QuickSpecs

Overview

HPE 6125XLG Ethernet Blade Switch

The HPE 6125XLG Ethernet Blade Switch from HPE Networking is built with the enterprise data center in mind. The HPE 6125XLG is based on HPE Comware v7 network operating system, which delivers enterprise grade resiliency The 6125XLG is designed for data center convergence with full support for IEEE Data Center Bridging (DCB) for lossless Ethernet, and Fibre Channel over Ethernet (FCoE) protocols. The Fibre Channel Forwarder (FCF) feature allows 3PAR StoreServ arrays to be directly attached to the HP6125XLG switch through FCoE ports. The HPE 6125XLG supports HPE Software-defined Network (SDN) ecosystem that delivers simple, open, and Enterprise ready benefits to automate the data center network. With support for IETF industry standard TRILL (Transparent Interconnection of Lots of Links) and SPB (Shortest Path Bridging), the HPE 6125XLG delivers loop free large Layer 2 networks with multi-path support. With the HPE Intelligent Resilient Framework (IRF) multiple switches can be virtualized and managed as a single entity with the HPE Intelligent Management Center (IMC). The HPE 6125XLG is the industry's first blade witch with VEPA (Virtual Ethernet Port Aggregation) support, enabling customers to unify the management of their physical and virtual networks. Combine these features with Virtual Application Network (VAN) and your data center provides the benefits of versatility of a true Virtualized Network. HPE 6125XLG Ethernet Blade Switch provides flexibility, versatility, and resiliency making it the optimal choice for any blade switching environment.

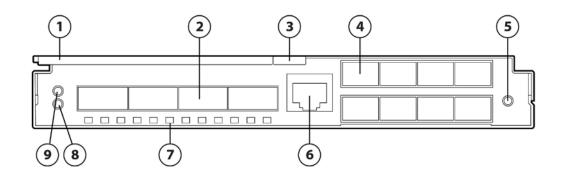


Figure 1 HPE 6125XLG Blade Switch

- 1. Ejector Lever
- 2. Four (4) 40 GbE (QSFP+) ports
- 3. Release tab
- 4. Eight (8) 10 GbE (SFP+) ports
- 5. Reset button

- 6. Console port
- 7. Port LED
- 8. Health LED
- 9. Unit ID (UID) LED

Models

HPE 6125XLG Ethernet Blade Switch711307-B21HPE 6125XLG Ethernet Blade Switch TAA737230-B21HPE 6125XLG Blade SwitchB9F40A

Compatibility

HPE ProLiantHPE ProLiant BL460c Gen9ServersHPE ProLiant BL660c Gen9



Overview

HPE ProLiant BL420c Gen8
HPE ProLiant BL460c Gen8
HPE ProLiant BL465c Gen8
HPE ProLiant BL660c Gen8
HPE ProLiant BL460 G7
HPE ProLiant BL465 G7
HPE ProLiant BL490 G7
HPE ProLiant BL620 G7
HPE ProLiant BL680 G7
HPE ProLiant BL680 G7

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

HPE Integrity Servers

HPE Integrity BL860c i2 Server Blade HPE Integrity BL860c i4 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

HPE Integrity Superdome 2

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

ProLiant BL c-Class HPE BladeSystem c7000 Enclosure

Server Blade

Server Blade Enclosures

Standard Features

Standard Features

Performance

- 240Gb uplink bandwidth / 160Gb available server side bandwidth
- Dedicated 4x10Gb internal cross ink ports between adjacent switches
- Non-blocking architecture
- Wire-speed switching and IPv4/IPv6 routing on all ports
- Supports FCoE N_Port Virtualization (NPV) and Fibre Channel Forwarder (FCF) modes
- Supports FCoE FIP Snooping mode
- Supports RoCE
- Combine up to 8 witches into a single virtual switch
- FCF provides a direct attach capability which allows attachment of 3PAR storage array FCoE ports directly to the switch
- QSFP+ ports support 4 x 10Gb with optional breakout cable
- SFP+ ports support either 1Gb or10Gb depending on module inserted
- Any port can be used for IRF connections
- Cut-through switching
- Hardware-based wire-speed access control lists (ACLs)
- Data Center Bridging (DCBX)
- Support for VEPA (IEEE 802.1Qbg)

Management

- Remote configuration and management CLI
- Standards-based SNMP management via SNMPv1, v2c and v3
- Out of band management via Onboard Administrator
- HPE IMC Virtual Application Networking Fabric Manager
- Virtual Application Network (VAN)
- SDN with OpenFlow 1.3
- RJ45 console port
- sFlow
- Manager and operator privilege levels
- Command authorization via RADIUS
- Complete session logging for problem resolution
- LLDP Discovery protocol
- IPv6 management
- Multiple flash images
- Multiple configuration files
- Syslog
- Network Time Protocol (NTP)
- IEEE 1588v2 Precision Time Protocol (PTP)
- Software Defined Networks (SDN) / OpenFlow

Security

- IEEE 802.1X user authentication
- MAC-based authentication with RADIUS server
- Access Control Lists (ACLs)
- Secure FTP
- STP Root Guard
- DHCP Protection from unauthorized DHCP servers
- IP Source Guard
- Dynamic ARP protection to prevent eavesdropping
- Endpoint Admission Defense (EAD)

Standard Features

- RADIUS/TACACS+
- Secure management via SSHv2 and SNMPv3
- Unicast Reverse Path Forwarding (URPF)
- Monitor link and Smart link
- IPsec
- IKE (Internet Key Exchange)
- Disable password recovery

Layer 2 Switching

- 128K MAC addresses
- 4094 VI ANS
- IEEE 802.1ad QinQ VLANs
- Per VLAN Spanning Tree (PVST+)
- Private VLANs (PVLAN)
- Multicast VLAN Registration Protocol (MVRP)
- Jumbo frame support
- Port Aggregation
- Spanning Tree Protocol, MSTP, RSTP, STP Root Guard
- IP Multicast Snooping and data-driven IGMP
- Transparent Interconnect of Lots of Links (TRILL)
- Shortest Path Bridging (SPB)
- Multiple Label Switching (MPLS)
- Virtual Private LAN Service (VPLS)

Layer 3 Routing

- IPv4 routing protocols static routes, RIP, OSPF and BGP
- IPv6 routing protocols static routes, RIPng, OSPFv3 and BGP+
- IPv6 tunneling
- IP Multicast PIM-SSM, PIM-DM, PIM-SM, IGMP for IPv4 and IPv6
- Equal-Cost Multipath (ECMP)
- Policy-based routing
- DHCP and DHCPv6 client
- VRRP

Quality of Service (QoS)

- Advanced classifier-based QoS (with eight queues) classifies traffic using multiple match criteria based on Layer 2, 3 and 4 information and applies QoS policies such as priority level and rate limit to selected traffic on a per-port or per-VLAN basis
- Traffic policing supports Committed Access Rate (CAR) and line rate
- Powerful QoS feature creates traffic classes based on access control lists (ACL), IEEE 802.1p
 precedence, IP, DSCP or Type of Service (ToS) precedence; supports filter, redirect, mirror or remark;
 supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR),
 weighted fair queuing (WFQ), and weighted random early discard (WRED)
- Storm restraint allows limitation of broadcast, multicast, and unknown unicast traffic rate to cut down on unwanted broadcast traffic on the network

Resiliency and High Availability

- Intelligent Resilient Framework (IRF) Creates virtual resilient switching fabrics, up to eight 6125XLG switches acting as a single Layer 2/3 switch; Switches do not have to be co-located and can be part of a disaster recovery system; Servers or switches can be attached using standard LACP for automatic load balancing and high availability; Simplifies network operation by eliminating Spanning Tree, ECMP and VRRP; IRF supports up to eight members in a group.
- Device Link Detection Protocol (DLDP) Monitors Link connectivity and shuts down ports at both ends if unidirectional traffic is detected
- Virtual Router Redundancy Protocol (VRRP)

Monitoring and

• OAM (802.3ah) - Detects data link layer problems in the "last mile"; monitors link status between two

Standard Features

Diagnostics

devices

- CFD (802.1ag) Connectivity Fault Detection (CFD) provides L2 link OAM mechanism used for link connectivity detection and fault location
- Mirroring Port mirroring enables traffic on a port to be simultaneously sent to a network analyzer for monitoring; Flow-based mirroring

Service and Support

Service and Support HPE Technology Services

When you buy HPE BladeSystem Options for your HPE BladeSystem, it is also good time to think about services. HPE Technology Services offers you technical consultants and support expertise to solve your most complex infrastructure problems, giving you one call to make, fast answers, and global reach. We help keep your business running, boost availability, and avoid downtime.

Protect your business beyond warranty with HPE Care Pack Services

HPE Care Pack services provide total care and support expertise with committed response choices designed to meet your IT and business needs.

HPE Foundation Care services offer scalable, reactive support-packages for Hewlett Packard Enterprise industry-standard servers and software. You can choose the type and level of service that is most suitable for your IT and business needs. HPE Collaborative Support offers hardware and basic software support with enhanced call management. If you are running business critical environments, Hewlett Packard Enterprise offers Proactive Care. This service helps you deliver high levels of system availability through proactive service management and advanced technical response.

Recommended HPE Care Pack Services for your HPE product

Optimized Care

HPE Proactive Care 3-Year 6-hour Call-to-Repair Response

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

HPE Installation of ProLiant Add On Options Service

This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware is installed smoothly, efficiently, and with minimal disruption of your IT and business operations

Standard Care

HPE Proactive Care 3-Year 24x7 4-hour Response

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 the Hewlett Packard Enterprise vast global resources.

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

HPE Installation of ProLiant Add On Options Service

This easy-to-buy, easy-to-use HPE Care Pack service helps ensure that your new Hewlett Packard Enterprise hardware is installed smoothly, efficiently, and with minimal disruption of your IT and business operations.

Related Services

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

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

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

HPE Proactive Care Personalized Support - Environmental Option

The Personalized Support option provides an assigned Account Support Manager who can bring best

Service and Support

practices from across the industry plus extra technical skills to your IT team. This option is only available as an add-on to HPE Proactive Care Support.

HPE Proactive Select Service

Provides a flexible way to purchase Hewlett Packard Enterprise 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

NOTE: Additional HPE Care Pack services can be found at: http://hp.com/go/cpc

Insight Online/Insight **Remote Support**

HPE Insight Remote Support provides 24 X 7 remote monitoring, proactive notifications, and problem resolution. This comes at no additional cost with your Hewlett Packard Enterprise solution. Learn more about Insight Remote Support http://www.hp.com/go/insightremotesupport and Insight Online http://h18013.www1.hp.com/products/servers/management/insight-online/index.html

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

HPE Support Center Personalized online support portal with access to information, tools and experts to support Hewlett Packard Enterprise business products. Submit support cases online, chat with Hewlett Packard Enterprise experts, access support resources or collaborate with peers. Learn more http://www.hp.com/go/hpsc The HPE 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. HPE Insight Remote Support and HPE Support Center are available at no additional cost with a Hewlett Packard Enterprise warranty, HPE Care Pack or Hewlett Packard Enterprise contractual support agreement.

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

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.

Service Coverage

The HPE 6125XLG includes 3-years hardware support with next business day onsite response during standard business hours. If you have requirements for longer durations of service, faster response times or more comprehensive support, HPE Care Pack services for the HPE 6125XLG are available to uplift or extend your coverage.

For more information

To learn more about HPE BladeSystem services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized ServiceONE Channel Partner. Or visit:

http://www.hp.com/services/bladesystem

Related Options

SFP Options	HP X120 1G SFP LC SX Transceiver	JD118B
	HP X120 1G SFP LC LX Transceiver	JD119B JD061A
	HP X125 1G SFP LC LH40 1310nm Transceiver	
	HP X120 1G SFP LC LH40 1550nm Transceiver	JD062A
	HP X125 1G SFP LC LH70 Transceiver	JD063B
	HP X120 1G SFP RJ45 T Transceiver	JD089B
SFP+ Options	HP X130 10G SFP+ LC SR Transceiver	JD092B
	HP X130 10G SFP+ LC LRM Transceiver	JD093B
	HP X130 10G SFP+ LC LR Transceiver	JD094B
	HP X130 10G SFP+ LC ER 40km Transceiver	JG234A
QSFP+ Options	HP X140 40G QSFP+ MPO SR4 Transceiver	JG325B
Direct Attach Cab	les HP X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable	JD095C
	HP X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable	JD096C
	HP X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable	JD097C
	HP X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable	JG081C
	HP X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable	JC784C
	HP X240 40G QSFP+ QSFP+ 1m Direct Attach Copper Cable	JG326A
	HP X240 40G QSFP+ QSFP+ 3m Direct Attach Copper Cable	JG327A
	HP X240 40G QSFP+ QSFP+ 5m Direct Attach Copper Cable	JG328A
	HP X240 40G QSFP+ to 4x10G SFP+ 1m Direct Attach Copper Splitter Cable	JG329A
	HP X240 40G QSFP+ to 4x10G SFP+ 3m Direct Attach Copper Splitter Cable	JG330A
	HP X240 40G QSFP+ to 4x10G SFP+ 5m Direct Attach Copper Splitter Cable	JG331A
Service and Suppo	ort Hardware Services On-site Service	-1
Offerings	HPE 3 year Proactive Care 24x7 6125XLG Service	U8K29E
	HPE 3 year Proactive Care Call to Repair 6125XLG Service	U8K35E
	Installation Services	
	HP Installation of ProLiant Add On/In Options Service	UH745E
	HP Enhanced Network Installation and Startup Service for HP BladeSystem	UE603E
	NOTE: Additional HPE Care Pack services can be found at: http://hp.com/go/cpc	

 Shipping
 Length
 11.54 in (293 mm)

 Dimensions
 Width
 14.57 in (370 mm)

 Height
 3.54 in (95 mm)

Performance

Shipping Weight 2.1 kg (4.62 lbs)

Product
Specifications
Hardware

880Gbps throughput (8x10Gb and 4x40Gb uplink ports)

16x10Gb downlink (server) port 4 x10Gbps cross-link ports

Forwarding rate 14.8 million pps per 10 Gig port

59.2 million pps per 40 Gig port

Non-blocking, full-wire speed for all connections Auto-MDI/MDIX, auto-negotiation

and auto-sensing with full-duplex support.

Forwarding Mode Store and forward/Cut Through
Latency 1us (store and forward mode

MAC Addresses Supports 128K MAC addresses per switch in a

BladeSystem Enclosure

Forwarding Table Age Time 10 to 1,000,000 seconds (Maximum age) (default: 300 seconds)

VLAN IDs 4094

Jumbo Frame 10K Bytes
IGMP Groups 1024

Memory 2 GB Main, 512MB flash and 9MB packet buffer

Connectors and Cabling

Connector 4 QSFP+ (40Gb/4 x10Gb/IRF)

8 SFP+/SFP (1Gb/10Gb/IRF)

1 RJ45 Management

Cable Support FCC Class A

ICES-003 Class A AS/NZS 3548 Class A

VCCI Class A

Indicators Module health, amber/green

Module locator (UID), blue QSFP+ port link/activity, green SFP+ port link/activity, green

Dimensions Length 10.54 in (267.7 mm)

 Width
 7.59 in (192.8 mm)

 Height
 1.1 in (27.9 mm)

Weight 2.0 kg (4.41 lbs)

Environmental Temperature Range
Ranges Operating

Operating 50° to 95° F (10° to 35° C)

Non-operating -40° to 158° F (-40° to 70° C)

Relative Humidity (non-condensing)

Operating 10% to 90%

Power Specification

Power Requirements

95W

Standards Support General protocols

IEEE 802.1ag Service Layer OAM

IEEE 802.1D MAC Bridges

IEEE 802.1p Priority

IEEE 802.1Q VLANs

IEEE 802.1Qbg Virtual Edge Bridging

IEEE 802.1s (MSTP)

IEEE 802.1v VLAN classification by Protocol and Port

IEEE 802.1w Rapid Reconfiguration of Spanning Tree

IEEE 802.1X PAE

IEEE 802.1AX / 802.3ad Link Aggregation Control Protocol (LACP)

IEEE 802.3ae 10 Gigabit Ethernet

IEEE 1588 v2 Precision Time Protocol (PTP)

RFC 768 UDP

RFC 792 ICMP

RFC 793 TCP

RFC 826 ARP

RFC 854 TELNET

RFC 925 Multi-LAN Address Resolution

RFC 951 BOOTP

RFC 1058 RIPv1

RFC 1350 TFTP Protocol (revision 2)

RFC 1519 CIDR

RFC 1542 BOOTP Extensions

RFC 2131 DHCP

RFC 2453 RIPv2

RFC 3768 VRRP

RFC 4675 RADIUS VLAN & Priority

802.1r GARP Proprietary Attribute Registration Protocol (GPRP)

FCoE

802.1Qaz DCBx

802.1Qaz ETS

802.1Qbb PFC

FIP Snooping

Fibre Channel Forwarder (FCF)

NPV mode

IP Multicast

RFC 2934 Protocol Independent Multicast MIB for IPv4

RFC 3376 IGMPv3 (host joins only)

RFC 3618 Multicast Source Discovery Protocol (MSDP)

RFC 3973 Draft 2 PIM Dense Mode

RFC 4601 PIM Sparse Mode

IPv6

RFC 4443 ICMPv6

RFC 4541 IGMP & MLD Snooping Switch

RFC 4861 IPv6 Neighbor Discovery

RFC 4862 IPv6 Stateless Address Auto-configuration

Layer 3

Static routes

RIP / RIPng

OSPF / OSPFv3

BGP / BGP+

IPv6 tunneling

PIM-SM

PIM-SSM

PIM-DM

IGMP

ECMP

Policy-based routing

DHCP and DHCPv6 client

MIBs

IEEE 8021ag CFM-MIB

IEEE 8021Q CFM-MIBv2

IEEE 8021AB LLDP-MIB

IEEE 8021AB LLDP-EXT-DOT1-MIB

IEEE 8021AB LLDP-EXT-DOT3-MIB

ANSI/TAA 1057 LLDP-EXT-MED-MIB

IEEE 8023 LAG-MIB

RFC 1213 MIB

RFC 1493 BRIDGE-MIB

RFC 2096 IP-FORWARD-MIB

RFC 2233 IF-MIB

RFC 2273 SNMP-NOTIFICATION-MIB

RFC 2571 SNMP-FRAMEWORK-MIB

RFC 2572 SNMP-MPD-MIB

RFC 2573 SNMP-TARGET-MIB

RFC 2674 P-BRIDGE-MIB

RFC 2674 Q-BRIDGE-MIB

RFC 3414 SNMP-USER-BASED-SM-MIB

RFC 3415 SNMP-VIEW-BASED-ACM-MIB

RFC 3417 SNMPv2-TM-MIB

RFC 3418 SNMPv2-MIB

RFC 3826 SNMP-USM-AES-MIB

RFC 4022 TCP-MIB

RFC 4044 FC-MGMT-MIB

RFC 4113 UDP-MIB

RFC 4133 ENTITY-MIB

RFC 4273 BGP4-MIB

RFC 4747 T11-FC-VIRTUAL-FABRIC-MIB

RFC 4750 OSPF-MIB

RFC 4750 OSPF-TRAP-MIB

RFC 4936 T11-FC-ZONE-SERVER-MIB

SFLOW-MIB (V5)

Safety and Compliance Safety

Certifications

Complies with UL 60950-1, CAN/CSA C22.2 No. 60950-1 and EN 60950-1. UL certified.

CE Marking

RoHS 6/6 compliant

Electromagnetic Emissions Certifications FCC Part 15 Class A 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

Environmentfriendly Products and Approach End-of-life
Management and
Recycling

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 http://www.hp.com/go/green. To 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.

Summary of Changes

Date	Version History	Action	Description of Change	
17-Dec-2015	From Version 8 to 9	Changed	Changes made in High Availability and QSFP+ options sections.	
01-Dec-2014	From Version 7 to 8	Changed	Overview and Related Options section were updated	
15-Aug-2014	From Version 6 to 7	Changed	Product descriptions were revised in Related Options.	
09-May-2014	From Version 5 to 6	Changed	Changes made in the Standard Features and Related Options	
			section.	
17-Jan-2014	From Version 4 to 5	Changed	Changes made in the Standard Features and Related Options	
			section.	
09-Dec-2013	From Version 3 to 4	Changed	Correction made in the Overview introduction information.	
30-Sep-2013	From Version 2 to 3	Added	Added HPE 6125XLG Ethernet Blade Switch with TAA to the Models	
			section.	
13-Sep-2013	From Version 1 to 2	Changed	Changes made to the Overview Section - Compatibility	





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