Hewlett Packard Enterprise

Data sheet

HPE 5500 HI Switch Series

Key features

- High expandability for investment protection
- Premium resiliency and integrated management
- SDN readiness with OpenFlow support
- Fully featured IPv4/IPv6 dual stack
- 1,440 W of PoE+ power using dual power supplies for high resiliency

Product overview

The HPE 5500 HI Switch Series comprises Gigabit Ethernet switches that deliver outstanding resiliency, security, and multiservice support capabilities at the edge layer of data center, large campus, and metro Ethernet networks. The switches can also be used in the core layer of SMB networks.

With Intelligent Resilient Framework (IRF) support and available dual power supplies, the HPE 5500 HI Switch Series can deliver the highest levels of resiliency and manageability. In addition, the PoE+ models provide up to 1,440 W of PoE+ power with the dual power supply configuration.

Designed with two fixed 10GbE ports and extension module flexibility, these switches can provide up to six 10GbE uplink or 70GbE ports. With complete IPv4/IPv6, OpenFlow, and MPLS/VPLS features, the series provides investment protection with an easy transition from IPv4 to IPv6 networks.

Features and benefits

Software-defined networking

- OpenFlow

  Supports OpenFlow 1.3 specification to enable SDN by allowing separation of the data (packet forwarding) and control (routing decision) paths

Quality of Service (QoS)

- Advanced classifier-based QoS

  Classifies traffic using multiple match criteria based on Layer 2, 3, and 4 information; applies QoS policies such as setting 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 (ACLs), IEEE 802.1p precedence, IP, and 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), weighted random early discard (WRED), weighted deficit round robin (WDRR), SP+WDRR, and SP+WFQ

- Storm restraint

  Allows limitation of broadcast, multicast, and unknown unicast traffic rate to reduce unwanted broadcast traffic on the network

Management

- Friendly port names

  Allow assignment of descriptive names to ports

- sFlow® (RFC 3176)

  Provides scalable ASIC-based wire-speed network monitoring and accounting with no impact on network performance; this allows network operators to gather a variety of sophisticated network statistics and information for capacity planning and real-time network monitoring purposes

- Complete session logging

  Provides detailed information for problem identification and resolution

- Remote configuration and management

  Enable configuration and management through a Web browser with advanced security features or a CLI located on a remote device

- Manager and operator privilege levels

  Provide read-only (operator) and read/write (manager) access on CLI and Web browser management interfaces

- Management VLAN

  Segments traffic to and from management interfaces, including CLI/Telnet, a Web browser interface, and SNMP

- Command authorization

  Leverages RADIUS to link a custom list of CLI commands to an individual network administrator's login; an audit trail documents activity

- Secure Web GUI

  Provides an easy-to-use graphical interface with advanced security features for configuring the module via HTTPS

- SNMPv1, v2c, and v3

  Facilitate centralized discovery, monitoring, and secure management of networking devices

- Remote monitoring (RMON)

  Uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group

- Remote intelligent mirroring

  Mirrors ingress/egress ACL-selected traffic from a switch port or VLAN to a local or remote switch port anywhere on the network

- In-Service Software Upgrade (ISSU)

  Enables operators to perform upgrades in the shortest possible amount of time with reduced risk to network operations or traffic disruptions

Connectivity

- Auto-MDIX

  Provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

- Packet storm protection

  Protects against broadcast, multicast, or unicast storms with user-defined thresholds

- Ethernet operations, administration, and maintenance (OAM)

  Detects data link layer problems that occurred in the “last mile” using the IEEE 802.3ah OAM standard; monitors the status of the link between two devices

- Flow Control

  Provides back pressure using standard IEEE 802.3x, reducing congestion in heavy traffic situations

- Fixed 10GbE ports

  Provide two fixed SFP+ ports for a 20GbE connection to the network without the need for additional extension interface modules

- Optional 10GbE ports

  Deliver, through the use of optional modules, additional 10GbE connections, which are available for uplinks or high-bandwidth server connections; flexibly support copper, XFP, SFP+, or CX4 local connections

- Optional eight-port SFP module

  Adds up to eight additional wire-speed Gigabit Ethernet ports for unprecedented Gigabit density in a single 1U enclosure

- Jumbo packet support

  Supports up to 12,288-byte frame size to improve the performance of large data transfers

- High-bandwidth CX4 local stacking

  Achieves 12 Gbps per connection when using local CX4 stacking, allowing for up to 96 Gbps total stacking bandwidth (full duplex) in a resilient stacking configuration

- IEEE 802.3at Power over Ethernet (PoE+)

  Provides up to 30 W per port that allows support for the latest PoE+-capable devices such as IP phones, wireless access points, and security cameras, as well as any IEEE 802.3af compliant end device; reduces the cost of additional electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments

Performance

- Hardware-based wire-speed access control lists (ACLs)

  Help provide high levels of security and ease of administration without impacting network performance with a feature-rich TCAM-based ACL implementation

- Nonblocking architecture

  Delivers up to 224 Gbps of wire-speed switching with a nonblocking switching fabric and up to 167 million pps throughput

Resiliency and high availability

- Separate data and control paths

  Separate control from services and keeps service processing isolated; increase security and performance

- Device Link Detection Protocol (DLDP)

  Monitors link connectivity and shuts down ports at both ends if unidirectional traffic is detected, preventing loops in STP-based networks

- Intelligent Resilient Framework (IRF)

  Creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; 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; can reduce the need for complex protocols like Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP, thereby simplifying network operation

- Rapid Ring Protection Protocol (RRPP)

  Connects multiple switches in a high-performance ring using standard Ethernet technology; traffic can be rerouted around the ring in less than 50 ms, reducing the impact on traffic and applications

- Smart Link

  Allows 50 ms failover between links

- Virtual Router Redundancy Protocol (VRRP)

  Allows groups of two routers to dynamically back each other up to create highly available routed environments

- IRF capability

  Provides single IP address management for a resilient virtual switching fabric of up to nine switches using up to 80 Gb/s links

Manageability

- Dual flash images

  Provide independent primary and secondary operating system files for backup while upgrading

- Multiple configuration files

  Allow multiple configuration files to be stored to a flash image

- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

  Facilitates easy mapping using network management applications with LLDP automated device discovery protocol

- Troubleshooting

  Allows ingress and egress port monitoring, enabling network problem solving; virtual cable tests provide visibility into cable problems

- IPv6 management

  Future-proofs networking, as the switch is capable of being managed whether the attached network is running IPv4 or IPv6; supports pingv6, tracertv6, Telnetv6, TFTPv6, DNSv6, and ARPv6

Layer 2 switching

- GARP VLAN Registration Protocol

  Allows automatic learning and dynamic assignment of VLANs

- IP multicast snooping and data-driven IGMP

  Automatically prevents flooding of IP multicast traffic

- Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping

  Control and manage the flooding of multicast packets in a Layer 2 network

- 32K MAC addresses

  Provide access to many Layer 2 devices

- IEEE 802.1ad QinQ and selective QinQ

  Increase the scalability of an Ethernet network by providing a hierarchical structure; connect multiple LANs on a high-speed campus or metro network

- 10GbE port aggregation

  Allows grouping of ports to increase overall data throughput to a remote device

- Spanning Tree/MSTP, RSTP, and STP root guard

  Prevent network loops

- 32 MSTP instances

  Allow multiple configurations of STP per VLAN group

- Isolation at data link layer with private VLANs

  Provides, through a two-tier VLAN structure, an additional layer of protection, simplifying network configuration while saving VLAN resources

- VLAN support and tagging

  Supports the IEEE 802.1Q (4094 VLAN IDs)

Layer 3 services

- Loopback interface address

  Defines an address in Routing Information Protocol (RIP) and Open Standard Path First (OSPF), improving diagnostic capability

- Address Resolution Protocol (ARP)

  Determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network

- Dynamic Host Configuration Protocol (DHCP)

  Simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets

- User Datagram Protocol (UDP) helper function

  Allows UDP broadcasts to be directed across router interfaces to specific IP unicast or subnet broadcast addresses and prevents server spoofing for UDP services such as DHCP

Layer 3 routing

- IPv4 routing protocols

  Support static routes, RIP, OSPF, ISIS, and BGP

- IPv6 routing protocols

  Provide routing of IPv6 at wire speed; support static routes, RIPng, OSPFv3, IS-ISv6, and BGP4+ for IPv6

- PIM-SSM, PIM-DM, and PIM-SM (for IPv4 and IPv6)

  Support IP multicast address management and inhibition of DoS attacks

- MPLS support

  Provides extended support of MPLS, including MPLS VPNs and MPLS Traffic Engineering (MPLS TE)

- Virtual Private LAN Service (VPLS)

  Establishes point-to-multipoint Layer 2 VPNs across a provider network

- Bidirectional Forwarding Detection (BFD)

  Enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, MPLS, and IRF

- Policy-based routing

  Makes routing decisions based on policies set by the network administrator

- Equal-Cost Multipath (ECMP)

  Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth

- IPv6 tunneling

  Allows a smooth transition from IPv4 to IPv6 by encapsulating IPv6 traffic over an existing IPv4 infrastructure

Security

- Access control lists (ACLs)

  Provide IP Layer 2 to Layer 4 traffic filtering; support global ACL, VLAN ACL, port ACL, and IPv6 ACL; up to 6,144 ingress ACLs and 1,024 egress ACLs are supported

- IEEE 802.1X

  Defines an industry-standard method of user authentication using an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server

- MAC-based authentication

  Authenticates the client with the RADIUS server based on the client's MAC address

- Identity-driven security and access control

  – Per-user ACLs

    Permit or deny user access to specific network resources based on user identity and time of day, allowing multiple types of users on the same network to access specific network services without risking network security or providing unauthorized access to sensitive data

  – Automatic VLAN assignment

    Assigns users automatically to the appropriate VLAN based on their identities

- Port security

  Allows access only to specified MAC addresses, which can be learned or specified by the administrator

- Secure FTP

  Allows secure file transfer to and from the switch; protects against unwanted file downloads or unauthorized copying of a switch configuration file

- STP BPDU port protection

  Blocks Bridge Protocol Data Units (BPDUs) on ports that do not require BPDUs, preventing forged BPDU attacks

- DHCP protection

  Blocks DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks

- DHCP snooping

  Helps ensure that DHCP clients receive IP addresses from authorized DHCP servers and maintain a list of DHCP entries for trusted ports; prevents reception of fake IP addresses and reduces ARP attacks, improving security

- DHCPv6 snooping

  Ensures that DHCPv6 clients obtain IPv6 addresses from authorized DHCPv6 servers and record IP-to-MAC mappings of DHCPv6 clients

- Dynamic ARP protection

  Blocks ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data

- STP root guard

  Protects the root bridge from malicious attacks or configuration mistakes

- Guest VLAN

  Provides a browser-based environment to authenticated clients that is similar to IEEE 802.1X

- Port isolation

  Protects and adds privacy, and prevents malicious attackers from obtaining user information

- Endpoint Admission Defense (EAD)

  Provides security policies to users accessing a network

- RADIUS/HWTACACS

  Eases switch management security administration by using a password authentication server

- Secure management access

  Delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2 and SNMPv3

- Unicast Reverse Path Forwarding (URPF)

  Allows normal packets to be forwarded correctly, but discards the attaching packet due to lack of reverse path route or incorrect inbound interface; prevents source spoofing and distributed attacks; supports distributed UFPF

- IP source guard

  Helps prevent IP spoofing attacks

- IPv6 source guard

  Help prevent IPv6 spoofing attacks using ND Snooping as well as DHCPv6 Snooping

- ND Snooping

  Allows only packets with a legally obtained IPv6 address to pass

Virtual private network (VPN)

- Generic Routing Encapsulation (GRE)

  Transports Layer 2 connectivity over a Layer 3 path in a secured way; enables the segregation of traffic from site to site

Convergence

- LLDP-MED (Media Endpoint Discovery)

  Defines a standard extension of LLDP that stores values for parameters such as QoS and VLAN to automatically configure network devices such as IP phones

- Internet Group Management Protocol (IGMP)

  Utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks; supports IGMPv1, v2, and v3

- Multicast Source Discovery Protocol (MSDP)

  Allows multiple PIM-SM domains to interoperate; is used for inter-domain multicast applications

- Multicast Border Gateway Protocol (MBGP)

  Allows multicast traffic to be forwarded across BGP networks and kept separate from unicast traffic

- Multicast VLAN

  Allows multiple VLANs to receive the same IPv4 or IPv6 multicast traffic, lessening network bandwidth demand by reducing or eliminating multiple streams to each VLAN

- LLDP-CDP compatibility

  Receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation

Additional information

- Green initiative support

  Provides support for RoHS and WEEE regulations

- Green IT and power

  Improves energy efficiency through the use of the latest advances in silicon development; shuts off unused ports and utilizes variable-speed fans, reducing energy costs

Warranty and support

- Limited lifetime warranty

  See **hpe.com/networking/warrantysummary** for warranty and support information included with your product purchase.

- Software releases

  To find software for your product, visit **hpe.com/networking/support**; for details on the software releases available with your product purchase, visit **hpe.com/networking/warrantysummary**

HPE 5500 HI Switch Series

SPECIFICATIONS	HPE 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HPE 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HPE 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)
I/O ports and slots	24 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 fixed Gigabit Ethernet SFP ports 2 SFP+ 10GbE ports 2 port expansion module slots Supports a maximum of 38 autosensing 100/1000 ports, with optional module	48 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 fixed Gigabit Ethernet SFP ports 2 SFP+ 10GbE ports 2 port expansion module slots Supports a maximum of 70 autosensing 100/1000 ports, with optional module	24 RJ-45 autosensing 10/100/1000 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T, IEEE 802.3at PoE+); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 fixed Gigabit Ethernet SFP ports 2 SFP+ 10GbE ports 2 port expansion module slots Supports a maximum of 38 autosensing 100/1000 ports, with optional module
Additional ports and slots	1 RJ-45 serial console port 1 RJ-45 out-of-band management port	1 RJ-45 serial console port 1 RJ-45 out-of-band management port	1 RJ-45 serial console port 1 RJ-45 out-of-band management port
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	2 power supply slots 1 minimum power supply required (ordered separately)	2 power supply slots 1 minimum power supply required (ordered separately)
Physical characteristics			
Dimensions	17.32(w) x 14.17(d) x 1.72(h) in. (44.00 x 36.00 x 4.37 cm) (1U height)	17.32(w) x 16.54(d) x 1.72(h) in. (44.0 x 42.0 x 4.37 cm) (1U height)	17.32(w) x 18.11(d) x 1.72(h) in. (43.99 x 46 x 4.37 cm) (1U height)
Weight	16.53 lb (7.5 kg) shipping weight	18.74 lb (8.5 kg)	22.05 lb (10 kg) shipping weight
Memory and processor	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 6 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB
Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)
Performance			
1000 Mb Latency	< 5 µs	< 5 µs	< 5 µs
10 Gbps Latency	< 3 µs	< 3 µs	< 3 µs
Throughput	Up to 130.9 million pps	Up to 166.6 million pps	Up to 130.9 million pps
Routing/Switching capacity	176 Gbps	224 Gbps	176 Gbps
Routing table size	12000 entries (IPv4), 6000 entries (IPv6)	12000 entries (IPv4), 6000 entries (IPv6)	12000 entries (IPv4), 6000 entries (IPv6)
MAC address table size	32000 entries	32000 entries	32000 entries
Environment			
Operating temperature	32°F to 122°F (0°C to 50°C)	32°F to 122°F (0°C to 50°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing	5% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing	5% to 95%, noncondensing
Acoustic	Low-speed fan: 47.9 dB, High-speed fan: 51.1 dB; ISO 7779	Low-speed fan: 48.6 dB, High-speed fan: 57.6 dB; ISO 7779	Low-speed fan: 41.0 dB, High-speed fan: 64.0 dB; ISO 7779

HPE 5500 HI Switch Series

SPECIFICATIONS (CONTINUED)	HPE 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HPE 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HPE 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)
Electrical characteristics			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Maximum heat dissipation	481 BTU/hr (507.46 kJ/hr)	651 BTU/hr (686.81 kJ/hr)	460 BTU/hr (485.3 kJ/hr)
AC voltage	141 W	191 W	150 W
Maximum power rating			740 W PoE+
	Notes Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the maximum power available from the required power supply or supplies. Device supports 1 or 2 internal modular power supplies. JG544A will supply up to 450 watts of PoE+ power per installed unit. JG545A will supply up to 740 watts of PoE+ power per installed unit to the extent needed by the installation.
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; RoHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; RoHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; RoHS Compliance; AS/NZS 60950-1; GB 4943
Emissions	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993
Notes	8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.		8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.
Services	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE 5500 HI Switch Series

SPECIFICATIONS (CONTINUED)	HPE 5500-48G-PoE+-4SFP HI Switch with 2 Interface Slots (JG542A)	HPE 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)
I/O ports and slots	48 RJ-45 autosensing 10/100/1000 PoE+ ports; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 4 fixed Gigabit Ethernet SFP ports 2 SFP+ 10GbE ports 2 port expansion module slots Supports a maximum of 70 autosensing 100/1000 ports, with optional module	24 fixed Gigabit Ethernet SFP ports 4 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only 2 SFP+ 10GbE ports 2 port expansion module slots Supports a maximum of 12 autosensing 10/100/1000 ports, with optional module
Additional ports and slots	1 RJ-45 serial console port 1 RJ-45 out-of-band management port	1 RJ-45 serial console port 1 RJ-45 out-of-band management port
Power supplies	2 power supply slots 1 minimum power supply required (ordered separately)	2 power supply slots 1 minimum power supply required (ordered separately)
Physical characteristics		
Dimensions	17.32(w) x 18.11(d) x 1.72(h) in. (43.99 x 46 x 4.37 cm) (1U height)	17.32(w) x 14.17(d) x 1.72(h) in. (43.99 x 35.99 x 4.37 cm) (1U height)
Weight	23.15 lb (10.5 kg)	16.53 lb (7.5 kg)
Memory and processor	1 GB SDRAM, 512 MB flash; packet buffer size: 6 MB	1 GB SDRAM, 512 MB flash; packet buffer size: 3 MB
Mounting and enclosure	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)	Mounts in an EIA standard 19-inch telco rack or equipment cabinet (hardware included)
Performance		
1000 Mb Latency	< 5 µs	< 5 µs
10 Gbps Latency	< 3 µs	< 3 µs
Throughput	Up to 166.6 million pps	Up to 130.9 million pps
Routing/Switching capacity	224 Gbps	176 Gbps
Routing table size	12000 entries (IPv4), 6000 entries (IPv6)	12000 entries (IPv4), 6000 entries (IPv6)
MAC address table size	32000 entries	32000 entries
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 122°F (0°C to 50°C)
Operating relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Nonoperating/Storage relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Acoustic	Low-speed fan: 48.3 dB, High-speed fan: 54.0 dB; ISO 7779	Low-speed fan: 48.3 dB, High-speed fan: 54.0 dB; ISO 7779

HPE 5500 HI Switch Series

SPECIFICATIONS (CONTINUED)	HPE 5500-48G-PoE+-4SFP HI Switch with 2 Interface Slots (JG542A)	HPE 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)
Electrical characteristics		
Frequency	50/60 Hz	50/60 Hz
Maximum heat dissipation	666 BTU/hr (702.63 kJ/hr)	460 BTU/hr (485.3 kJ/hr)
Maximum power rating	195 W	135 W
PoE power	1440 W PoE+	
	Notes Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies. Device supports 1 or 2 internal modular power supplies. JG544A will supply 450 watts of PoE+ power per installed unit. JG545A will supply up to 800 watts of PoE+ power per installed unit.	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated.
Safety	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; RoHS Compliance; AS/NZS 60950-1; GB 4943	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; FDA 21 CFR Subchapter J; RoHS Compliance; AS/NZS 60950-1; GB 4943
Emissions	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993	EN 55022 Class A; CISPR 22 Class A; EN 55024; ICES-003 Class A; CISPR 24; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; GB9254; VCCI-3 CLASS A; VCCI-4 CLASS A; ETSI EN 300 386; FCC Part 15 (CFR 47) CLASS A; YD/T993
Notes		8-port Gig-T and SFP modules (JG313A and JG314A) are supported only in slot 1 of this switch.
Services	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.	Refer to the Hewlett Packard Enterprise website at **hpe.com/networking/services** for details on the service-level descriptions and product numbers. For details about services, and response times in your area, please contact your local Hewlett Packard Enterprise sales office.

HPE 5500 HI Switch Series

STANDARDS AND PROTOCOLS
(applies to all products in series)

BGP	RFC 1657 Definitions of Managed Objects for BGPv4	RFC 1771 BGPv4	RFC 2385 BGP Session Protection via TCP MD5 RFC 2858 BGP-4 Multi-Protocol Extensions
Device management	RFC 1157 SNMPv1/v2c RFC 1305 NTPv3 RFC 1901 (Community based SNMPv2) RFC 2452 MIB for TCP6 RFC 2454 MIB for UDP6	RFC 2573 (SNMPv3 Applications) RFC 2576 (Coexistence between SNMPv1, v2, v3) RFC 2819 (RMON groups Alarm, Event, History and Statistics only) RFC 3410 (Management Framework) RFC 3416 (SNMP Protocol Operations v2)	RFC 3417 (SNMP Transport Mappings) HTML and telnet management Multiple Configuration Files SNMP v3 and RMON RFC support SSHv1/SSHv2 Secure Shell
General protocols	IEEE 802.1ad Q-in-Q IEEE 802.1ak Multiple Registration Protocol (MRP) and Multiple VLAN Registration Protocol (MVRP) IEEE 802.1D MAC Bridges IEEE 802.1p Priority IEEE 802.1Q (GVRP) IEEE 802.1v VLAN classification by Protocol and Port IEEE 802.1w Rapid Reconfiguration of Spanning Tree IEEE 802.3ab 1000BASE-T IEEE 802.3ac (VLAN Tagging Extension) IEEE 802.3ad Link Aggregation (LAG) IEEE 802.3ae 10-Gigabit Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at PoE+ IEEE 802.3az Energy Efficient Ethernet IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-X IEEE 802.3x Flow Control IEEE 802.3z 1000BASE-X RFC 768 UDP RFC 791 IP RFC 792 ICMP RFC 793 TCP RFC 854 TELNET RFC 925 Multi-LAN Address Resolution RFC 950 Internet Standard Subnetting Procedure RFC 951 BOOTP RFC 1058 RIPv1 RFC 1122 Host Requirements RFC 1141 Incremental updating of the Internet checksum	RFC 1213 Management Information Base for Network Management of TCP/IP-based internets RFC 1256 ICMP Router Discovery Protocol (IRDP) RFC 1305 NTPv3 RFC 1350 TFTP Protocol (revision 2) RFC 1519 CIDR RFC 1542 BOOTP Extensions RFC 1723 RIP v2 RFC 1812 IPv4 Routing RFC 1887 An Architecture for IPv6 Unicast Address Allocation RFC 2131 DHCP RFC 2236 IGMP Snooping RFC 2338 VRRP RFC 2375 IPv6 Multicast Address Assignments RFC 2616 Hypertext Transfer Protocol—HTTP/1.1 RFC 2644 Directed Broadcast Control RFC 2711 IPv6 Router Alert Option RFC 2784 Generic Routing Encapsulation (GRE) RFC 2865 Remote Authentication Dial In User Service (RADIUS) RFC 2866 RADIUS Accounting RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels RFC 3246 Expedited Forwarding PHB RFC 3410 Applicability Statements for SNMP RFC 3414 User-based Security Model (USM) for version 3 of the Simple Network Management Protocol (SNMPv3) RFC 3415 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)	RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP) RFC 3484 Default Address Selection for Internet Protocol version 6 (IPv6) RFC 3493 Basic Socket Interface Extensions for IPv6 RFC 3542 Advanced Sockets Application Program Interface (API) for IPv6 RFC 3587 IPv6 Global Unicast Address Format RFC 3596 DNS Extensions to Support IP Version 6 RFC 3623 Graceful OSPF Restart RFC 3704 Unicast Reverse Path Forwarding (URPF) RFC 3768 Virtual Router Redundancy Protocol (VRRP) RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 RFC 4090 Fast Reroute Extensions to RSVP-TE for LSP Tunnels RFC 4113 Management Information Base for the User Datagram Protocol (UDP) RFC 4213 Basic IPv6 Transition Mechanisms RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification RFC 4594 Configuration Guidelines for DiffServ Service Classes RFC 4762 Virtual Private LAN Service (VPLS) Using Label Distribution Protocol (LDP) Signaling 802.1r—GARP Proprietary Attribute Registration Protocol (GPRP)
IP multicast	RFC 2236 IGMPv2 RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2858 Multiprotocol Extensions for BGP-4	RFC 3376 IGMPv3 RFC 3569 An Overview of Source-Specific Multicast (SSM)	RFC 3618 Multicast Source Discovery Protocol (MSDP) RFC 3973 PIM Dense Mode RFC 4601 PIM Sparse Mode

HPE 5500 HI Switch Series

STANDARDS AND PROTOCOLS (CONTINUED)
(applies to all products in series)

IPv6	RFC 1881 IPv6 Address Allocation Management RFC 1887 IPv6 Unicast Address Allocation Architecture RFC 1981 IPv6 Path MTU Discovery RFC 2080 RIPng for IPv6 RFC 2373 IPv6 Addressing Architecture RFC 2375 IPv6 Multicast Address Assignments RFC 2460 IPv6 Specification RFC 2461 IPv6 Neighbor Discovery RFC 2462 IPv6 Stateless Address Auto-configuration RFC 2463 ICMPv6 RFC 2464 Transmission of IPv6 over Ethernet Networks	RFC 2473 Generic Packet Tunneling in IPv6 RFC 2475 IPv6 DiffServ Architecture RFC 2710 Multicast Listener Discovery (MLD) for IPv6 RFC 2711 IPv6 Router Alert Option RFC 2740 OSPFv3 for IPv6 RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only) RFC 3162 RADIUS and IPv6 RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses RFC 3307 IPv6 Multicast Address Allocation	RFC 3315 DHCPv6 (client and relay) RFC 3484 Default Address Selection for IPv6 RFC 3493 Basic Socket Interface Extensions for IPv6 RFC 3513 IPv6 Addressing Architecture RFC 3542 Advanced Sockets API for IPv6 RFC 3587 IPv6 Global Unicast Address Format RFC 3596 DNS Extension for IPv6 RFC 3810 MLDv2 for IPv6 RFC 4113 MIB for UDP RFC 4443 ICMPv6 RFC 4541 IGMP & MLD Snooping Switch RFC 5340 OSPFv3 for IPv6
MIBs	RFC 1212 Concise MIB Definitions RFC 1213 MIB II RFC 1493 Bridge MIB RFC 1657 BGP-4 MIB RFC 1724 RIPv2 MIB RFC 1757 Remote Network Monitoring MIB RFC 1850 OSPFv2 MIB RFC 2011 SNMPv2 MIB for IP RFC 2012 SNMPv2 MIB for TCP RFC 2013 SNMPv2 MIB for UDP RFC 2096 IP Forwarding Table RFC 2233 Interface MIB	RFC 2452 IPV6-TCP-MIB RFC 2454 IPV6-UDP-MIB RFC 2465 IPv6 MIB RFC 2466 ICMPv6 MIB RFC 2571 SNMP Framework MIB RFC 2572 SNMP-MPD MIB RFC 2573 SNMP-Target MIB RFC 2574 SNMP USM MIB RFC 2618 RADIUS Authentication Client MIB RFC 2620 RADIUS Accounting Client MIB RFC 2665 Ethernet-Like-MIB	RFC 2674 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and Virtual Extensions RFC 2737 Entity MIB (Version 2) RFC 2787 VRRP MIB RFC 2819 RMON MIB RFC 2863 The Interfaces Group MIB RFC 2925 Ping MIB RFC 3414 SNMP-User based-SM MIB RFC 3415 SNMP-View based-ACM MIB RFC 3621 Power Ethernet MIB RFC 4113 UDP MIB
MPLS	RFC 2961 RSVP Refresh Overhead Reduction Extensions RFC 3031 Multiprotocol Label Switching Architecture	RFC 3032 MPLS Label Stack Encoding RFC 3036 LDP Specification Distribution Protocol (LDP) Signaling	RFC 4762 Virtual Private LAN Service (VPLS) Using Label
Network management	IEEE 802.1AB Link Layer Discovery Protocol (LLDP) IEEE 802.1D (STP) RFC 1157 SNMPv1 RFC 1212 Concise MIB definitions RFC 1215 Convention for defining traps for use with the SNMP RFC 1757 RMON 4 groups: Stats, History, Alarms and Events RFC 1901 SNMPv2 Introduction RFC 1918 Private Internet Address Allocation RFC 2373 Remote Network Monitoring Management Information Base for High Capacity Networks	RFC 2571 An Architecture for Describing SNMP Management Frameworks RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP) RFC 2573 SNMP Applications RFC 2574 SNMPv3 User-based Security Model (USM) RFC 2575 SNMPv3 View-based Access Control Model (VACM) RFC 2576 Coexistence between SNMP versions RFC 2578 SMIv2 RFC 2581 TCP6 RFC 2819 Remote Network Monitoring Management Information Base	RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations RFC 3176 sFlow RFC 3410 Introduction to Version 3 of the Internet-standard Network Management Framework RFC 3413 Simple Network Management Protocol (SNMP) Applications RFC 3414 SNMPv3 User-based Security Model (USM) RFC 3415 SNMPv3 View-based Access Control Model (VACM) ANSI/TIA-1057 LLDP Media Endpoint Discovery (LLDP-MED) SNMPv1/v2c/v3
OSPF	RFC 1587 OSPF NSSA	RFC 1850 OSPFv2 Management Information Base (MIB), traps	RFC 2328 OSPFv2 RFC 2370 OSPF Opaque LSA Option
QoS/CoS	IEEE 802.1P (CoS) RFC 2474 DSCP DiffServ RFC 2475 DiffServ Architecture	RFC 2597 DiffServ Assured Forwarding (AF) RFC 2598 DiffServ Expedited Forwarding (EF) RFC 2697 A Single Rate Three Color Marker	RFC 2698 A Two Rate Three Color Marker RFC 4594 Configuration Guidelines for DiffServ Service Classes
Security	IEEE 802.1X Port Based Network Access Control RFC 1492 TACACS+ RFC 1918 Address Allocation for Private Internets	RFC 2865 RADIUS Authentication RFC 2866 RADIUS Accounting Access Control Lists (ACLs) RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)	MAC Authentication Port Security SSHv2 Secure Shell

HPE 5500 HI Switch Series accessories

Modules	HPE 5500 2-port 10GbE XFP Module (JD359B) HPE 5500 2-port 10GbE Local Connect Module (JD360B) HPE 5500 1-port 10GbE XFP Module (JD361B) HPE 5500/4800 2-port GbE SFP Module (JD367A) HPE 5500/5120 2-port 10GbE SFP+ Module (JD368B) HPE 5500 HI 8-port Gig-T Module (JG313A) HPE 5500 HI 8-port SFP Module (JG314A) HPE 5500/5120 2-port 10GBASE-T Module (JG535A)
Transceivers	HPE X110 100M SFP LC FX Transceiver (JD102B) HPE X110 100M SFP LC LH40 Transceiver (JD090A) HPE X110 100M SFP LC LH80 Transceiver (JD091A) HPE X110 100M SFP LC LX Transceiver (JD120B) HPE X120 1G SFP LC BX 10-D Transceiver (JD099B) HPE X120 1G SFP LC BX 10-U Transceiver (JD098B) HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A) HPE X120 1G SFP LC LX Transceiver (JD119B) HPE X120 1G SFP LC SX Transceiver (JD118B) HPE X120 1G SFP RJ45 T Transceiver (JD089B) HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A) HPE X125 1G SFP LC LH70 Transceiver (JD063B) HPE X130 10G SFP+ LC LR Transceiver (JD094B) HPE X130 10G SFP+ LC LRM Transceiver (JD093B) HPE X130 10G SFP+ LC SR Transceiver (JD092B) HPE X130 10G SFP+ LC LH 80km Transceiver (JG915A) HPE X130 10G XFP LC LR Transceiver (JD108B) HPE X130 10G XFP LC SR Transceiver (JD117B) HPE X130 10G XFP LC ZR 1550nm Transceiver (JD107A) HPE X135 10G XFP LC ER Transceiver (JD121A) HPE X240 10G SFP+ SFP+ 7m Direct Attach Copper Cable (JC784C) HPE X240 10G SFP+ to SFP+ 0.65m Direct Attach Copper Cable (JD095C) HPE X240 10G SFP+ to SFP+ 1.2m Direct Attach Copper Cable (JD096C) HPE X240 10G SFP+ to SFP+ 3m Direct Attach Copper Cable (JD097C) HPE X240 10G SFP+ to SFP+ 5m Direct Attach Copper Cable (JG081C)
Cables	HPE 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A) HPE 1 m Multimode OM3 LC/LC Optical Cable (AJ834A) HPE 2 m Multimode OM3 LC/LC Optical Cable (AJ835A) HPE 5 m Multimode OM3 LC/LC Optical Cable (AJ836A) HPE 15 m Multimode OM3 LC/LC Optical Cable (AJ837A) HPE 30 m Multimode OM3 LC/LC Optical Cable (AJ838A) HPE 50 m Multimode OM3 LC/LC Optical Cable (AJ839A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 1m Cable (QK732A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 2m Cable (QK733A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 5m Cable (QK734A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 15m Cable (QK735A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 30m Cable (QK736A) HPE Premier Flex LC/LC Multi-mode OM4 2 fiber 50m Cable (QK737A) HPE X230 Local Connect 50cm CX4 Cable (JD363B) HPE X230 Local Connect 100cm CX4 Cable (JD364B) HPE X230 CX4 to CX4 3m Cable (JD365A)
HPE 5500-24G-4SFP HI Switch with 2 Interface Slots (JG311A)	HPE 5800/5500 150W AC Power Supply (JD362A) HPE 5800/5500 150W DC Power Supply (JD366A)
HPE 5500-48G-4SFP HI Switch with 2 Interface Slots (JG312A)	HPE 5800/5500 150W AC Power Supply (JD362A) HPE 5800/5500 150W DC Power Supply (JD366A)

HPE 5500 HI Switch Series accessories (continued)

HPE 5500-24G-PoE+-4SFP HI Switch with 2 Interface Slots (JG541A)	HPE X362 720W 100-240VAC to 56VDC PoE Power Supply (JG544A) HPE X362 1110W 115-240VAC to 56VDC PoE Power Supply (JG545A)
HPE 5500-48G-PoE+-4SFP HI Switch with 2 Interface Slots (JG542A)	HPE X362 720W 100-240VAC to 56VDC PoE Power Supply (JG544A) HPE X362 1110W 115-240VAC to 56VDC PoE Power Supply (JG545A)
HPE 5500-24G-SFP HI Switch with 2 Interface Slots (JG543A)	HPE 5800/5500 150W AC Power Supply (JD362A) HPE 5800/5500 150W DC Power Supply (JD366A)

Learn more at
hpe.com/networking

Sign up for updates

★ Rate this document

Hewlett Packard Enterprise

4AA3-8995ENN, March 2016, Rev. 9