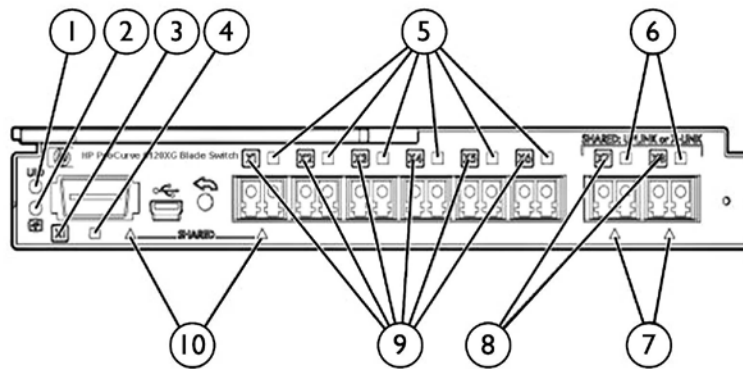


### Overview

### HPE 6120XG Blade Switch

Designed for the c-Class BladeSystem enclosure, the HPE 6120XG Blade Switch provides sixteen 10Gb downlinks and eight 10G SFP+ uplinks (including a dual personality CX4 and SFP+ 10G uplink, and two 10Gb cross-connects). A robust set of industry standard enhanced Layer 2 switching functions, QOS metering, security and High Availability features round out this extremely capable switch. The 6120XG is perfectly suited for datacenters migrating to 10G high performance architectures. With support of dual speed on 10G uplinks and Converged Enhanced Ethernet (CEE) capability, the 6120XG provides future proofing and investment protection. The 6120XG blade switch provides consistency and interoperability across existing network investments to help reduce the complexity of network management through resilient core-to-edge connectivity and automated provisioning technologies. With a variety of connection interfaces, the 6120XG switch offers excellent investment protection, flexibility, and scalability, as well as ease of deployment and reduced operational expense.



**Figure 1 HPE 6120XG Blade Switch**

- |  |   |
|--|---|
| 1. Switch locator UID                                    | 6. SFP+/SFP link indicators                     |
| 2. Switch status indicator                               | 7. Active multiplexed port indicators           |
| 3. 10Gb CX4 backlit port number and status indicator LED | 8. Backlit port number and status indicator LED |
| 4. 10Gb CX4 link indicator                               | 9. Backlit port number and status indicator LED |
| 5. SFP+/SFP link indicators                              | 10. Active multiplexed port indicator           |

### What's New

- Support for Converged Enhanced Ethernet
- Support for sFlow
- Support for Uplink Failure Detection
- The 6120XG now supports Cut Through Mode at 10GbE

### At A Glance

#### Performance:

- Non blocking architecture
- Configurable for Store and Forward Switching or Cut Through Switching
- Wirespeed 16 x 10Gb downlinks to server NICs
- Wirespeed 2 x 10Gb cross connects for redundancy
- Wirespeed 1 x 10Gb copper uplinks CX-4 for uplinking to data center switches

## Overview

- Wirespeed 8 x 10Gb SR, LR, or LRM fiber and copper SFP+ uplinks
- Line Rate, full-duplex 240Gbps bridging fabric

## Management:

- Offers simplified management through CLI option
- Can be managed through HTTP, HTTPS,
- Standards based SNMP management via tools such as PCM and PCM+
- OOBM via Onboard Administrator
- USB console port
- Web and telnet management options available
- Automated provisioning via Datacenter Connection Manager (DCM)

## Security:

- Port security based on 802.1x, web, mac authentication limits access to unwanted users
- Secured access through SSH and HTTPS (SSL), SFTP
- Offers RADIUS Authentication
- Offers TACACS+ Authentication
- Port security and mac address lockout for access control
- STP root guard and per-port broadcast throttling for protection against misbehaved traffic.

## Models

### Models

HPE 6120XG Blade Switch

516733-B21

## Compatibility

### Compatibility

<b>HPE ProLiant Servers</b>	HPE ProLiant BL685c G7
	HPE ProLiant BL685c G6
	HPE ProLiant BL685c G5
	HPE ProLiant BL680c G7
	HPE ProLiant BL680c G5
	HPE ProLiant BL660c Gen8
	HPE ProLiant BL620c G7
	HPE ProLiant BL495c G6
	HPE ProLiant BL495c G5
	HPE ProLiant BL490c G7
	HPE ProLiant BL490c G6
	HPE ProLiant BL480c
	HPE ProLiant BL465c Gen8
	HPE ProLiant BL465c G7
	HPE ProLiant BL465c G6
	HPE ProLiant BL465c G5
	HPE ProLiant BL460c Gen9
	HPE ProLiant BL460c Gen8
	HPE ProLiant BL460c G7
	HPE ProLiant BL460c G6
	HPE ProLiant BL460c G5
	HPE ProLiant BL460c
	HPE ProLiant 420c Gen8
	HPE ProLiant BL280c G6
	HPE ProLiant BL260c G5
	HPE ProLiant BL2x220c G7
	HPE ProLiant BL2x220c G5

**NOTE:** Some servers listed above may be discontinued.

<b>HPE Integrity Servers</b>	HPE Integrity BL860c Server Blade
	HPE Integrity BL860c i2 Server Blade
	HPE Integrity BL860c i4 Server Blade
	HPE Integrity BL870c Server Blade
	HPE Integrity BL870c i2 Server Blade
	HPE Integrity BL870c i4 Server Blade
	HPE Integrity BL890c i2 Server Blade
	HPE Integrity BL890c i4 Server Blade

**NOTE:** Some servers listed above may be discontinued.

<b>HPE ProLiant BL c-Class Server Blade Enclosures</b>	HPE BladeSystem c3000 Enclosure
	HPE BladeSystem c7000 Enclosure

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<b>Required Network</b>	10Gb	Multimode fiber cable; 62.5/125 or 50/125 microns
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## Compatibility

### Cabling

Singlemode fiber cable: 9/125 micron

The following CX4 cable lengths have been qualified and can be purchased directly from HPE. Please see the Related Options section of this QuickSpecs:

HPE BladeSystem c-Class .5m 10-GbE CX4 Cable  
 HPE BladeSystem c-Class 1m 10-GbE CX4 Cable  
 HPE BladeSystem c-Class 3m 10-GbE CX4 Cable  
 HPE BladeSystem c-Class 15m 10-GbE CX4 Cable

Maximum Distances	Multimode OM1 62.5/125 micron	Multimode OM2 50/125 micron	Multimode OM3 50/125 micron	Singlemode 9 micron
SR	2 - 26m/33m*	2 - 82m	2 - 300m	2 - 300m
LR	LR			2 -10km
LRM	0.5 - 220m	0.5 - 220m	0.5 - 220m	

\* 26m at 160MHz and 33m at 200MHz.

**NOTE:** For additional information on 10Gb cable specifications go to:

**<http://www.Hewlett Packard>**

**[Enterprise.com/rnd/pdfs/10gig\\_cabling\\_technical\\_brief.pdf](http://www.Hewlett Packard Enterprise.com/rnd/pdfs/10gig_cabling_technical_brief.pdf)**

## Service and Support

### Service and Support

HPE Pointnext operational services: Packaged server and storage services for increased uptime, productivity and ROI

When you buy HPE server and storage products and solutions, it's also a good time to think about what levels of support you may need. Our portfolio of service options reduce deployment and management worries while helping you get the most out of your server and storage investments. We take a holistic approach to your environment, bridging servers, blades, storage, software and network infrastructures with our packaged HPE Pointnext operational services for servers and storage.

Protect your business beyond warranty

When it comes to robustness and reliability, standard computing equipment warranties have matured along with technology. Good news that can also create problems stemming from depending on standard warranties designed to only protect against product defects and some downtime causes. Using a standard approach to warranty uplifts, such as HPE Pointnext operational services, helps reduce downtime risks and provides operational consistency for mission-critical and standard business computing.

HPE Pointnext operational services: Upgrading or extending standard server and storage warranties cost effectively

Hewlett Packard Enterprise recommends Proactive Care for your BladeSystem servers, enclosures and components to prevent problems with proactive advice and assistance, resolve issues and rapidly recover by connecting to The Hewlett Packard Enterprise enhanced call experience and advanced technical expertise. In addition with HPE Proactive Select, you can acquire the specific proactive constancy and technical services. HPE Proactive Select menu offers a broad set of service options that you can mix and match depending on your specific requirements. Proactive service options include offers for server, storage, network, SAN device, software, environment and education services.

HPE server and storage lifecycle support services offers a full spectrum of customer care-from technology support to complex migrations to complete managed services. HPE Factory Express provides customization, integration and deployment services for turnkey solutions. HPE Education Services offer flexible, comprehensive training on to help your IT staff get the most out of your server and storage investments. HPE Financial solutions extend innovative financing and cost-effective asset management programs-from purchase to equipment retirement.

Learn more: <http://www.hp.com/services/servers> and <http://www.hp.com/services/storage>

**NOTE:** Care Pack Services availability may vary by product and country.

HPE Pointnext operational 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 Pointnext operational services at <http://www.hp.com/go/lookuptool>

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**Recommended HPE Pointnext operational services for optimal satisfaction with your HPE product**

## Service and Support

### Recommended Services **Hardware Options Support**

HPE Care Packs provide support for all HPE-branded hardware options qualified for inclusion in your server or storage solution. Any additional HPE-qualified options installed within the server are covered at the same service level and for the same period as the server and no additional cost.

The benefits include:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

<https://www.hpe.com/h20195/v2/getpdf.aspx/5982-6547eee>

### **3-Year Hewlett Packard Enterprise hardware Support Onsite Service, 4-hour response, 24x7**

Provides you with rapid remote support and if required an Hewlett Packard Enterprise Authorized representative who will arrive on site any time and day of the year to begin hardware maintenance service within 4 hours of the service request being logged.

This service provides a trained HPE service specialist to perform an installation that meets Hewlett Packard Enterprise quality standards, for:

- Help improve or maintain system uptime
- Convenient onsite support
- Committed response time

<https://www.hpe.com/h20195/v2/getpdf.aspx/5982-6547eee>

### **HPE Installation and Startup of HPE ProLiant Servers**

Provides for the installation of your new HPE ProLiant server and operating system to assist you in bringing your new HPE ProLiant server and operating system into operation in a timely and professional manner.

This service provides a trained HPE service specialist to perform an installation that meets Hewlett Packard Enterprise quality standards, for:

- Delivery of the service at a mutually scheduled time convenient to your organization
- Availability of an HPE service specialist to answer basic questions during the onsite delivery of this service
- Custom installation as detailed in "Delivery specifications" or in a Statement of Work (SOW)
- Verification prior to installation that all service prerequisites are met

<https://www.hpe.com/h20195/v2/getpdf.aspx/59827572enn>

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## Optional HPE Pointnext operational services that will enhance your HPE product experience

### Optional Services

#### **3-Year Hewlett Packard Enterprise hardware Support Onsite Call-to-Repair (CTR) Service, 6- or 24-hour**

As an alternative to our recommended support level, for customers who need committed call-to-repair for server hardware.

Provides your IT manager with a team of support specialists who will quickly begin troubleshooting the system to help return the hardware to operating condition within 6 or 24 hours of the initial service

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## Service and Support

request to the HPE Global Solution Center.

<https://www.hpe.com/h20195/v2/getpdf.aspx/5982-6547en.pdf>

### HPE Proactive Select Service

Customer needs on demand access to consulting, technical proactive services and education courses

Provides a flexible way to purchase HPE 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.

<https://www.hpe.com/h20195/v2/getpdf.aspx/4aa2-3842enn>

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## eSupport

HPE eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

### Support Portal

The HPE support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HPE service agreement. To access the support portal, visit: <http://www.hp.com/support>

HPE Insight Remote Support software delivers secure remote support for your Hewlett Packard Enterprise servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

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## Customer Technical Training

### HPE Education Services

In today's cost-conscious business environment, IT professionals, developers, consultants and users face an interesting challenge: how to keep up with the latest technologies and expand important skills while delivering profitable results on current projects. To help address this challenge, Hewlett Packard Enterprise offers innovative training solutions that help keep you up-to-date on virtualization, server, storage, Insight Control, Citrix, Microsoft® and open source/Linux-related topics-while spending less time away from business-critical activities.

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## HPE Services Awards

HPE Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

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## Additional Services Information

To learn more on HPE ProLiant servers, HPE BladeSystem servers and HPE storage products, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise



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## Service and Support

Authorized Channel Partner. Or visit <http://www.hp.com/services/proliant> or <http://www.hp.com/services/bladesystem> or <http://www.hp.com/services/storage>

### Parts and Materials

Hewlett Packard Enterprise will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.

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

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

## Related Options

### HPE Cable and Transceiver Options

HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 0.5m Direct Attach Copper Cable	487649-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 1m Direct Attach Copper Cable	487652-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 3m Direct Attach Copper Cable	487655-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 5m Direct Attach Copper Cable	537963-B21
HPE BladeSystem c-Class 10GbE SFP+ to SFP+ 7m Direct Attach Copper Cable	487658-B21
HPE BladeSystem c-Class 10Gb SFP+ SR Transceiver	455883-B21
HPE BladeSystem c-Class 10Gb SFP+ LR Transceiver	455886-B21
HPE BladeSystem c-Class 10Gb SFP+ LRM Transceiver	455889-B21
HPE BladeSystem c-Class Virtual Connect 1G SFP SX Transceiver	453151-B21
HPE BladeSystem c-Class Virtual Connect 1G SFP RJ-45 Transceiver	453154-B21

### HPN Cable and Transceiver Options

HPE X132 10G SFP+ LC SR Transceiver	J9150A
HPE X132 10G SFP+ LC LR Transceiver	J9151A
HPE X132 10G SFP+ LC LRM Transceiver	J9152A
HPE X242 10G SFP+ to SFP+ 1m Direct Attach Copper Cable	J9281B
HPE X242 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	J9283B
HPE X242 10G SFP+ to SFP+ 7m Direct Attach Copper Cable	J9285B
HP X242 10G SFP+ to SFP+ 10m Direct Attach Copper Cable	J9286B
HP X242 10G SFP+ to SFP+ 15m Direct Attach Copper Cable	J9287B

### HPE Pointnext operational services

**NOTE:** The HPE Care Pack service part numbers below for ProLiant BL c-Class server blades, cover the server blade and all Hewlett Packard Enterprise branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.

#### Hardware Services On-site Service

HP 3year 4hour 13x5 c-Class Server Blade HW Support	UE458E
HP 3year 4hour 24x7 c-Class Server Blade Hardware Support	UE459E
HP 3year 6hour 24x7 Call to Repair c-Class Server Blade Hardware Support	UE460E

#### Support Plus 24

HP 3year SupportPlus24 Microsoft c-ClassServer Blade Service	UE473E
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**NOTE:** HPE Pointnext operational services for the c7000 and c3000 Enclosure cover the enclosure, power supplies and fans. HPE qualified rack options are covered by these services when installed within the same rack. Hewlett Packard Enterprise supported c-Class enclosure devices including pass thru, Ethernet interconnect and virtual connect modules are also covered by the c7000 and c3000 enclosure Care Pack services.

**NOTE:** SAN/Fabric switches for the HPE c-Class BladeSystem are not covered under the c7000 and c3000 enclosure Care Packs, SAN/Fabric switches carry separate Care Packs. SAN/Fabric Switch Care Pack service level support should always be uplifted to match existing storage or server service level.

## Related Options

### Hardware Support Services On-site Service

HPE 3 year Next business day c7000 Enclosure Hardware Support UE477E

**NOTE:** Uplifts the Ethernet devices to the same level of warranty as the c-class enclosure.

HPE 3 year 4-Hour 24x7 c7000 Enclosure Hardware Support UE479E

### Installation & Start-up Services

HPE BladeSystem c7000 Infrastructure Startup Service UE602E

HPE BladSys c7000 Encd Network Startup Service UE603E

HPE Install c-Class Server Blade Service UE493E

HPE Hardware Install c-Class Enclosure and Server Blade Service UE494E

**NOTE:** For more information, customer/resellers can contact:

**<http://www.hp.com/services/bladessystems-services>**

## Technical Specifications

<b>Shipping Dimensions</b>	<b>Length</b>	13.88 in (352.55 mm)
	<b>Width</b>	10.63 in (270.00 mm)
	<b>Height</b>	4.75 in (120.65 mm)
<b>Shipping Weight</b>		4.4 lbs (2.0 kg)
<b>Product Specifications Hardware</b>	<b>Performance</b>	80 Gbps external port bandwidth per BladeSystem enclosure (160 Gbps full duplex) 480Gb total throughput
		Forwarding rate 357.1million pps (64-byte packets)
		Non-blocking, full-wire speed for all connections Auto-MDI/MDIX, auto-negotiation and auto-sensing with full-duplex support.
	<b>Forwarding Mode</b>	Configurable for Store and forward or Cut Through
	<b>Latency</b>	1.8uS (FIF64 byte packets) (store and forward mode)
	<b>MAC Addresses</b>	Supports 16K MAC addresses per switch in a BladeSystem Enclosure
	<b>Forwarding Table Age Time</b>	1 to 1,000,000 seconds
		(Maximum age) (default: 300 seconds)
	<b>Jumbo Frame Support</b>	9220 Byte
	<b>Multicast Groups</b>	256
	<b>Memory</b>	512 MB Main, 640MB flash and 2MB packet buffer per interconnect switch
	<b>Routing Table Size</b>	*
	<b>Connectors and Cabling</b>	<b>Connector</b>
<b>Cable Support</b>		FCC Class A ICES-003 Class A AS/NZS 3548 Class A VCCI Class A
<b>Network Transfer Rate</b>	<b>10 Base-T (half-duplex)</b>	10 Mbps
	<b>10 Base-T (full-duplex)</b>	20 Mbps
	<b>100 Base-TX (half-duplex)</b>	100 Mbps
	<b>100 Base-TX (full-duplex)</b>	200 Mbps
	<b>1000 Base-TX (half and full-duplex)</b>	2000 Mbps
	<b>10Gb (full duplex)</b>	20000 Mbps
<b>Indicators</b>	Recessed Momentary Reset Switch Momentary Next/Step Switch Backlit port number and status indicator LED, one per bulkhead port,	

## Technical Specifications

	blue/amber/green	
	Module status indicator, amber/green	
	Module locator (UID), blue	
	Link indicator, one per CX4-port, green	
	Link indicator, one per SFP+-port, green/amber	
	USB port	
	Active multiplexed port indicator, green	
<b>Dimensions</b>	<b>Length</b>	10.5 in (267.7 mm)
	<b>Width</b>	7.5 in (192.79 mm)
	<b>Height</b>	1.1 in (27.94 mm)
<b>Weight</b>		1.27 kg (2.8 lbs)
<b>Environmental Ranges</b>	<b>Temperature Range</b>	
	Operating	50° to 95° F (10° to 35° C)
	Non-operating	-40° to 140° F (-40° to 60° C)
	Relative Humidity (non-condensing)	Operating 10% to 90%
<b>Power Specification</b>	<b>Power Requirements</b>	12V @ 8.75A (105 W) (per interconnect switch)

## Product Specifications Software

### Security Features

#### SSHV2, TACACS and TACACS+

VLANs can be configured to provide segregation for data - improving bandwidth, performance and limiting traffic to its designated domains. The Switch also provides secured access through SSH v2, protecting against IP spoofing as well as DNS spoofing. Support of HTTPS, RADIUS TACACS and TACACS+ enables users to meet their security requirements.

### Spanning Tree Features

#### 802.1d, 802.1w, 802.1s

Industry standard Spanning Tree provides redundancy and the loop avoidance capabilities to keep the network not only up, but operating at peak performance.

Based on the industry standard 802.1w, Rapid Spanning Tree Protocol (RSTP) offers fast convergence - reducing packet loss and downtime in high-availability and high resilient networks. Industry-standard based RSTP offers instant failover to secondary links in an unlikely event of primary link failure.

This switch also offers Multiple Spanning Tree Protocol (MSTP; 802.1s) for seamless integration into networks running 802.1s. Multiple Spanning Tree enables networks to utilize individual uplinks for separate VLANs thus improving the overall performance of the network. Up to 16 Spanning Tree Groups (STGs) are supported.

### Trunking Features

#### 802.3 ad

Reduced downtime in an unlikely event of link failure by supporting link aggregation protocol. This link aggregation is compatible with Cisco Etherchannel® thus providing seamless integration into Cisco® based networks.

### VLAN Features

VLANs (802.1Q) can be configured to provide segregation for data - improving bandwidth, performance and limiting traffic to its designated domains.

### Management Features

This switch provides multiple easy-to-use configuration and management options. The management interface enables administrators to easily configure the most advanced features such as Rapid Spanning Tree and SNMP management by pointing and clicking.

## Technical Specifications

<b>QoS Features</b>	The switch also enables sophisticated administrators to configure and manage the switch through SNMP. Full Support is provided for SNMP v1,v2c and v3.
	Data can be classified into 2, 4, or 8 hardware priority queues to ensure maximum bandwidth availability for time sensitive and mission critical traffic.
	Data can be prioritized based on 802.1p CoS and DSCP. Priority can be assigned per vlan, per port, and globally.
<b>Converged Fabric Features</b>	Data can be easily reclassified from 802.1p to DSCP or from DSCP to 802.1.
	The HPE 6120XG Blade Switch adheres to a strict queue mechanism to ensure important business-sensitive traffic is delivered ahead of other traffic.
	The HPE 6120XG supports Converged Enhanced Ethernet (also referred to as Data Center Bridging) on all 24 ports.
	<b>NOTE:</b> Converged Enhanced Ethernet requires the purchase of the following FW license: HPE 6120XG Switch CEE License (PN 608074-B21).
	<b>NOTE:</b> Converged Enhanced Ethernet requires the use of a G7 server with a FlexFabric LOM or the addition of the NC551m or NC553m FlexFabric Adapters.

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### Standards Support

IEEE 802.1D MAC Bridges	Supported 16K MAC entries 2MB Packet memory 640 MB flash memory
IEEE 802.1p Priority	Supported 4 default HW queues to map to 8 802.1p packet priority queues (can be configured for 2, 4, or 8 hardware queues to be mapped to 8 802.1p priority queues)
IEEE 802.1Q VLANs	Supported 1024 VLANs, 4K VLAN IDs 802.1Q Tagged VLAN GVRP is supported for VLAN registration
IEEE 802.1v VLAN classification by Protocol Port	Support is for 3 protocols per port
VLAN Classification by IP, MAC	Not Supported <b>NOTE:</b> This is the ability to auto classify VLAN membership of a frame via its IP, or its MAC.
QoS	Supported for DSCP, CoS
IEEE 802.1w Rapid Reconfiguration of Spanning Tree	Supported 32 Spanning Tree Instances in FW RPVST+ not supported
IEEE 802.1s Multiple Spanning Tree	Supported 32 MSTP Instances PVSTP+ is not supported
BPDU Protection	Supported

## Technical Specifications

and STP root guard	BPDU guard STP root guard
IEEE 802.3ad Link Aggregation Control Protocol (LACP)	Supported Up to 24 trunks with 8 members per trunk LACP is supported
IEEE 802.3x Flow Control	Supported Auto Negotiation is also supported
RFC 792 ICMP	Supported
Rate Limiting	Ingress Rate Limiting supported
Broadcast Throttling	Supported One global configuration for all the ports
RFC 951 BOOTP & RFC 1542 BOOTP Extensions	Supported Includes DHCP on OA port
RFC 2030 Simple Network Time Protocol (SNTP)	Supported Includes configurable Daylight Savings Timep supported
RFC 2131 DHCP	Supported
QoS (COS, TOS, DSCP)	Supported
TFTP, SFTP	Supported (FTP not supported)
Uni-Directional Link Detection	Supported
IPv6 Host	Supported
IPv4 Static Routes	Supported (256 routes)
RIPv2	Supported
Uplink Failure Detection	Supported

### Converged Enhanced Ethernet

802.1Qaz - Data Center Bridging Capability Exchange Protocol (DCBX)	Proposal 1.01, Nov 2008**
802.1Qbb - Priority-based Flow Control;	Draft 1.2, Dec 2009
802.1Qaz - Enhanced Transmission Selection;	Proposal 1.01, Nov 2008; Draft 1.1, Nov 2009
CEE support on trunked ports	Supported

### IP Multicast

RFC 3376 IGMPv3 (Data Driven)	Full IGMP v1, v2
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### Network Management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)	Supported
ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED)	Supported
RFC 3164 BSD syslog Protocol	Supported Up to 6 syslog servers
SNMPv1/v2c/v3	Supported

## Technical Specifications

### Device Management

HTML and telnet management	Supported
Authorized Managers List	Supported
Onboard Administrator ISMIC integration (musts per spec)	Supported

### Security

IEEE 802.1X Port Based Network Access Control	Supported Up to 32 users on a single port
Web Authentication	Supported <b>NOTE: This is used to login to the network port, not to the HTML web agent on the switch.</b>
Mac Authentication	Supported
Concurrent 802.1X, Web, and MAC auth	Supported
TACACS+ & RADIUS	Supported
Secure Sockets Layer (SSL)	Supported
SSHv1/SSHv2 Secure Shell	Supported <b>NOTE: Also supports SCP for configuration and FW downloads.</b>
Port Security, MAC Address lock down, MAC Address Lock outs	Supported
DHCP Snooping	Supported
Dynamic ARP protect	Supported
CLI ACLs	Supported
IDM ACLs	Supported

### Monitor and Diagnostics

Port Mirroring	Supported
RFC3176 SFlow	Supported
RMON	Supported RMON V1/V2 <b>NOTE: Groups supported are Statistics, history, alarms, and events.</b>

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<b>Safety and Compliance Safety Certifications</b>	TUV to UL 60950-1, and CAN/CSA C22.2 No. 60950-1 and to EN 60950-1 CE Marking RoHS 6/6 compliant
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<b>Electromagnetic Emissions Certifications FCC Part 15 Class A</b>	FCC Part 15 Class A EN 55022: 1998 (CISPR22) EN 55024: 1998 (CISPR24) VCCI Class A AS/NZS 3548 Class A CE CNS 13438 Class A MIC MIC
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<b>Environment-friendly Products and Approach</b>	<b>End-of-life Management and Recycling</b>	Hewlett Packard Enterprise offers end-of-life Hewlett Packard Enterprise product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to: <a href="http://www.hp.com/go/green">http://www.hp.com/go/green</a> . To
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## Technical Specifications

recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest Hewlett Packard Enterprise sales office. Products returned to Hewlett Packard Enterprise 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 Enterprise web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

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## Summary of Changes

Date	Version History	Action	Description of Change
23-Oct-2017	From Version 16 to 17	Changed	Care Pack naming and Service and Support- Parts and Materials updated.
21-Oct-2016	From Version 15 to 16	Changed	Rebranding edition.
15-Nov-2014	From Version 14 to 15	Changed	Compatibility section was updated.
18-Apr-2014	From Version 13 to 14	Changed	Service and Support was revised.
16-Aug-2013	From Version 12 to 13	Changed	Changes made in the Compatibility Section and Service and Support Section
05-Jul-2013	From Version 11 to 12	Changed	Changes made to the Related Options Section - HPE Cable and Transceiver Options
12-Oct-2012	From Version 10 to 11	Changed	Change made to URL in Service and Support section.
17-Aug-2012	From Version 9 to 10	Changed	Changes made in Compatibility section.
27-Mar-2012	From Version 8 to 9	Added	HPE X242 SFP+ to SFP+ 10m Direct Attach Copper Cable and HPE X242 SFP+ to SFP+ 15m Direct Attach Copper Cable were added.
20-Jun-2011	From Version 7 to 8	Changed	Related Options descriptions were revised ProCurve and StorageWorks were removed
15-Nov-2010	From Version 6 to 7	Changed	Changes were made throughout the QuickSpecs.
05-Oct-2010	From Version 5 to 6	Changed	Changes were made throughout the QuickSpecs.
17-Aug-2010	From Version 4 to 5	Changed	Only PDF formatting changes were made.
25-Jun-2010	From Version 3 to 4	Changed	HPE ProLiant Servers were completely revised and HPE Integrity BL860c i2, BL870c i2 and BL890c i2 were added to Compatibility.
20-Nov-2009	From Version 2 to 3	Added	HPE ProLiant BL2x220c G5 was added to Compatibility.
		Changed	Cabling and Transceiver Options were revised and Performance was updated in Product Specifications Hardware.
06-Nov-2009	From Version 1 to 2	Changed	Part numbers for HPE ProCurve 10-GbE SFP+-SFP+ 1m, 3m, and 7m Direct Attach Cables were updated in cabling and Transceiver Options.



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