



# HPE 3600 EI Switch Series



## Product overview

The HPE 3600 EI Switch Series delivers premium levels of intelligent and resilient performance, security, and reliability for robust switching at the enterprise network edge. The series consists of L3 Fast Ethernet and PoE/PoE+ switches, with advanced features that can accommodate some of the most demanding applications.

The 3600 EI Switch Series offers secure, resilient connectivity and the latest traffic-prioritization technologies to enhance converged networks. Designed for increased flexibility and scalability, the series offers you 24- or 48 10/100 ports, four active SFP-based Gigabit Ethernet ports for stacking and uplinks, and a 24-port 100BASE-FX switch with two or four Gigabit Ethernet SFP slots.

### A summary of the highlights of the 3600 EI Switch Series:

- Robust switching at the enterprise network edge
- Advanced L3 and multicast routing
- Intelligent resilient framework (IRF)—automated stack and switching fabric setup
- Integrated and distributed security enforcement
- Enterprise-level non-blocking performance

## Features and benefits

### Quality of service (QoS)

- Broadcast control

Allows limitation of broadcast traffic rate to cut down on unwanted network broadcast traffic

- Advanced classifier-based QoS

Classifies traffic using multiple match criteria based on L2, L3, and L4 information; and applies QoS policies such as setting the priority level and rate limiting to selected traffic on a per-port or per-VLAN basis

- Powerful QoS feature

Supports these congestion actions: strict priority queuing, weighted round robin, weighted fair queuing, and weighted random early detection

- Traffic policing

Supports committed access rate and line rate

- RRPP

Enables ultra-high levels of network resiliency, with failover times of less than 50 ms

### Management

- Friendly port names

Allows assignment of descriptive names to ports

- Remote configuration and management

Enables configuration and management through a secure Web browser or a CLI located on a remote device

- Manager and operator privilege levels

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

- Command authorization

Leverages the HWTACACS to link a custom list of CLI commands to an individual network administrator's login; and provides an audit trail

- Secure Web GUI

Provides a secure, easy-to-use graphical interface for configuring the module via HTTPS

- Multiple configuration files

Are easily stored with a flash image

- Complete session logging

Provides detailed information for problem identification and resolution

- 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; and supports events, alarms, history, and statistics groups as well as a private alarm extension group

- Local and remote intelligent mirroring  
Mirrors traffic from a switch port to a remote switch port anywhere on the network; or mirrors traffic selected by an access control list (ACL) to a local switch port
- Management VLAN  
Segments traffic to and from management interfaces, including a CLI/telnet, Web browser interface, and SNMP
- IEEE 802.1ab link layer discovery protocol (LLDP)  
Advertises and receives management information from adjacent devices on a network, facilitating easy mapping by network management applications
- Device link detection protocol  
Monitors the cable between two switches and shuts down the ports on both ends if the cable is broken, helping prevent network problems such as loops
- 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
- IPv6 management  
Future-proofs networking, as the switch is capable of being managed whether the attached network is running IPv4 or IPv6; and supports ping6, tracertv6, Telnetv6, TFTPv6, DNSv6, syslogv6, FTPv6, SNMPv6, dynamic host configuration protocol (DHCP) v6, and RADIUS for IPv6
- Troubleshooting  
Enables network problem solving, using ingress and egress port monitoring; and provides visibility into cable problems, using virtual cable tests

### **Connectivity**

- IPv6
  - Telnet  
For allowing CLI access via IPv6
  - SNMP  
For IPv6 switch management
  - DNS  
For IPv6 host management
  - DHCP  
For auto IPv6 address configuration of a switch
- Auto-MDIX  
Provides automatic adjustments for straight-through or crossover cables on all 10/100 and 10/100/1000 ports
- Jumbo packet support  
Supports up to 9,216-byte frame sizes to improve the performance of large data transfers
- Gigabit Ethernet uplinks  
Are dual-personality ports for 10/100/1000 or mini-GBIC SFP connectivity, increasing connectivity flexibility

- High-density access  
Provides up to 48 fixed 10/100BASE-T PoE or non-PoE ports or 24 SFP 100BASE-X ports in an L2/L3 switch
- Ethernet operations, administration, and maintenance (OAM)  
Detects the data link layer problems that occur in the “last mile,” using the IEEE 802.3ah OAM standard; and monitors the status of the link between two devices
- IEEE 802.3af PoE  
Provides up to 15.4 W per port to IEEE 802.3af-compliant PoE-powered devices such as IP phones, wireless access points, and security cameras
- IEEE 802.3at PoE+ support  
Simplifies deployment and dramatically reduces installation costs by helping eliminate the time and cost involved in supplying local power at each access point location

### **Performance**

- Non-blocking performance  
Enables wire-speed switching with up to 13.1 million pps throughput, using up to 17.6 Gb/s non-blocking switching fabric
- Gigabit Ethernet interface  
Provides a connection to the network that helps eliminates network bottlenecks
- Hardware-based wire-speed ACLs  
Uses a feature-rich ACL implementation to help ensure high levels of security and ease of administration—without impacting network performance

### **Resiliency and high availability**

- Separate data and control paths  
Separates control from services and keeps service processing isolated; and increases security and performance
- External redundant power supply  
Provides high reliability
- SmartLink  
Allows 50 ms failover between links
- Spanning tree protocol (STP)/multiple STP (MSTP)/rapid STP (RSTP)  
Provides redundant links while helping prevent network loops
- IRF  
Creates virtual resilient switching fabrics, where two or more switches perform as a single L2 switch and L3 router; switches don't have to be co-located and can be part of a disaster-recovery system; servers or switches can be attached using the standard link-aggregation control protocol (LACP) for automatic load balancing and high availability; it can help eliminate the need for complex protocols such as STP, equal-cost multipath (ECMP), or virtual router redundancy protocol (VRRP)—simplifying network operations
- IEEE 802.3ad LACP  
Supports up to 24 trunks, each with 8 links per trunk; and provides support for static or dynamic groups

- VRRP

Allows groups of two routers to dynamically back each other up to create highly available routed environments in IPv4 and IPv6 networks

- IRF capability

Provides single IP address management for a resilient virtual switching fabric of up to nine switches

**Manageability**

- RMON

Provides advanced monitoring and reporting capabilities for statistics, history, alarms, and events

**L2 switching**

- 16/32k MAC address table

Provides access to many L2 devices

- VLAN support and tagging

Supports IEEE 802.1Q with 4,094 simultaneous VLAN IDs

- GARP VLAN registration protocol

Allows automatic learning and dynamic assignment of VLANs

- IEEE 802.1ad Q-in-Q and selective Q-in-Q

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

- Gigabit Ethernet port aggregation

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

- Internet-group-management protocol (IGMP) and multicast-listener-discovery (MLD) protocol snooping

Controls and manages the flooding of multicast packets in an L2 network

**L3 services**

- Address resolution protocol (ARP)

Determines the MAC address of another IP host in the same subnet

- DHCP

Simplifies the management of large IP networks and supports both clients and servers; DHCP relay enables DHCP operation across subnets

- Loopback interface address

Defines an address in the routing information protocol (RIP) and open standard path first (OSPF), improving the diagnostic capability

- User datagram protocol (UDP) helper function

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

- Route maps

Provide more control during route redistribution; and allow filtering and altering of route metrics

**L3 routing**

- IPv4 routing protocols
  - Support static routes, RIP, OSPF, ISIS, and BGP
- IPv6 routing protocols
  - Provide routing of IPv6 at wire speeds; and support static routes, RIPng, OSPFv3, ISIS for IPv6, and BGP4+ for IPv6
- IPv6 tunneling
  - Allows a smooth transition from IPv4 to IPv6 by encapsulating IPv6 traffic over an existing IPv4 infrastructure
- ECMP
  - Enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- Bidirectional forwarding detection
  - Enables link connectivity monitoring and reduces network convergence time for the RIP, OSPF, BGP, IS-IS, VRRP, and IRF
- Protocol-independent multicast (PIM)-source specific multicast (SSM), PIM-dense mode (DM), and PIM-sparse mode (SM) (for IPv4 and IPv6)
  - Support IP multicast address management and inhibition of DoS attacks
- Multicast source discovery protocol (MSDP)
  - Is used for inter-domain multicast applications, allowing multiple PIM-SM domains to interoperate
- IGMPv1, v2, and v3
  - Allow individual hosts to be registered on a particular VLAN

**Security**

- ACL enablement
  - Provides IP L2 to L4 traffic filtering; and supports VLAN ACL and port ACL
- Multiple user authentication methods
  - IEEE 802.1X
    - Uses an IEEE 802.1X supplicant on the client in conjunction with a RADIUS server to authenticate in accordance with industry standards
  - Web-based authentication
    - Provides a browser-based environment, similar to IEEE 802.1X, to authenticate clients that do not support the IEEE 802.1X supplicant
  - MAC-based authentication
    - Authenticates the client with a RADIUS server, based on the client's MAC address
- Identity-driven security and access control
  - Per-user ACLs
    - Permits or denies user access to specific network resources, based on user identity and time of the day—allowing multiple types of users on the same network to access specific network services without risking network security or allowing unauthorized access to sensitive data
  - Automatic VLAN assignment
    - Assigns users automatically to the appropriate VLAN, based on their identities

- Secure management access  
Delivers secure encryption of all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3
- Secure FTP  
Allows secure file transfer to and from the switch; and protects against unwanted file downloads or unauthorized copying of a switch configuration file
- Guest VLAN  
Provides a browser-based environment to authenticated clients that are similar to IEEE 802.1X
- Endpoint admission defense  
Assigns security policies to users accessing a network
- Port security  
Allows access only to specified MAC addresses, which can be learned or specified by the administrator
- Port isolation  
Secures and adds privacy; and helps prevent malicious attackers from obtaining user information
- STP bridge protocol data units (BPDUs) port protection  
Blocks BPDUs on ports that do not require BPDUs, mitigating forged BPDU attacks
- STP root guard  
Protects the root bridge from malicious attacks or configuration mistakes
- DHCP protection  
Blocks DHCP packets from unauthorized DHCP servers, mitigating denial-of-service attacks
- Dynamic ARP protection  
Blocks ARP broadcasts from unauthorized hosts, helping prevent eavesdropping or theft of network data
- IP source guard  
Filters packets on a per-port basis, which helps prevent illegal packets from being forwarded
- RADIUS/HWTACACS  
Eases switch management security administration by using a password authentication server
- Multiple customer edge  
Facilitates MPLS VPN network integration with support for up to 63 VPNs
- ICMP throttling  
Defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic

**Convergence**

- IEEE 802.1ab LLDP  
Facilitates easy mapping using network management applications with LLDP-automated device discovery protocol
- LLDP-media endpoint discovery (MED)  
Is a standard extension that automatically configures network devices, including LLDP-capable IP phones

- LLDP-Cisco discovery protocol (CDP) compatibility  
Receives and recognizes CDP packets from Cisco's IP phones for seamless interoperation
- PoE allocations  
Supports multiple methods—automatic, IEEE 802.3af class, LLDP-MED, or user specified—to allocate PoE power for more efficient energy use
- Voice VLAN  
Assigns VLAN and priority for IP phones automatically, simplifying network configuration and maintenance
- IP multicast snooping (data-driven IGMP)  
Helps prevent flooding of IP multicast traffic
- Multicast VLAN  
Allows multiple VLANs to receive the same multicast traffic, reducing network bandwidth demand by mitigating multiple streams to each VLAN
- PIM  
Supports PIM-DM and PIM-SM; is used for multicast applications
- MSDP  
Allows multiple PIM-SM domains to interoperate; is used for inter-domain multicast applications

**Device support**

- Cisco pre-standard PoE support  
Detects and provides power to Cisco's pre-standard PoE devices, such as wireless LAN access points and IP phones

**Additional information**

- Green initiative support  
Provides support for RoHS and WEEE regulations
- Green IT and power  
Uses the latest advances in silicon development; and shuts off unused ports to improve power efficiency

**Warranty and support**

- Limited Lifetime Warranty  
See [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary) for warranty and support information included with your product purchase.
- Software releases  
To find software for your product, refer to [hpe.com/networking/support](http://hpe.com/networking/support); for details on the software releases available with your product purchase, refer to [hpe.com/networking/warrantysummary](http://hpe.com/networking/warrantysummary)



## HPE 3600 EI Switch Series



**HPE 3600-24 v2 EI Switch (JG299B)**



**HPE 3600-48 v2 EI Switch (JG300B)**



**HPE 3600-24-PoE+ v2 EI Switch (JG301C)**

### SPECIFICATIONS

	HPE 3600-24 v2 EI Switch (JG299B)	HPE 3600-48 v2 EI Switch (JG300B)	HPE 3600-24-PoE+ v2 EI Switch (JG301C)
<b>Ports</b>	24 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 4 SFP 1000 Mb/s ports 2 dual-personality 1000 Mb/s ports (IEEE 802.3ab Type 1000BASE-T) 1 RJ-45 serial console port	48 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half or full 4 SFP 1000 Mb/s ports 2 dual-personality 1000 Mb/s ports (IEEE 802.3ab Type 1000BASE-T) 1 RJ-45 serial console port	24 RJ-45 autosensing 10/100 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3at PoE+); Duplex: half or full 4 SFP 1000 Mb/s ports 2 dual-personality 1000 Mb/s ports (IEEE 802.3ab Type 1000BASE-T) 1 RJ-45 serial console port
<b>Physical characteristics</b>			
Dimensions	17.32(w) x 10.24(d) x 1.72(h) in. (43.99 x 26.01 x 4.37 cm) (1U height)	17.32(w) x 10.24(d) x 1.72(h) in. (43.99 x 26.01 x 4.37 cm) (1U height)	17.32(w) x 16.54(d) x 1.72(h) in. (43.99 x 42.01 x 4.37 cm) (1U height)
Weight	11.02 lb (5 kg)	11.02 lb (5 kg)	22.05 lb (10 kg)
<b>Memory and processor</b>	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 4 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB
<b>Mounting</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet (hardware included)	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet (hardware included)	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet (hardware included)
<b>Performance</b>			
100 Mb Latency	< 6 $\mu$ s	< 6 $\mu$ s	< 6 $\mu$ s
1000 Mb Latency	< 5 $\mu$ s	< 5 $\mu$ s	< 5 $\mu$ s
Throughput	9.5 million pps	13.1 million pps	9.5 million pps
Routing/Switching capacity	12.8 Gb/s	17.6 Gb/s	12.8 Gb/s
Switch fabric speed	27.5 Gbps	55 Gbps	27.5 Gbps
Routing table size	12000 entries (IPv4)	12000 entries (IPv4)	12000 entries (IPv4)
MAC address table size	32000 entries	32000 entries	32000 entries
<b>Environment</b>			
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 122°F (0°C to 50°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: 42.8 dB, High-speed fan: 49.9 dB	Low-speed fan: 43.5 dB, High-speed fan: 55.0 dB	Low-speed fan: 44.7 dB, High-speed fan: 53.8 dB

## HPE 3600 EI Switch Series (continued)

SPECIFICATIONS (CONTINUED)	HPE 3600-24 v2 EI Switch (JG299B)	HPE 3600-48 v2 EI Switch (JG300B)	HPE 3600-24-PoE+ v2 EI Switch (JG301C)
<b>Electrical characteristics</b>			
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Maximum heat dissipation	106 BTU/hr (111.83 kJ/hr)	147 BTU/hr (155.08 kJ/hr)	143 BTU/hr (150.86 kJ/hr)
Voltage	100–240 VAC	100–240 VAC	100–240 VAC
DC voltage	-48 to -60 VDC	-48 to -60 VDC	-52 to -55 VDC
Maximum power rating	31 W	43 W	795 W
PoE power			720 W
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 power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS).With AC input, the maximum power consumption is 465 W; PoE is 370 W. With DC input, the maximum power consumption is 795 W; PoE is 720 W.
<b>Safety</b>	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance	UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance
<b>Emissions</b>	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A	FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
<b>Management</b>	Intelligent Management Center (IMC); command-line interface; Web browser; SNMP Manager	Intelligent Management Center (IMC); command-line interface; Web browser; SNMP Manager	Intelligent Management Center (IMC); command-line interface; Web browser; SNMP Manager
<b>Services</b>	Refer to the Hewlett Packard Enterprise website at <a href="http://hpe.com/networking/services">hpe.com/networking/services</a> 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 <a href="http://hpe.com/networking/services">hpe.com/networking/services</a> 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 <a href="http://hpe.com/networking/services">hpe.com/networking/services</a> 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 3600 EI Switch Series (continued)



### SPECIFICATIONS (CONTINUED)

#### HPE 3600-48-PoE+ v2 EI Switch (JG302C)

#### HPE 3600-24-SFP v2 EI Switch (JG303B)

	HPE 3600-48-PoE+ v2 EI Switch (JG302C)	HPE 3600-24-SFP v2 EI Switch (JG303B)
<b>Ports</b>	48 RJ-45 autosensing 10/100 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3at PoE+); Duplex: half or full  4 SFP 1000 Mb/s ports  2 dual-personality 1000 Mb/s ports (IEEE 802.3ab Type 1000BASE-T)  1 RJ-45 serial console port	24 SFP 100 Mb/s ports  4 SFP 1000 Mb/s ports  2 dual-personality 1000 Mb/s ports (IEEE 802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only  1 RJ-45 serial console port
<b>Physical characteristics</b>		
Dimensions	17.32(w) x 16.54(d) x 1.72(h) in. (44 x 42 x 4.36 cm) (1U height)	17.32(w) x 10.24(d) x 1.72(h) in. (43.99 x 26.01 x 4.37 cm) (1U height)
Weight	22.05 lb (10 kg)	11.02 lb (5 kg)
<b>Memory and processor</b>	256 MB SDRAM, 128 MB flash; packet buffer size: 4 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB
<b>Mounting</b>	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet (hardware included)	Mounts in an EIA-standard 19 in. Telco rack or equipment cabinet (hardware included)
<b>Performance</b>		
100 Mb Latency	< 6 $\mu$ s	< 6 $\mu$ s
1000 Mb Latency	< 5 $\mu$ s	< 5 $\mu$ s
Throughput	up to 13.1 million pps	up to 9.5 million pps
Routing/Switching capacity	17.6 Gb/s	12.8 Gb/s
Switch fabric speed	55 Gbps	27.5 Gbps
Routing table size	12000 entries (IPv4)	12000 entries (IPv4)
MAC address table size	32000 entries	32000 entries
<b>Environment</b>		
Operating temperature	32°F to 122°F (0°C to 50°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: 43.5 dB, High-speed fan: 55 dB	Low-speed fan: 43.5 dB, High-speed fan: 50.1 dB

## HPE 3600 EI Switch Series (continued)

SPECIFICATIONS (CONTINUED)	HPE 3600-48-PoE+ v2 EI Switch (JG302C)	HPE 3600-24-SFP v2 EI Switch (JG303B)
<b>Electrical characteristics</b>		
Frequency	50/60 Hz	50/60 Hz
Maximum heat dissipation	198 BTU/hr (208.89 kJ/hr)	205 BTU/hr (216.27 kJ/hr)
Voltage	100–240 VAC	100–240 VAC
DC voltage	-52 to -55 VDC	-48 to -60 VDC
Maximum power rating	440 W	60 W
PoE power	320 W	
Notes	<p>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.</p> <p>PoE power is the power supplied by the internal power supply. It is dependent on the type and quantity of power supplies and may be supplemented with the use of an external power supply (EPS). With AC input, the maximum power consumption is 440 W, PoE is 320 W. With DC input, the maximum power consumption is 820 W, PoE is 720 W.</p>	<p>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.</p>
<b>Safety</b>	<p>UL 60950-1; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance</p>	<p>UL 60950-1; N 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; IEC 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60950-1/A11; FDA 21 CFR Subchapter J; ROHS Compliance</p>
<b>Emissions</b>	<p>FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995+A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A</p>	<p>FCC part 15 Class A; VCCI Class A; EN 55022 Class A; CISPR 22 Class A; ICES-003 Class A; ANSI C63.4 2003; ETSI EN 300 386 V1.3.3; AS/NZS CISPR 22 Class A; EN 61000-3-2; EN 61000-3-3; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11; EN 61000-3-2:2006; EN 61000-3-3:1995+A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A</p>
<b>Management</b>	<p>Intelligent Management Center (IMC); command-line interface; Web browser; SNMP Manager</p>	<p>Intelligent Management Center (IMC); command-line interface; Web browser; SNMP Manager</p>
<b>Services</b>	<p>Refer to the Hewlett Packard Enterprise website at <a href="http://hpe.com/networking/services">hpe.com/networking/services</a> 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.</p>	<p>Refer to the Hewlett Packard Enterprise website at <a href="http://hpe.com/networking/services">hpe.com/networking/services</a> 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.</p>

## HPE 3600 EI Switch Series (continued)

### STANDARDS AND PROTOCOLS

(applies to all products in series)

#### Device management

RFC 1157 SNMPv1/v2c  
 RFC 2578-2580 SMIV2  
 RFC 3417 (SNMP Transport Mappings)  
 RFC 1901-1907 SNMPv2c, SMIV2 and Revised MIB-II  
 RFC 2819 (RMON groups Alarm, Event, History and Statistics only)  
 HTML and telnet management  
 RFC 2573 (SNMPv3 Applications)  
 RFC 3410 (Management Framework)  
 RFC 3416 (SNMP Protocol Operations v2)  
 Multiple Configuration Files  
 SNMP v3 and RMON RFC support

#### General protocols

IEEE 802.1ad Q-in-Q  
 IEEE 802.1D MAC Bridges  
 IEEE 802.1p Priority  
 IEEE 802.1Q VLANs  
 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 802.3 Type 10BASE-T  
 IEEE 802.3ab 1000BASE-T  
 IEEE 802.3ac (VLAN Tagging Extension)  
 IEEE 802.3ad Link Aggregation Control Protocol (LACP)  
 IEEE 802.3af Power over Ethernet  
 IEEE 802.3at Power over Ethernet Plus  
 IEEE 802.3i 10BASE-T  
 IEEE 802.3u 100BASE-X  
 IEEE 802.3x Flow Control  
 IEEE 802.3z 1000BASE-X  
 RFC 768 UDP  
 RFC 783 TFTP Protocol (revision 2)  
 RFC 791 IP  
 RFC 792 ICMP  
 RFC 793 TCP  
 RFC 826 ARP  
 RFC 1058 RIPv1  
 RFC 1213 Management Information Base for Network Management of TCP/IP-based internets  
 RFC 1812 IPv4 Routing  
 RFC 2131 DHCP  
 RFC 2236 IGMP Snooping  
 RFC 2338 VRRP  
 RFC 2453 RIPv2  
 RFC 2644 Directed Broadcast Control  
 RFC 2665 Definitions of Managed Objects for the Ethernet-like Interface Types  
 RFC 2711 IPv6 Router Alert Option  
 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 3416 Protocol Operations for SNMP  
 RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)

#### IP multicast

RFC 1112 IGMP  
 RFC 2236 IGMPv2  
 RFC 2362 PIM Sparse Mode  
 RFC 3618 Multicast Source Discovery Protocol (MSDP)  
 RFC 3973 PIM Dense Mode

## HPE 3600 EI Switch Series (continued)

### STANDARDS AND PROTOCOLS

(applies to all products in series)

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<b>IPv6</b>	<ul style="list-style-type: none"> <li>RFC 1881 IPv6 Address Allocation Management</li> <li>RFC 1887 IPv6 Unicast Address Allocation Architecture</li> <li>RFC 1981 IPv6 Path MTU Discovery</li> <li>RFC 2080 RIPng for IPv6</li> <li>RFC 2373 IPv6 Addressing Architecture</li> <li>RFC 2375 IPv6 Multicast Address Assignments</li> <li>RFC 2460 IPv6 Specification</li> <li>RFC 2461 IPv6 Neighbor Discovery</li> <li>RFC 2462 IPv6 Stateless Address Auto-configuration</li> <li>RFC 2463 ICMPv6</li> <li>RFC 2464 Transmission of IPv6 over Ethernet Networks</li> <li>RFC 2475 IPv6 DiffServ Architecture</li> <li>RFC 2710 Multicast Listener Discovery (MLD) for IPv6</li> <li>RFC 2711 IPv6 Router Alert Option</li> <li>RFC 2740 OSPFv3 for IPv6</li> <li>RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers</li> <li>RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)</li> <li>RFC 2925 Remote Operations MIB (Ping only)</li> <li>RFC 3056 Connection of IPv6 Domains via IPv4 Clouds</li> <li>RFC 3162 RADIUS and IPv6</li> <li>RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses</li> <li>RFC 3307 IPv6 Multicast Address Allocation</li> <li>RFC 3315 DHCPv6 (client and relay)</li> <li>RFC 3484 Default Address Selection for IPv6</li> <li>RFC 3493 Basic Socket Interface Extensions for IPv6</li> <li>RFC 3513 IPv6 Addressing Architecture</li> <li>RFC 3542 Advanced Sockets API for IPv6</li> <li>RFC 3587 IPv6 Global Unicast Address Format</li> <li>RFC 3596 DNS Extension for IPv6</li> <li>RFC 3810 MLDv2 (host joins only)</li> <li>RFC 4113 MIB for UDP</li> <li>RFC 4291 IP Version 6 Addressing Architecture</li> <li>RFC 4293 MIB for IP</li> <li>RFC 4443 ICMPv6</li> <li>RFC 4861 Neighbor Discovery for IPv6</li> <li>RFC 4862 IPv6 Stateless Address Auto-configuration</li> <li>RFC 5095 Deprecation of Type 0 Routing Headers in IPv6</li> <li>RFC 5340 OSPFv3 for IPv6</li> </ul>
<b>MIBs</b>	<ul style="list-style-type: none"> <li>RFC 1213 MIB II</li> <li>RFC 1493 Bridge MIB</li> <li>RFC 1724 RIPv2 MIB</li> <li>RFC 1757 Remote Network Monitoring MIB</li> <li>RFC 1850 OSPFv2 MIB</li> <li>RFC 1907 SNMPv2 MIB</li> <li>RFC 2233 Interfaces MIB</li> <li>RFC 2571 SNMP Framework MIB</li> <li>RFC 2572 SNMP-MPD MIB</li> <li>RFC 2573 SNMP-Notification MIB</li> <li>RFC 2573 SNMP-Target MIB</li> <li>RFC 2574 SNMP USM MIB</li> <li>RFC 2618 RADIUS Authentication Client MIB</li> <li>RFC 2620 RADIUS Accounting Client MIB</li> <li>RFC 2665 Ethernet-Like-MIB</li> <li>RFC 2674 802.1p and IEEE 802.1Q Bridge MIB</li> <li>RFC 2819 RMON MIB</li> <li>RFC 2863 The Interfaces Group MIB</li> <li>RFC 3414 SNMP-User based-SM MIB</li> <li>RFC 3415 SNMP-View based-ACM MIB</li> </ul>

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## HPE 3600 EI Switch Series (continued)

### STANDARDS AND PROTOCOLS

(applies to all products in series)

#### Network management

IEEE 802.1ab Link Layer Discovery Protocol (LLDP)  
 RFC 1157 SNMPv1  
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events  
 RFC 1901 Introduction to Community-based SNMPv2  
 RFC 1902 Structure of Management Information for Version 2 of the Simple Network Management Protocol (SNMPv2)  
 RFC 1903 SNMPv2 Textual Conventions  
 RFC 1904 SNMPv2 Conformance  
 RFC 1905 SNMPv2 Protocol Operations  
 RFC 1906 SNMPv2 Transport Mappings  
 RFC 2570 SNMPv3 Overview  
 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 2578 Structure of Management Information Version 2 (SMIv2)  
 RFC 2579 Textual Conventions for SMIv2  
 RFC 2580 Conformance Statements for SMIv2  
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm), and 9 (events)  
 RFC 3410 Introduction to Version 3 of the Internet-standard Network Management Framework  
 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 1583 OSPFv2  
 RFC 1587 OSPF NSSA  
 RFC 1850 OSPFv2 Management Information Base (MIB), traps  
 RFC 2328 OSPFv2

#### QoS/CoS

RFC 4594 Configuration Guidelines for DiffServ Service Classes

## HPE 3600 EI Switch Series accessories

(APPLIES TO ALL PRODUCTS IN SERIES)

### Transceivers

HPE X125 1G SFP LC LH40 1310nm Transceiver (JD061A)  
HPE X120 1G SFP LC LH40 1550nm Transceiver (JD062A)  
HPE X125 1G SFP LC LH70 Transceiver (JD063B)  
HPE X120 1G SFP RJ45 T Transceiver (JD089B)  
HPE X110 100M SFP LC LH40 Transceiver (JD090A)  
HPE X110 100M SFP LC LH80 Transceiver (JD091A)  
HPE X120 1G SFP LC BX 10-U Transceiver (JD098B)  
HPE X120 1G SFP LC BX 10-D Transceiver (JD099B)  
HPE X115 100M SFP LC BX 10-U Transceiver (JD100A)  
HPE X115 100M SFP LC BX 10-D Transceiver (JD101A)  
HPE X120 1G SFP LC SX Transceiver (JD118B)  
HPE X120 1G SFP LC LX Transceiver (JD119B)

### Cables

HPE 3600 Switch SFP Stacking Kit (JD324B)  
HPE 0.5m Multi-mode OM3 LC/LC Optical Cable (AJ833A)  
HPE 1m Multi-mode OM3 LC/LC Optical Cable (AJ834A)  
HPE 2m Multi-mode OM3 LC/LC Optical Cable (AJ835A)  
HPE 5m Multi-mode OM3 LC/LC Optical Cable (AJ836A)  
HPE 15m Multi-mode OM3 LC/LC Optical Cable (AJ837A)  
HPE 30m Multi-mode OM3 LC/LC Optical Cable (AJ838A)  
HPE 50m Multi-mode 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)

### Power Supply

HPE RPS800 Redundant Power Supply (JD183A)  
HPE RPS1600 Redundant Power System (JG136A)  
HPE RPS1600 1600W AC Power Supply (JG137A)

### Power Cords

HPE X290 500 V 1m RPS Cable (JD186A)  
HPE X290 1000 A JD5 2m RPS Cable (JD187A)  
HPE X290 1000 A JD5 Non-PoE 2m RPS Cable (JD188A)  
HPE X290 1000 B JD5 2m RPS Cable (JD189A)

## HPE 3600 EI Switch model-specific accessories

### HPE 3600-24-SFP v2 EI Switch (JG303B)

HPE X110 100M SFP LC LX Transceiver (JD120B)  
HPE X110 100M SFP LC FX Transceiver (JD102B)

Learn more at  
[hpe.com/networking](https://hpe.com/networking)



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