



Key features

- Robust switching at the enterprise network edge
- Advanced Layer 3 and multicast routing
- IRF-automated stack and switching fabric setup
- Integrated and distributed security enforcement
- Enterprise-level nonblocking performance

Product overview

The HP 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 Layer 3 Fast Ethernet and PoE/PoE+ switches, with advanced features that can accommodate the most demanding applications. Secure, resilient connectivity and the latest traffic-prioritization technologies enhance converged networks. Designed for increased flexibility and scalability, HP 3600 EI series switches come with 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.

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 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

Powerful QoS feature

supports the following congestion actions: strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), and WRED

Traffic policing

supports Committed Access Rate (CAR) and line rate

• RRPP

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

Management

IPv6 management for v2 switches

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, syslogv6, FTPv6, SNMPv6, DHCPv6, and RADIUS for IPv6

- Friendly port names allow assignment of descriptive names to ports
- Remote configuration and management is available through a secure Web browser or a command-line interface (CLI)
- Manager and operator privilege levels enable read-only (operator) and read/write (manager) access on CLI and Web browser management interfaces
- Command authorization

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

Secure Web GUI

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

Multiple configuration files

can be stored to the 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

• Local and Remote Intelligent Mirroring

mirrors traffic from a switch port or to a remote switch port anywhere on the network, or mirrors ACL-selected traffic to a local switch port

• IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

automated device discovery protocol provides easy mapping of network management applications

Management VLAN

segments traffic to and from management interfaces, including CLI/telnet, a Web browser interface, and SNMP

• Device Link Detection Protocol (DLDP)

monitors a cable between two switches and shuts down the ports on both ends if the cable is broken, preventing network problems such as loops

• Troubleshooting

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

• 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

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

Connectivity

• Auto-MDIX

automatically adjusts for straight-through or crossover cables on all 10/100 and 10/100/1000 ports

Jumbo packet support

supports up to 9216-byte frame size to improve the performance of large data transfers

• Gigabit Ethernet uplinks

dual-personality ports for either 10/100/1000 or mini-GBIC SFP connectivity for increased 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 a Layer 2/Layer 3 switch

• IEEE 802.3af Power over Ethernet (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

• Ethernet OAM

provides a Layer 2 link performance and fault detection monitoring tool, which reduces failover and network convergence times

• IEEE 802.3at Power over Ethernet (PoE+) support

simplifies deployment and dramatically reduces installation costs by helping to eliminate the time and cost involved in supplying local power at each access point location

Performance

Gigabit Ethernet interface

provides a connection to the network that eliminates the network as a bottleneck

- Nonblocking performance up to 17.6 Gbps nonblocking switching fabric provides wire-speed switching with up to 13.1 million pps throughput
- Hardware-based wire-speed access control lists feature-rich ACL implementation helps ensure high levels of security and ease of administration without impacting network performance

Resiliency and high availability

- Separate data and control paths keeps control separated from services and keeps service processing isolated; increases security and performance
- External redundant power supply provides high reliability
- Smart link allows 50 ms failover between links
- Spanning Tree/MSTP, RSTP provides redundant links while preventing network loops
- Virtual Router Redundancy Protocol (VRRP) allows a group of routers to dynamically back each other up to create highly available routed environments
- Intelligent Resilient Framework (IRF) creates virtual resilient switching fabrics, where two or more switches perform as a single Layer 2 switch and Layer 3 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; simplifies network operation by eliminating the complexity of Spanning Tree Protocol, Equal-Cost Multipath (ECMP), or VRRP

• IEEE 802.3ad Link Aggregation Control Protocol (LACP) supports up to 24 trunks, each with 8 links per trunk; supports static or dynamic groups

Manageability

• RMON (remote monitoring)

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

Layer 2 switching

- 16/32K MAC address table provides access to many Layer 2 devices
- VLAN support and tagging support IEEE 802.1Q with 4,094 simultaneous VLAN IDs
- GARP VLAN Registration Protocol allows automatic learning and dynamic assignment of VLANs

• 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

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

Layer 3 services

Address Resolution Protocol (ARP)

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

- Dynamic Host Configuration Protocol (DHCP) simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- Loopback interface address

defines an address in Routing Information Protocol (RIP) and OSPF that can always be reachable, improving 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 prevents server spoofing for UDP services such as DHCP

Route maps

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

Layer 3 routing

 IPv4 routing protocols support static routes, RIP, OSPF, ISIS, and BGP

- IPv6 routing protocols for v2 switches provide routing of IPv6 at wire speed; 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
- Equal-Cost Multipath (ECMP) enables multiple equal-cost links in a routing environment to increase link redundancy and scale bandwidth
- PIM-SSM, PIM-DM, and PIM-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
- **Bidirectional Forwarding Detection (BFD)** enables link connectivity monitoring and reduces network convergence time for RIP, OSPF, BGP, IS-IS, VRRP, and IRF

IGMPv1, v2, and v3

allow individual hosts to be registered on a particular VLAN

Security

Access control lists (ACLs)

provides IP Layer 2 to Layer 4 traffic filtering; supports VLAN ACL and port ACL

• Multiple user authentication methods

- IEEE 802.1X

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

– Web-based authentication

similar to IEEE 802.1X, it provides a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant

- 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

permits or denies 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 allowing unauthorized access to sensitive data

- Automatic VLAN assignment

automatically assigns users to the appropriate VLAN based on their identities

Secure management access

securely encrypts all access methods (CLI, GUI, or MIB) through SSHv2, SSL, and/or SNMPv3

Secure FTP

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

• Guest VLAN

similar to IEEE 802.1X, it provides a browser-based environment to authenticated clients

• Endpoint Admission Defense (EAD)

provides 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 prevents malicious attackers from obtaining user information

• ICMP throttling

defeats ICMP denial-of-service attacks by enabling any switch port to automatically throttle ICMP traffic

• STP BPDU port protection

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

• STP Root Guard

protects the root bridge from malicious attacks or configuration mistakes

DHCP protection
blocks DHCP packets from unauthorized I

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

• Dynamic ARP protection

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

- IP Source Guard helps prevent IP spoofing attacks
- RADIUS/HWTACACS eases switch management security administration by using a password authentication server
- Multiple Customer Edge (MCE) facilitates MPLS VPN network integration with support for up to 63 VPNs

Convergence

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)

is an automated device discovery protocol that provides easy mapping of network management applications

• LLDP-MED

is a standard extension that automatically configures network devices, including LLDP-capable IP phones

• LLDP-CDP compatibility

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

• PoE allocations

support multiple methods (automatic, IEEE 802.3af class, LLDP-MED, or user specified) to allocate PoE power for more efficient energy savings

• Voice VLAN

automatically assigns VLAN and priority for IP phones, simplifying network configuration and maintenance

- IP multicast snooping and data-driven IGMP automatically prevent flooding of IP multicast traffic
- Protocol Independent Multicast (PIM) is used for multicast applications; supports PIM Dense Mode (PIM-DM) and Sparse Mode (PIM-SM)
- Multicast Source Discovery Protocol (MSDP) is used for inter-domain multicast applications, allowing multiple PIM-SM domains to interoperate
- Multicast VLAN

allows multiple VLANs to receive the same multicast traffic, reducing network bandwidth demand by eliminating multiple streams to each VLAN

Device support

Cisco prestandard PoE support

detects and provides power to Cisco's prestandard 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

• Lifetime warranty

for as long as you own the product with advance replacement and next-business-day delivery (available in most countries)†

• Electronic and telephone support

limited electronic and telephone support is available from HP; to reach our support centers, refer to

www.hp.com/networking/contact-support; for details on the duration of support provided with your product purchase, refer to www.hp.com/networking/warrantysummary

Software releases

to find software for your product, refer to www.hp.com/networking/support; for details on the software releases available with your product purchase, refer to www.hp.com/networking/warrantysummary

tHP warranty includes repair or replacement of hardware for as long as you own the product, with next business day advance replacement (available in most countries). The disk drive included with HP AllianceOne Advanced Services and Services zl Modules, HP Threat Management Services zl Module, HP AllianceOne Extended zl Module with Riverbed Steelhead, HP MSM765zl Mobility Controller and HP Survivable Branch Communication zl Module powered by Microsoft Lync has a five-year hardware warranty. For details, refer to the Software license and hardware warranty statements at **www.hp.com/networking/warranty**.

Specifications

	HP 3600-24-SFP EI Switch (JD334A)	HP 3600-24-PoE+ v2 El Switch (JG301A)	HP 3600-24 v2 El Switch (JG299A)
Ports	24 SFP 100 Mbps ports	24 RJ-45 autosensing 10/100 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE	24 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half
	2 SFP 1000 Mbps ports	802.3at PoE+); Duplex: half or full	or full
	2 RJ-45 autosensing 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE	4 SFP 1000 Mbps ports	4 SFP 1000 Mbps ports
	802.3ab Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	2 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)	2 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)
	1 RJ-45 serial console port	1 RJ-45 serial console port	1 RJ-45 serial console port
Physical characteristics			
	17.32(w) x 10.24(d) x 1.72(h) in (44 x 26 x 4.36 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)	17.32(w) x 10.24(d) x 1.72(h) in (43.99 x 26.01 x 4.37 cm) (1U height)
Weight	7.72 lb (3.5 kg)	22.05 lb (10 kg)	11.02 lb (5 kg)
Memory and processor			
	64 MB SDRAM, 16 MB flash; packet buffer size: 32 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB
Mounting	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)
Performance			
Latency	< 10 µs		
100 Mb Latency		< 6 µs	< 6 µs
1000 Mb Latency		< 5 µs	< 5 µs
Throughput	9.5 million pps	9.5 million pps	9.5 million pps
Routing/Switching capacity	12.8 Gbps	12.8 Gbps	12.8 Gbps
Routing table size	8448 entries	12000 entries	12000 entries
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)	32°F to 122°F (0°C to 50°C)
Operating relative humidity	10% to 90%, 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
Acoustic	Power: 51.3 dB	Low-speed fan: 44.7 dB, High-speed fan: 53.8 dB	Low-speed fan: 42.8 dB, High-speed fan: 49.9 dB
Electrical characteristics			
Maximum heat dissipation	222 BTU/hr (234.21 kJ/hr)	143 BTU/hr (150.86 kJ/hr)	106 BTU/hr (111.83 kJ/hr)
Voltage	100-240 VAC	100-240 VAC	100-240 VAC
DC voltage	-48 to -60 VDC	-52 to -55 VDC	-48 to -60 VDC
Maximum power rating	65 W	795 W	31 W
PoE power		720 W	
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
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. 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.	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; 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

	HP 3600-24-SFP EI Switch (JD334A)	HP 3600-24-PoE+ v2 El Switch (JG301A)	HP 3600-24 v2 EI Switch (JG299A)
missions	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 CISPR22 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 CISPR22 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 CISPR22 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 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
lanagement	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
ervices	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)
	3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)
	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)
	3-year, 24x7 SW phone support, software updates (UV831E)	3-year, 24x7 SW phone support, software updates (UV831E)	3-year, 24x7 SW phone support, software updates (UV831E)
	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR591E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR591E)	1-year, post-warranty, 4-hour onsite, 24x7 coverag for hardware, 24x7 software phone support (HR591
	Installation with minimum configuration, system-based pricing (UX116E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)
	Installation with HP-provided configuration, system-based pricing (UX117E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)
	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)
	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)	4-year, 24x7 SW phone support, software updates (UV832E)	4-year, 24x7 SW phone support, software updates (UV832E)
	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)
	4-year, 24x7 SW phone support, software updates (UV832E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)
	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)
	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)	5-year, 24x7 SW phone support, software updates (UV833E)	5-year, 24x7 SW phone support, software updates (UV833E)
	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)	3 Yr 6 hr Call-to-Repair Onsite (UW431E)	3 Yr 6 hr Call-to-Repair Onsite (UW431E)
	5-year, 24x7 SW phone support, software updates (UV833E)	4 Yr 6 hr Call-to-Repair Onsite (UW432E)	4 Yr 6 hr Call-to-Repair Onsite (UW432E)
	3 Yr 6 hr Call-to-Repair Onsite (UW431E)	5 Yr 6 hr Call-to-Repair Onsite (UW433E)	5 Yr 6 hr Call-to-Repair Onsite (UW433E)
	4 Yr 6 hr Call-to-Repair Onsite (UW432E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)
	5 Yr 6 hr Call-to-Repair Onsite (UW433E)	1-year, 24x7 software phone support, software updates (HR592E)	1-year, 24x7 software phone support, software updates (HR592E)
	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)
	1-year, 24x7 software phone support, software updates (HR592E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)
	- 1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)
	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS693E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS693E)
	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS694E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS694E)

HP 3600-24-SFP EI Switch (JD334A)	HP 3600-24-PoE+ v2 EI Switch (JG301A)	HP 3600-24 v2 El Switch (JG299A)
3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS693E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E)	4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E)
4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS694E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)	5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)
4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E)	5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E)
5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)	Refer to the HP website at www.hp.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 HP sales office.	Refer to the HP website at www.hp.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 HP sales office.
5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E)		
Refer to the HP website at www.hp.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 HP sales office.		

	HP 3600-24-SFP EI Switch (JD334A)	HP 3600-24-PoE+ v2 EI Switch (JG301A)	HP 3600-24 v2 El Switch (JG299A)
itandards and protocols	Device management	RFC 2362 PIM Sparse Mode	Network management
(applies to all products in series)	RFC 1157 SNMPv1/v2c	RFC 3618 Multicast Source Discovery Protocol (MSDP)	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II	RFC 3973 PIM Dense Mode	RFC 1157 SNMPv1
	RFC 2573 (SNMPv3 Applications)		RFC 1757 RMON 4 groups: Stats, History, Alarms and
	RFC 2578-2580 SMIv2		Events
	RFC 2819 (RMON groups Alarm, Event, History and	IPv6	RFC 1901 Introduction to Community-based SNMPv2
	Statistics only)	RFC 1881 IPv6 Address Allocation Management	RFC 1902 Structure of Management Information for
	RFC 3410 (Management Framework)	RFC 1887 IPv6 Unicast Address Allocation Architecture	Version 2 of the Simple Network Management Proto
	RFC 3416 (SNMP Protocol Operations v2)	RFC 1981 IPv6 Path MTU Discovery	(SNMPv2)
	RFC 3417 (SNMP Transport Mappings)	RFC 2080 RIPng for IPv6	RFC 1903 SNMPv2 Textual Conventions
	HTML and telnet management	RFC 2373 IPv6 Addressing Architecture	RFC 1904 SNMPv2 Conformance
	Multiple Configuration Files	RFC 2375 IPv6 Multicast Address Assignments	RFC 1905 SNMPv2 Protocol Operations
	SNMP v3 and RMON RFC support	RFC 2460 IPv6 Specification	RFC 1906 SNMPv2 Transport Mappings
	SSHv1/SSHv2 Secure Shell	RFC 2461 IPv6 Neighbor Discovery	RFC 2570 SNMPv3 Overview
		RFC 2462 IPv6 Stateless Address Auto-configuration	RFC 2571 An Architecture for Describing SNMP
		RFC 2463 ICMPv6	Management Frameworks
	General protocols	RFC 2464 Transmission of IPv6 over Ethernet Networks	RFC 2572 Message Processing and Dispatching for th
	IEEE 802.1ad Q-in-Q	RFC 2475 IPv6 DiffServ Architecture	Simple Network Management Protocol (SNMP)
	IEEE 802.1D MAC Bridges	RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 2573 SNMP Applications
	IEEE 802.1p Priority	RFC 2740 OSPFv3 for IPv6	RFC 2574 SNMPv3 User-based Security Model (USM)
	IEEE 802.1Q VLANs	RFC 2893 Transition Mechanisms for IPv6 Hosts and	RFC 2575 SNMPv3 View-based Access Control Model
	IEEE 802.1s (MSTP)	Routers	(VACM)
	IEEE 802.1v VLAN classification by Protocol and Port	RFC 2925 Definitions of Managed Objects for Remote	RFC 2578 Structure of Management Information Ver
	IEEE 802.1w Rapid Reconfiguration of Spanning Tree	Ping, Traceroute, and Lookup Operations (Ping only)	2 (SMIv2)
	IEEE 802.1X PAE	RFC 2925 Remote Operations MIB (Ping only)	RFC 2579 Textual Conventions for SMIv2
	IEEE 802.3 Type 10BASE-T	RFC 3056 Connection of IPv6 Domains via IPv4 Clouds	RFC 2580 Conformance Statements for SMIv2
	IEEE 802.3ab 1000BASE-T	RFC 3162 RADIUS and IPv6	RFC 2819 Four groups of RMON: 1 (statistics), 2 (hist
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)	RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses	3 (alarm) and 9 (events)
	IEEE 802.3af Power over Ethernet	RFC 3307 IPv6 Multicast Address Allocation	RFC 3410 Introduction to Version 3 of the
	IEEE 802.3i 10BASE-T	RFC 3315 DHCPv6 (client and relay)	Internet-standard Network Management Frameworl
	IEEE 802.3u 100BASE-X	RFC 3484 Default Address Selection for IPv6	RFC 3414 SNMPv3 User-based Security Model (USM)
	IEEE 802.3x Flow Control	RFC 3493 Basic Socket Interface Extensions for IPv6	RFC 3415 SNMPv3 View-based Access Control Model
	IEEE 802.3z 1000BASE-X	RFC 3513 IPv6 Addressing Architecture	VACM)
	RFC 768 UDP	RFC 3542 Advanced Sockets API for IPv6	ANSI/TIA-1057 LLDP Media Endpoint Discovery
	RFC 783 TFTP Protocol (revision 2)	RFC 3587 IPv6 Global Unicast Address Format	(LLDP-MED)
	RFC 791 IP	RFC 3596 DNS Extension for IPv6	SNMPv1/v2c/v3
	RFC 792 ICMP	RFC 3810 MLDv2 (host joins only)	
	RFC 793 TCP	RFC 4113 MIB for UDP	
	RFC 826 ARP	RFC 4443 ICMPv6	OSPF
	RFC 1058 RIPv1		RFC 1583 0SPFv2
	RFC 1213 Management Information Base for Network		RFC 1587 OSPF NSSA
	Management of TCP/IP-based internets	MIBs	RFC 1850 OSPFv2 Management Information Base (M
	RFC 1812 IPv4 Routing	RFC 1213 MIB II	traps
	RFC 2131 DHCP	RFC 1493 Bridge MIB	RFC 2328 0SPFv2
	RFC 2236 IGMP Snooping	RFC 1724 RIPv2 MIB	
	RFC 2338 VRRP	RFC 1757 Remote Network Monitoring MIB	
	RFC 2453 RIPv2	RFC 1850 OSPFv2 MIB	
	RFC 2644 Directed Broadcast Control	RFC 1907 SNMPv2 MIB	
	RFC 2665 Definitions of Managed Objects for the	RFC 2233 Interfaces MIB	
	Ethernet-like Interface Types	RFC 2571 SNMP Framework MIB	
	RFC 3410 Applicability Statements for SNMP	RFC 2572 SNMP-MPD MIB	
	RFC 3414 User-based Security Model (USM) for version 3	RFC 2573 SNMP-Notification MIB	
	of the Simple Network Management Protocol (SNMPv3)	RFC 2573 SNMP-Target MIB	
	RFC 3415 View-based Access Control Model (VACM) for	RFC 2574 SNMP USM MIB	
	the Simple Network Management Protocol (SNMP)	RFC 2618 RADIUS Authentication Client MIB	
	RFC 3416 Protocol Operations for SNMP	RFC 2620 RADIUS Accounting Client MIB	
	RFC 3417 Transport Mappings for the Simple Network	RFC 2665 Ethernet-Like-MIB	
	Management Protocol (SNMP)	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB	
		RFC 2819 RMON MIB	
		RFC 3414 SNMP-User based-SM MIB	
	IP multicast	RFC 3415 SNMP-View based-ACM MIB	
	RFC 1112 IGMP		
	RFC 2236 IGMPv2		

	HP 3600-48 v2 El Switch (JG300A)	HP 3600-24-SFP v2 EI Switch (JG303A)	HP 3600-48-PoE+ v2 EI Switch (JG302A)
Ports	48 RJ-45 autosensing 10/100 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX); Duplex: half	24 SFP 100 Mbps ports	48 RJ-45 autosensing 10/100 PoE+ ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE
	or full	4 SFP 1000 Mbps ports	802.3at PoE+); Duplex: half or full
	4 SFP 1000 Mbps ports	2 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab	4 SFP 1000 Mbps ports
	2 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)	Type 1000BASE-T); Media Type: Auto-MDIX; Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only	2 dual-personality 10/100/1000 ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T)
	1 RJ-45 serial console port	1 RJ-45 serial console port	1 RJ-45 serial console port
Physical characteristics	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 (44 x 42 x 4.36 cm) (1U height)
Weight	11.02 lb (5 kg)	11.02 lb (5 kg)	22.05 lb (10 kg)
Memory and processor		DEC MD CDDAM 120 MD flack, confect by ffer size, 2 MD	DEC MD CDDAM 120 MD flash, as dut huffer size, 4 MD
	256 MB SDRAM, 128 MB flash; packet buffer size: 4 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 2 MB	256 MB SDRAM, 128 MB flash; packet buffer size: 4 MB
Mounting	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)
Performance			
100 Mb Latency	< 6 µs	< 6 µs	< 6 µs
1000 Mb Latency	< 5 µs	< 5 µs	< 5 µs
Throughput	13.1 million pps	9.5 million pps	up to 13.1 million pps
Routing/Switching capacity	17.6 Gbps	12.8 Gbps	17.6 Gbps
Routing table size	12000 entries	12000 entries	12000 entries
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 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
Acoustic	Low-speed fan: 43.5 dB, High-speed fan: 55.0 dB	Low-speed fan: 43.5 dB, High-speed fan: 50.1 dB	Low-speed fan: 43.5 dB, High-speed fan: 55 dB
Electrical characteristics		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Maximum heat dissipation	147 BTU/hr (155.08 kJ/hr)	205 BTU/hr (216.27 kJ/hr)	198 BTU/hr (208.89 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	43 W	-48 (0-00 VDC	440 W
PoE power	43 W	80 W	320 W
		50/5011-	
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
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 440 W, PoE is 320 W. With DC input, the maximum power consumption is 820 W, PoE is 720 W.
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; CAN/CSA-C22 Xo. 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-C2.2 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

	HP 3600-48 v2 El Switch (JG300A)	HP 3600-24-SFP v2 EI Switch (JG303A)	HP 3600-48-PoE+ v2 EI Switch (JG302A)
missions	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/NZ5 CISPR22 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 CISPR22 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 61000-3-3:1995 +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/NZ5 CISPR22 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 61000-3-3:1995 +A1:2001+A2:2005; EMC Directive 2004/108/EC; FCC (CFR 47, Part 15) Class A
lanagement	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager	IMC - Intelligent Management Center; command-line interface; Web browser; SNMP Manager
ervices	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)	3-year, 4-hour onsite, 13x5 coverage for hardware (UV822E)
	- 3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)	3-year, 4-hour onsite, 24x7 coverage for hardware (UV825E)
	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)	3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV828E)
	3-year, 24x7 SW phone support, software updates (UV831E)	3-year, 24x7 SW phone support, software updates (UV831E)	3-year, 24x7 SW phone support, software updates (UV831E)
	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)	1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR589E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR590E)
	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR591E)	1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR591E)	1-year, post-warranty, 4-hour onsite, 24x7 coverag for hardware, 24x7 software phone support (HR591
	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)	Installation with minimum configuration, system-based pricing (UX116E)
	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)	Installation with HP-provided configuration, system-based pricing (UX117E)
	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)	4-year, 4-hour onsite, 13x5 coverage for hardware (UV823E)
	4-year, 24x7 SW phone support, software updates (UV832E)	4-year, 24x7 SW phone support, software updates (UV832E)	4-year, 4-hour onsite, 24x7 coverage for hardware (UV826E)
	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)	4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV829E)
	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)	4-year, 24x7 SW phone support, software updates (UV832E)
	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)	5-year, 4-hour onsite, 13x5 coverage for hardware (UV824E)
	5-year, 24x7 SW phone support, software updates (UV833E)	5-year, 24x7 SW phone support, software updates (UV833E)	5-year, 4-hour onsite, 24x7 coverage for hardware (UV827E)
	3 Yr 6 hr Call-to-Repair Onsite (UW431E)	3 Yr 6 hr Call-to-Repair Onsite (UW431E)	5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV830E)
	4 Yr 6 hr Call-to-Repair Onsite (UW432E)	4 Yr 6 hr Call-to-Repair Onsite (UW432E)	5-year, 24x7 SW phone support, software updates (UV833E)
	5 Yr 6 hr Call-to-Repair Onsite (UW433E)	5 Yr 6 hr Call-to-Repair Onsite (UW433E)	3 Yr 6 hr Call-to-Repair Onsite (UW431E)
	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)	4 Yr 6 hr Call-to-Repair Onsite (UW432E)
	1-year, 24x7 software phone support, software updates (HR592E)	1-year, 24x7 software phone support, software updates (HR592E)	5 Yr 6 hr Call-to-Repair Onsite (UW433E)
	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)	1-year, 6 hour Call-To-Repair Onsite for hardware (HR593E)
	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)	1-year, 24x7 software phone support, software updates (HR592E)
	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)	1-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS690E)
	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS693E)	3-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS693E)	1-year, 24x7 software phone support, software updates + 4 hour hardware exchange (HS691E)
	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS694E)	4-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS694E)	3-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS692E)

Specifications (continued)

HP 3600-48 v2 EI Switch (JG300A)

HP 3600-24-SFP v2 EI Switch (JG303A)

HP 3600-48-PoE+ v2 EI Switch (JG302A)

4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E) Refer to the HP website at

www.hp.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 HP sales office. 4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E) Refer to the HP website at

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4-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS695E) 5-year, 24x7 software phone support, software updates + Next Business Day Hardware Exchange (HS696E)

5-year, 24x7 software phone support, software updates + 4 hour Hardware Exchange (HS697E)

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tandards and protocols	Device management	RFC 2362 PIM Sparse Mode	Network management
(applies to all products in series)	RFC 1157 SNMPv1/v2c	RFC 3618 Multicast Source Discovery Protocol (MSDP)	IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
	RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II	RFC 3973 PIM Dense Mode	RFC 1157 SNMPv1
	RFC 2573 (SNMPv3 Applications)		RFC 1757 RMON 4 groups: Stats, History, Alarms and
	RFC 2578-2580 SMIv2		Events
	RFC 2819 (RMON groups Alarm, Event, History and	IPv6	RFC 1901 Introduction to Community-based SNMPv2
	Statistics only)	RFC 1881 IPv6 Address Allocation Management	RFC 1902 Structure of Management Information for
	RFC 3410 (Management Framework)	RFC 1887 IPv6 Unicast Address Allocation Architecture	Version 2 of the Simple Network Management Protoc
	RFC 3416 (SNMP Protocol Operations v2)	RFC 1981 IPv6 Path MTU Discovery	(SNMPv2)
	RFC 3417 (SNMP Transport Mappings)	RFC 2080 RIPng for IPv6	RFC 1903 SNMPv2 Textual Conventions
	HTML and telnet management	RFC 2373 IPv6 Addressing Architecture	RFC 1904 SNMPv2 Conformance
	Multiple Configuration Files	RFC 2375 IPv6 Multicast Address Assignments	RFC 1905 SNMPv2 Protocol Operations
	SNMP v3 and RMON RFC support	RFC 2460 IPv6 Specification	RFC 1906 SNMPv2 Transport Mappings
	SSHv1/SSHv2 Secure Shell	RFC 2461 IPv6 Neighbor Discovery	RFC 2570 SNMPv3 Overview
		RFC 2462 IPv6 Stateless Address Auto-configuration	RFC 2571 An Architecture for Describing SNMP
	6	RFC 2463 ICMPv6	Management Frameworks
	General protocols	RFC 2464 Transmission of IPv6 over Ethernet Networks	RFC 2572 Message Processing and Dispatching for the
	IEEE 802.1ad Q-in-Q	RFC 2475 IPv6 DiffServ Architecture	Simple Network Management Protocol (SNMP)
	IEEE 802.1D MAC Bridges	RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 2573 SNMP Applications
	IEEE 802.1p Priority	RFC 2740 OSPFv3 for IPv6	RFC 2574 SNMPv3 User-based Security Model (USM)
	IEEE 802.1Q VLANs	RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers	RFC 2575 SNMPv3 View-based Access Control Model (VACM)
	IEEE 802.1s (MSTP)		
	IEEE 802.1v VLAN classification by Protocol and Port IEEE 802.1w Rapid Reconfiguration of Spanning Tree	RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations (Ping only)	RFC 2578 Structure of Management Information Vers 2 (SMIv2)
	IEEE 802.1X PAE	RFC 2925 Remote Operations MIB (Ping only)	RFC 2579 Textual Conventions for SMIv2
	IEEE 802.3 Type 10BASE-T	RFC 3056 Connection of IPv6 Domains via IPv4 Clouds	RFC 2579 Textual Conventions for SMIv2 RFC 2580 Conformance Statements for SMIv2
	IEEE 802.3ab 1000BASE-T	RFC 3056 Connection of IPV6 Domains via IPV4 Clouds RFC 3162 RADIUS and IPv6	RFC 2819 Four groups of RMON: 1 (statistics), 2 (histo
	IEEE 802.3ad Link Aggregation Control Protocol (LACP)	RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses	3 (alarm) and 9 (events)
	IEEE 802.3af Power over Ethernet	RFC 3307 IPv6 Multicast Address Allocation	RFC 3410 Introduction to Version 3 of the
	IEEE 802.3i 10BASE-T	RFC 3315 DHCPv6 (client and relay)	Internet-standard Network Management Framework
	IEEE 802.3u 100BASE-X	RFC 3484 Default Address Selection for IPv6	RFC 3414 SNMPv3 User-based Security Model (USM)
	IEEE 802.3x Flow Control	RFC 3493 Basic Socket Interface Extensions for IPv6	RFC 3415 SNMPv3 View-based Access Control Model
	IEEE 802.3z 1000BASE-X	RFC 3513 IPv6 Addressing Architecture	VACM)
	RFC 768 UDP	RFC 3542 Advanced Sockets API for IPv6	ANSI/TIA-1057 LLDP Media Endpoint Discovery
	RFC 783 TFTP Protocol (revision 2)	RFC 3587 IPv6 Global Unicast Address Format	(LLDP-MED)
	RFC 791 IP	RFC 3596 DNS Extension for IPv6	SNMPv1/v2c/v3
	RFC 792 ICMP	RFC 3810 MLDv2 (host joins only)	51111 017020705
	RFC 793 TCP	RFC 4113 MIB for UDP	
	RFC 826 ARP	RFC 4443 ICMPv6	OSPF
	RFC 1058 RIPv1		RFC 1583 0SPFv2
	RFC 1213 Management Information Base for Network		RFC 1587 OSPF NSSA
	Management of TCP/IP-based internets	MIBs	RFC 1850 OSPFv2 Management Information Base (MI
	RFC 1812 IPv4 Routing	RFC 1213 MIB II	traps
	RFC 2131 DHCP	RFC 1493 Bridge MIB	RFC 2328 OSPFv2
	RFC 2236 IGMP Snooping	RFC 1724 RIPv2 MIB	
	RFC 2338 VRRP	RFC 1757 Remote Network Monitoring MIB	
	RFC 2453 RIPv2	RFC 1850 OSPFv2 MIB	
	RFC 2644 Directed Broadcast Control	RFC 1907 SNMPv2 MIB	
	RFC 2665 Definitions of Managed Objects for the	RFC 2233 Interfaces MIB	
	Ethernet-like Interface Types	RFC 2571 SNMP Framework MIB	
	RFC 3410 Applicability Statements for SNMP	RFC 2572 SNMP-MPD MIB	
	RFC 3414 User-based Security Model (USM) for version 3	RFC 2573 SNMP-Notification MIB	
	of the Simple Network Management Protocol (SNMPv3)	RFC 2573 SNMP-Target MIB	
	RFC 3415 View-based Access Control Model (VACM) for	RFC 2574 SNMP USM MIB	
	the Simple Network Management Protocol (SNMP)	RFC 2618 RADIUS Authentication Client MIB	
	RFC 3416 Protocol Operations for SNMP	RFC 2620 RADIUS Accounting Client MIB	
	RFC 3417 Transport Mappings for the Simple Network	RFC 2665 Ethernet-Like-MIB	
	Management Protocol (SNMP)	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB	
		RFC 2819 RMON MIB	
		RFC 3414 SNMP-User based-SM MIB	
	IP multicast	RFC 3415 SNMP-View based-ACM MIB	
	RFC 1112 IGMP		
	RFC 2236 IGMPv2		

HP 3600 El Switch Series accessories

Transceivers

HP X125 1G SFP LC LH40 1310nm Transceiver (JD061A) 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) HP X110 100M SFP LC LH40 Transceiver (JD090A) HP X110 100M SFP LC LH80 Transceiver (JD091A) HP X120 1G SFP LC BX 10-U Transceiver (JD098B) HP X120 1G SFP LC BX 10-D Transceiver (JD099B) HP X115 100M SFP LC BX 10-U Transceiver (JD100A) HP X115 100M SFP LC BX 10-D Transceiver (JD101A) HP X110 100M SFP LC FX Transceiver (JD102B) HP X120 1G SFP LC LH100 Transceiver (JD103A) HP X170 1G SFP LC LH70 1550 Transceiver (JD109A) HP X170 1G SFP LC LH70 1570 Transceiver (JD110A) HP X170 1G SFP LC LH70 1590 Transceiver (JD111A) HP X170 1G SFP LC LH70 1610 Transceiver (JD112A) HP X170 1G SFP LC LH70 1470 Transceiver (JD113A) HP X170 1G SFP LC LH70 1490 Transceiver (JD114A) HP X170 1G SFP LC LH70 1510 Transceiver (JD115A) HP X170 1G SFP LC LH70 1530 Transceiver (JD116A) HP X120 1G SFP LC SX Transceiver (JD118B) HP X120 1G SFP LC LX Transceiver (JD119B) HP X110 100M SFP LC LX Transceiver (JD120B)

Cables

HP 3600 Switch SFP Stacking Kit (JD324B) HP 0.5 m Multimode OM3 LC/LC Optical Cable (AJ833A) HP 1 m Multimode OM3 LC/LC Optical Cable (AJ834A) HP 2 m Multimode OM3 LC/LC Optical Cable (AJ835A) HP 5 m Multimode OM3 LC/LC Optical Cable (AJ836A) HP 15 m Multimode OM3 LC/LC Optical Cable (AJ837A) HP 30 m Multimode OM3 LC/LC Optical Cable (AJ838A) HP 50 m Multimode OM3 LC/LC Optical Cable (AJ839A) HP 0.5 m PremierFlex OM3+ LC/LC Optical Cable (BK837A) HP 1 m PremierFlex OM3+ LC/LC Optical Cable (BK838A) HP 2 m PremierFlex OM3+ LC/LC Optical Cable (BK839A) HP 5 m PremierFlex OM3+ LC/LC Optical Cable (BK840A) HP 15 m PremierFlex OM3+ LC/LC Optical Cable (BK841A) HP 30 m PremierFlex OM3+ LC/LC Optical Cable (BK842A) HP 50 m PremierFlex OM3+ LC/LC Optical Cable (BK843A)

Power Supply

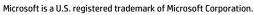
HP RPS 800 Redundant Power Supply (JD183A) HP RPS1600 Redundant Power System (JG136A) HP RPS1600 1600W AC Power Supply (JG137A)

Power cords

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

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