-life Management
and Recycling**

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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