



HP A6600 Router Series

Data sheet

Product overview

As the first service convergence routers based on a multi-core processor, the HP A6600 series routers dramatically enhance service processing capacity with HP FlexNetwork architecture. Distributed processing architecture, isolated routing, and service engines, as well as isolated control and service panels, provide higher reliability and continual services. Different software service engines can handle different services such as network address translation (NAT), Quality of Service (QoS), IPSec, and NetStream with no services modules needed. A6600 routers feature a modular design, embedded hardware encryption, as well as flexible deployment configurations, including High-speed Interface Modules (HIMs), Multi-function Interface Modules (MIMs), and Open Application Architecture (OAA)-enabled modules that provide network customization and investment protection. These routers provide carrier-class reliability at network, device, link, and service layers.

Key features

- Multi-core CPU and distributed processing
- Carrier-class reliability and aggregation
- Open Application Architecture platform
- Embedded hardware encryption
- Fully redundant and hot-swappable hardware



Features and benefits

Quality of Service (QoS)

- **Traffic policing:** supports Committed Access Rate (CAR) and line rate
- **Congestion management:** supports FIFO, PQ, CQ, WFQ, CBQ, and RTPQ
- **Other QoS technologies:** support traffic shaping, FR QoS, MPLS QoS, and MP QoS/LFI
- **Congestion avoidance:** weighted Random Early Detection (WRED)/RED

Management

- **Management interface control:** provides management access through modem port, terminal interface, as well as in-band and out-of-band Ethernet ports
- **Management security:** includes multiple administration levels, with password protection and restricted access to critical configuration commands; access control lists (ACLs) provide telnet and SNMP access; local and remote syslog capability allows logging of all access
- **SNMP v1, v2, and v3:** provides complete support of SNMP as well as full support of industry-standard MIBs and private MIB extensions
- **Industry-standard CLI with a hierarchical structure:** reduces training needs and increases productivity in multivendor installations
- **Remote monitoring (RMON):** uses standard SNMP to monitor essential network functions; supports events, alarm, history, and statistics group plus a private alarm extension group
- **Debug and sampler utility:** supports ping and traceroute for both IPv4 and IPv6
- **Network Quality Analyzer (NQA):** analyzes network performance and service quality by sending test packets, and provides network performance and service quality parameters such as jitter, TCP, or FTP connection delays and file transfer rates; allows network manager to determine overall network performance and to diagnose and locate network congestion points or failures
- **Network Time Protocol (NTP):** synchronizes timekeeping among distributed time servers and clients; keeps consistent timekeeping among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time

- **Info center:** provides a central information center for system and network information; aggregates all logs, traps, and debugging information generated by the system and maintains them in order of severity; outputs the network information to multiple channels based on user-defined rules
- **FTP and TFTP support:** File Transfer Protocol allows bi-directional transfers over a TCP/IP network and is used for configuration updates; Trivial FTP is a simpler method using User Datagram Protocol (UDP)
- **Loopback:** supports internal loopback testing for maintenance purposes and high availability; loopback detection protects the system from incorrect cabling or network configurations and can be enabled on a port or VLAN
- **Internet Group Management Protocol (IGMP):** is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks

Connectivity

- **NEW High port density:** provides up to 16 interface module slots, and high-density Ethernet interface cards; a single card can provide up to 48 GbE interfaces; therefore, the routers can fully satisfy the demand of high-density Ethernet (MSTP) link distribution
- **Multiple WAN interfaces:** support Fast Ethernet/Gigabit Ethernet/10 GbE ports, OC3~OC48 POS/CPOS, and ATM ports
- **Flexible port selection:** provides a combination of fiber and copper interface modules, 100/1000Base-X auto-speed selection, and 10/100/1000Base-T auto-speed detection plus auto duplex and MDI/MDI-X; speed is adaptable between 155 M POS and 622 M POS

Performance

- **NEW Industry-leading performance:** provides up to 252 Mpps forwarding performance
- **Flexible chassis selection:** consists of 4 models: 16 HIM-slot chassis, 8 HIM-slot chassis, 4 HIM-slot chassis, and 2 HIM-slot chassis
- **Scalable system design:** backplane is designed for smooth bandwidth upgrade

Resiliency and high availability

- **Separate data and control planes:** provide greater flexibility and enable continual services
- **Hitless software upgrades:** allow patches to be installed without restarting the device, increasing network uptime and simplifying maintenance
- **Redundant design of main processing unit and power supply:** increases the overall system availability
- **Virtual Router Redundancy Protocol (VRRP):** enables fast convergence of routes and packet forwarding when links fail, ensuring high network availability
- **IP Fast Reroute Framework (FRR):** nodes are configured with backup ports and routes; local implementation requires no cooperation of adjacent devices, simplifying the deployment; solves the traditional convergence faults in IP forwarding; realizes restoration within 50 ms, with the restoration time independent of the number of routes and fast link switchovers without route convergence
- **Graceful restart:** features are fully supported, including graceful restart for OSPF, IS-IS, Border Gateway Protocol (BGP), LDP, and RSVP; network remains stable during the active-standby switchover; after the switchover, the device quickly learns the network routes by communicating with adjacent routers; forwarding remains uninterrupted during the switchover to realize nonstop forwarding (NSF)
- **Hot-swappable modules:** help ensure the replacement of hardware interface modules without impacting the traffic flow through the system

Layer 3 services

- **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
- **User Datagram Protocol (UDP) helper:** redirects UDP broadcasts to specific IP subnets to prevent server spoofing
- **Dynamic Host Configuration Protocol (DHCP):** simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- **Domain Name System (DNS):** is a distributed database that provides translation between a domain name and an IP address, which simplifies network design; supports client and server

Layer 3 routing

- **Static IPv4 routing:** provides simple, manually configured IPv4 routing
- **Routing Information Protocol:** uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection
- **OSPF:** Interior Gateway Protocol (IGP) using link-state protocol for faster convergence; supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery
- **Intermediate system to intermediate system (IS-IS):** Interior Gateway Protocol (IGP) using path-vector protocol, which is defined by the ISO organization for IS-IS routing and extended by IETF RFC 1195 to operate in both TCP/IP and the OSI reference model (Integrated IS-IS)
- **Static IPv6 routing:** provides simple, manually configured IPv6 routing
- **Dual IP stack:** maintains separate stacks for IPv4 and IPv6 to ease transition from an IPv4-only network to an IPv6-only network design
- **Routing Information Protocol next generation (RIPng):** extends RIPv2 to support IPv6 addressing
- **OSPFv3:** extends OSPFv2 to support IPv6 addressing
- **BGP+:** extends BGP-4 to support Multiprotocol BGP (MBGP), including support for IPv6 addressing
- **IS-IS for IPv6:** extends IS-IS to support IPv6 addressing
- **IPv6 tunneling:** is an important element for the transition from IPv4 to IPv6; allows IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet; supports manually configured, 6to4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels
- **Multiprotocol Label Switching (MPLS):** uses BGP to advertise routes across Label Switched Paths (LSPs), but uses simple labels to forward packets from any Layer 2 or Layer 3 protocol, thus reducing complexity and increasing performance; supports graceful restart for reduced failure impact; supports LSP tunneling and multilevel stacks
- **Multiprotocol Label Switching (MPLS) Layer 3 VPN:** allows Layer 3 VPNs across a provider network; uses MP-BGP to establish private routes for increased security; supports RFC 2547bis multiple autonomous system VPNs for added flexibility

- **Multiprotocol Label Switching (MPLS) Layer 2 VPN:** establishes simple Layer 2 point-to-point VPNs across a provider network using only MPLS LDPs; requires no routing and therefore decreases complexity, increases performance, and allows VPNs of non-routable protocols; uses no routing information for increased security; supports Circuit Cross Connect (CCC), Static Virtual Circuits (SVCs), Martini draft, and Kompella-draft technologies
- **Policy routing:** allows custom filters for increased performance and security; supports ACLs, IP prefix, AS paths, community lists, and aggregate policies
- **Multicast VPN:** supports Multicast Domain (MD) multicast VPN, which can be distributed on separate service cards, providing high performance and flexible configuration
- **Border Gateway Protocol 4:** Exterior Gateway Protocol (EGP) with path vector protocol uses TCP for enhanced reliability for the route discovery process, reduces bandwidth consumption by advertising only incremental updates, and supports extensive policies to increase flexibility and scale to large networks
- **OSPFv3 MCE:** Multi-VPN-Instance CE (MCE) binds different VPNs to different interfaces on one single CE; the OSPFv3 MCE feature creates and maintains separate OSPFv3 routing tables for each IPv6 VPN to isolate VPN services in the device
- **Secure Shell (SSHv2):** uses external servers to securely log in to a remote device; with authentication and encryption, it protects against IP spoofing and plain-text password interception; increases the security of Secure FTP (SFTP) transfers
- **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 URPF
- **DVPN (Dynamic Virtual Private Network):** collects, maintains, and distributes dynamic public addresses through the VPN Address Management (VAM) protocol, making VPN establishment available between enterprise branches that use dynamic addresses to access the public network; compared to traditional VPN technologies, DVPN technology is more flexible and has richer features, such as NAT traversal of DVPN packets, AAA identity authentication, IPSec protection of data packets, and multiple VPN domains

Multicast support

- **Internet Group Management Protocol (IGMP):** is used by IP hosts to establish and maintain multicast groups; supports v1, v2, and v3; utilizes Any-Source Multicast (ASM) or Source-Specific Multicast (SSM) to manage IPv4 multicast networks
- **Protocol Independent Multicast (PIM):** is used for IPv4 and IPv6 multicast applications; supports PIM Dense Mode (PIM-DM), Sparse Mode (PIM-SM), and Source-Specific Mode (PIM-SSM)
- **Multicast Source Discovery Protocol (MSDP):** is used for interdomain multicast applications, allowing multiple PIM-SM domains to interoperate
- **Multicast Border Gateway Protocol (MBGP):** allows multicast traffic to be forwarded across BGP networks, separate from unicast traffic

Integration

- **Embedded VPN firewall:** provides enhanced stateful packet inspection and filtering; provides advanced VPN services with 3DES and AES encryption at high performance and low latency
- **Open Application Architecture (OOA):** provides both software and hardware platform based on open standards so that third-party applications can be integrated seamlessly into routers

Security

- **Access control list:** supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent illegal users from accessing the network or for controlling network traffic flow; rules can either deny or permit traffic to be forwarded; rules can be based on a Layer 2 header or a Layer 3 protocol header; rules can also be set to operate on specific dates or times
- **RADIUS:** eases switch security access administration by using a password authentication server
- **TACACS+:** is an authentication tool using TCP with encryption of the full authentication request that provides additional security
- **Network address translation (NAT):** supports repeated multiplexing of a port and automatic 5-tuple collision detection, enabling NAT to support unlimited connections; supports blacklist in NAT/NAPT/internal server, a limit on the number of connections, session log, and multi-instance

Additional information

- **Green initiative support:** provides support for RoHS and WEEE regulations

Product architecture

- **Multi-core CPU:** the first service convergence router based on multi-core, multi-thread processing, with eight cores and 32 hardware threads
- **Distributed processing:** the main processing engine and service engine have separate hardware for high performance and parallel processing; the main processing engine is used for route calculation and system management, while the service engine is used for service processing
- **Separate FIP card and interface card:** interface cards are separated from the FIP card to support flexible service configurations

Warranty and support

- **1-year warranty:** with advance replacement and 30-calendar-day delivery (available in most countries)
- **Electronic and telephone support:** limited electronic and telephone support is available from HP; refer to www.hp.com/networking/warranty for details on the support provided and the period during which support is available
- **Software releases:** refer to www.hp.com/networking/warranty for details on the software releases provided and the period during which software releases are available for your product(s)

HP A6600 Router Series

Specifications



HP A6602 Router (JC176A)



HP A6604 Router Chassis (JC178B)

Ports	2 HIM slots	4 HIM slots 2 MPU (for management modules) slots
Physical characteristics		
Dimensions	18.11(d) x 17.40(w) x 1.73(h) in. (46 x 44.2 x 4.4 cm) (1U height)	18.9(d) x 17.17(w) x 8.66(h) in. (48.01 x 43.61 x 22 cm) (5U height)
Full configuration weight	16.53 lb. (7.5 kg)	83.77 lb. (38 kg)
Memory and processor	Multi-core MIPS @ 1000 MHz, 2 GB DDR2 SDRAM, 4 GB DDR2 SDRAM, 256 MB flash, 1 GB flash; packet buffer size: 128 MB DDR2 SDRAM	
Mounting	EIA standard 19 in. rack	EIA standard 19 in. rack
Performance		
Throughput	4.5 million pps	up to 36 million pps
Routing table size	1000000 entries	2000000 entries
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 95%, noncondensing	10% to 95%, noncondensing
Electrical characteristics		
Maximum heat dissipation	512 BTU/hr (540.16 kJ/hr)	2217 BTU/hr (2338.94 kJ/hr)
Voltage	100-120/200-240 VAC	100-120/200-240 VAC
Maximum power rating	150 W	650 W
Frequency	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.
Safety	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2-60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products
Emissions	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11
Management	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB

Specifications (continued)

	HP A6602 Router (JC176A)	HP A6604 Router Chassis (JC178B)
Services	<p>3-year, parts only, global next-day advance exchange (HP826E) 3-year, 4-hour onsite, 13x5 coverage for hardware (HP830E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HP817E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (HP820E) 3-year, 24x7 SW phone support, software updates (HP823E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR524E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware (HR525E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR526E) 4-year, 4-hour onsite, 13x5 coverage for hardware (HP831E) 4-year, 4-hour onsite, 24x7 coverage for hardware (HP818E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP821E) 4-year, 24x7 SW phone support, software updates (HP824E) 5-year, 4-hour onsite, 13x5 coverage for hardware (HP832E) 5-year, 4-hour onsite, 24x7 coverage for hardware (HP819E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (HP822E) 5-year, 24x7 SW phone support, software updates (HP825E) 3 Yr 6 hr Call-to-Repair Onsite (HP827E) 4 Yr 6 hr Call-to-Repair Onsite (HP828E) 5 Yr 6 hr Call-to-Repair Onsite (HP829E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR528E) 1-year, 24x7 software phone support, software updates (HR527E)</p> <p>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.</p>	<p>3-year, parts only, global next-day advance exchange (UW054E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HR530E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV943E) 3-year, 24x7 SW phone support, software updates (UV955E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E) 4-year, 24x7 SW phone support, software updates (UV956E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E) 5-year, 24x7 SW phone support, software updates (UV957E) 3 Yr 6 hr Call-to-Repair Onsite (UW055E) 4 Yr 6 hr Call-to-Repair Onsite (UW056E) 5 Yr 6 hr Call-to-Repair Onsite (UW057E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E) 1-year, 24x7 software phone support, software updates (HR532E)</p> <p>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.</p>

Specifications (continued)

HP A6602 Router (JC176A)

Standards and protocols (applies to all products in series)

BGP

RFC 1267 Border Gateway Protocol 3 (BGP-3)
 RFC 1657 Definitions of Managed Objects for BGPv4
 RFC 1771 BGPv4
 RFC 1772 Application of the BGP
 RFC 1773 Experience with the BGP-4 Protocol
 RFC 1774 BGP-4 Protocol Analysis
 RFC 1965 BGP4 confederations
 RFC 1997 BGP Communities Attribute
 RFC 1998 PPP Gandalf FZA Compression Protocol
 RFC 2385 BGP Session Protection via TCP MD5
 RFC 2439 BGP Route Flap Damping
 RFC 2796 BGP Route Reflection
 RFC 2842 Capability Advertisement with BGP-4
 RFC 2858 BGP-4 Multi-Protocol Extensions
 RFC 2918 Route Refresh Capability

Denial of service protection

CPU DoS Protection
 Rate Limiting by ACLs

Device management

RFC 1155 Structure and Mgmt Information (SMIv1)
 RFC 1157 SNMPv1/v2c
 RFC 1305 NTPv3
 RFC 1901 (Community based SNMPv2)
 RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II
 RFC 1902 (SNMPv2)
 RFC 1908 (SNMP v1/2 Coexistence)
 RFC 1945 Hypertext Transfer Protocol - HTTP/1.0
 RFC 2068 Hypertext Transfer Protocol - HTTP/1.1
 RFC 2271 FrameWork
 RFC 2452 MIB for TCPv6
 RFC 2454 MIB for UDPv6
 RFC 2573 (SNMPv3 Applications)
 RFC 2576 (Coexistence between SNMP V1, V2, V3)
 RFC 2578-2580 SMIv2
 RFC 2579 (SMIv2 Text Conventions)
 RFC 2580 (SMIv2 Conformance)
 RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
 RFC 2819 RMON
 RFC 3410 (Management Framework)
 RFC 3416 (SNMP Protocol Operations v2)
 RFC 3417 (SNMP Transport Mappings)
 Multiple Configuration Files
 Multiple Software Images
 SNMP v3 and RMON RFC support
 SSH1/SSHv2 Secure Shell
 TACACS/TACACS+

General protocols

IEEE 802.1ad Q-in-Q
 IEEE 802.1ad Q-in-Q
 IEEE 802.1ag Service Layer OAM
 IEEE 802.1ah Provider Backbone Bridges
 IEEE 802.1AX-2008 Link Aggregation
 IEEE 802.1D MAC Bridges
 IEEE 802.1p Priority
 IEEE 802.1Q (GVRP)
 IEEE 802.1Q VLANs
 IEEE 802.1s (MSTP)
 IEEE 802.1s Multiple Spanning Trees
 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 (LAG)
 IEEE 802.3ad Link Aggregation Control Protocol (LACP)

HP A6604 Router Chassis (JC178B)

IEEE 802.3ae 10-Gigabit Ethernet
 IEEE 802.3ag Ethernet OAM
 IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF
 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 854 TELNET
 RFC 855 Telnet Option Specification
 RFC 856 TELNET
 RFC 857 Telnet Echo Option
 RFC 858 Telnet Suppress Go Ahead Option
 RFC 894 IP over Ethernet
 RFC 896 Congestion Control in IP/TCP Internetworks
 RFC 906 TFTP Bootstrap
 RFC 925 Multi-LAN Address Resolution
 RFC 950 Internet Standard Subnetting Procedure
 RFC 951 BOOTP
 RFC 959 File Transfer Protocol (FTP)
 RFC 1006 ISO transport services on top of the TCP: Version 3
 RFC 1027 Proxy ARP
 RFC 1034 Domain Concepts and Facilities
 RFC 1035 Domain Implementation and Specification
 RFC 1042 IP Datagrams
 RFC 1058 RIPv1
 RFC 1071 Computing the Internet Checksum
 RFC 1091 Telnet Terminal-Type Option
 RFC 1093 NSFNET routing architecture
 RFC 1122 Host Requirements
 RFC 1141 Incremental updating of the Internet checksum
 RFC 1142 OSI ISIS Intra-domain Routing Protocol
 RFC 1144 Compressing TCP/IP headers for low-speed serial links
 RFC 1171 Point-to-Point Protocol for the transmission of multi-protocol datagrams over Point-to-Point links
 RFC 1195 OSI ISIS for IP and Dual Environments
 RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
 RFC 1253 (OSPF v2)
 RFC 1256 ICMP Router Discovery Protocol (IRDP)
 RFC 1293 Inverse Address Resolution Protocol
 RFC 1305 NTPv3
 RFC 1315 Management Information Base for Frame Relay DTEs
 RFC 1321 The MD5 Message-Digest Algorithm
 RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)
 RFC 1333 PPP Link Quality Monitoring
 RFC 1334 PPP Authentication Protocols (PAP)
 RFC 1334 PPP Authentication Protocols (PAP)
 RFC 1349 Type of Service
 RFC 1350 TFTP Protocol (revision 2)
 RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)
 RFC 1381 SNMP MIB Extension for X.25 LAPB
 RFC 1389 RIPv2 MIB Extension
 RFC 1471 The Definitions of Managed Objects for the Link Control Protocol of the Point-to-Point Protocol
 RFC 1472 The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol
 RFC 1490 Multiprotocol Interconnect over Frame Relay
 RFC 1519 CIDR
 RFC 1531 Dynamic Host Configuration Protocol
 RFC 1533 DHCP Options and BOOTP Vendor

Extensions
 RFC 1534 DHCP/BOOTP Interoperation
 RFC 1541 DHCP
 RFC 1542 BOOTP Extensions
 RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
 RFC 1552 The PPP Internetworking Packet Exchange Control Protocol (IPXCP)
 RFC 1577 Classical IP and ARP over ATM
 RFC 1631 NAT
 RFC 1638 PPP Bridging Control Protocol (BCP)
 RFC 1661 The Point-to-Point Protocol (PPP)
 RFC 1662 PPP in HDLC-like Framing
 RFC 1695 Definitions of Managed Objects for ATM Management Version 8.0 using SMIv2
 RFC 1700 Assigned Numbers
 RFC 1701 Generic Routing Encapsulation
 RFC 1702 Generic Routing Encapsulation over IPv4 networks
 RFC 1721 RIP-2 Analysis
 RFC 1722 RIP-2 Applicability
 RFC 1723 RIP v2
 RFC 1812 IPv4 Routing
 RFC 1829 The ESP DES-CBC Transform
 RFC 1877 PPP Internet Protocol Control Protocol Extensions for Name Server Addresses
 RFC 1944 Benchmarking Methodology for Network Interconnect Devices
 RFC 1945 Hypertext Transfer Protocol - HTTP/1.0
 RFC 1973 PPP in Frame Relay
 RFC 1974 PPP Stac LZS Compression Protocol
 RFC 1981 Path MTU Discovery for IP version 6
 RFC 1990 The PPP Multilink Protocol (MP)
 RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
 RFC 2082 RIP-2 MD5 Authentication
 RFC 2091 Trigger RIP
 RFC 2104 HMAC: Keyed-Hashing for Message Authentication
 RFC 2131 DHCP
 RFC 2132 DHCP Options and BOOTP Vendor Extensions
 RFC 2138 Remote Authentication Dial In User Service (RADIUS)
 RFC 2205 Resource ReSerVation Protocol (RSVP) - Version 1 Functional Specification
 RFC 2209 Resource ReSerVation Protocol (RSVP) - Version 1 Message Processing Rules
 RFC 2236 IGMP Snooping
 RFC 2246 The TLS Protocol Version 1.0
 RFC 2251 Lightweight Directory Access Protocol (v3)
 RFC 2252 Lightweight Directory Access Protocol (v3): Attribute Syntax Definitions
 RFC 2280 Routing Policy Specification Language (RPSL)
 RFC 2283 MBGP
 RFC 2284 EAP over LAN
 RFC 2338 VRRP
 RFC 2338 VRRP (Premium Edge License)
 RFC 2364 PPP Over AAL5
 RFC 2374 An Aggregatable Global Unicast Address Format
 RFC 2451 The ESP CBC-Mode Cipher Algorithms
 RFC 2453 RIPv2
 RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols
 RFC 2511 Internet X.509 Certificate Request Message Format
 RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)
 RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
 RFC 2616 HTTP Compatibility v1.1
 RFC 2622 Routing Policy Specification Language (RPSL)

Specifications (continued)

HP A6602 Router (JC176A)

Standards and protocols (applies to all products in series)

RFC 2663 NAT Terminology and Considerations
 RFC 2684 Multiprotocol Encapsulation over ATM Adaptation Layer 5
 RFC 2694 DNS extensions to Network Address Translators (DNS_ALG)
 RFC 2702 Requirements for Traffic Engineering Over MPLS
 RFC 2716 PPP EAP TLS Authentication Protocol
 RFC 2747 RSVP Cryptographic Authentication
 RFC 2763 Dynamic Name-to-System ID mapping support
 RFC 2765 Stateless IP/ICMP Translation Algorithm (SIIT)
 RFC 2766 Network Address Translation - Protocol Translation (NAT-PT)
 RFC 2767 Dual Stacks IPv4 & IPv6
 RFC 2784 Generic Routing Encapsulation (GRE)
 RFC 2787 Definitions of Managed Objects for VRRP
 RFC 2865 Remote Authentication Dial In User Service (RADIUS)
 RFC 2866 RADIUS Accounting
 RFC 2868 RADIUS Attributes for Tunnel Protocol Support
 RFC 2869 RADIUS Extensions
 RFC 2961 RSVP Refresh Overhead Reduction Extensions
 RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
 RFC 2973 IS-IS Mesh Groups
 RFC 2993 Architectural Implications of NAT
 RFC 3022 Traditional IP Network Address Translator (Traditional NAT)
 RFC 3027 Protocol Complications with the IP Network Address Translator
 RFC 3031 Multiprotocol Label Switching Architecture
 RFC 3032 MPLS Label Stack Encoding
 RFC 3036 LDP Specification
 RFC 3046 DHCP Relay Agent Information Option
 RFC 3063 MPLS Loop Prevention Mechanism
 RFC 3065 Support AS confederation
 RFC 3137 OSPF Stub Router Advertisement
 RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels
 RFC 3210 Applicability Statement for Extensions to RSVP for LSP-Tunnels
 RFC 3212 Constraint-Based LSP setup using LDP (CR-LDP)
 RFC 3214 LSP Modification Using CR-LDP
 RFC 3215 LDP State Machine
 RFC 3246 Expedited Forwarding PHB
 RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)
 RFC 3277 IS-IS Transient Blackhole Avoidance
 RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
 RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
 RFC 3392 Support BGP capabilities advertisement
 RFC 3410 Applicability Statements for SNMP
 RFC 3416 Protocol Operations for SNMP
 RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)
 RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)
 RFC 3487 Graceful Restart Mechanism for LDP
 RFC 3509 OSPF ABR Behavior
 RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)
 RFC 3564 Requirements for Support of Differentiated Services-aware MPLS Traffic Engineering
 RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication

HP A6604 Router Chassis (JC178B)

RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPsec
 RFC 3619 Ethernet Automatic Protection Switching (EAPS)
 RFC 3623 Graceful OSPF Restart
 RFC 3704 Unicast Reverse Path Forwarding (URPF)
 RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers
 RFC 3768 VRRP
 RFC 3768 VRRP
 RFC 3768 VRRP (Premium Edge License)
 RFC 3784 ISIS TE support
 RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
 RFC 3811 Definitions of Textual Conventions (TCs) for Multiprotocol Label Switching (MPLS) Management
 RFC 3812 Multiprotocol Label Switching (MPLS) Traffic Engineering (TE) Management Information Base (MIB)
 RFC 3847 Restart signaling for IS-IS
 RFC 4213 Basic IPv6 Transition Mechanisms IP Ping

IP multicast

RFC 1112 IGMP
 RFC 2236 IGMPv2
 RFC 2283 Multiprotocol Extensions for BGP-4
 RFC 2362 PIM Sparse Mode
 RFC 2362 PIM Sparse Mode (Premium Edge License)
 RFC 2362 PIM Sparse Mode
 RFC 2934 Protocol Independent Multicast MIB for IPv4
 RFC 3376 IGMPv3
 RFC 3376 IGMPv3 (host joins only)
 RFC 3569 An Overview of Source-Specific Multicast (SSM)
 RFC 3618 Multicast Source Discovery Protocol (MSDP)
 RFC 3973 Draft 2 PIM Dense Mode
 RFC 3973 Draft 2 PIM Dense Mode
 RFC 3973 PIM Dense Mode
 RFC 3973 PIM Dense Mode (Premium Edge License)
 RFC 3973 PIM Dense Mode
 RFC 4601 Draft 10 PIM Sparse Mode
 RFC 4601 Draft 10 PIM Sparse Mode
 RFC 4605 IGMP/MLD Proxying

IPv6

RFC 1350 TFTP
 RFC 1881 IPv6 Address Allocation Management
 RFC 1886 DNS Extension for IPv6
 RFC 1887 IPv6 Unicast Address Allocation Architecture
 RFC 1981 IPv6 Path MTU Discovery
 RFC 2080 RIPng for IPv6
 RFC 2292 Advanced Sockets API 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 2472 IP Version 6 over PPP
 RFC 2473 Generic Packet Tunneling in IPv6
 RFC 2475 IPv6 DiffServ Architecture
 RFC 2529 Transmission of IPv6 Packets over IPv4
 RFC 2545 Use of MP-BGP-4 for IPv6
 RFC 2553 Basic Socket Interface Extensions for IPv6
 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 2925 Remote Operations MIB (Ping only)
 RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
 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 3315 DHCPv6 (client only)
 RFC 3363 DNS support
 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 (host joins only)
 RFC 3810 MLDv2 for IPv6
 RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
 RFC 4022 MIB for TCP
 RFC 4113 MIB for UDP
 RFC 4251 SSHv6 Architecture
 RFC 4252 SSHv6 Authentication
 RFC 4252 SSHv6 Transport Layer
 RFC 4253 SSHv6 Transport Layer
 RFC 4254 SSHv6 Connection
 RFC 4291 IP Version 6 Addressing Architecture
 RFC 4293 MIB for IP
 RFC 4419 Key Exchange for SSH
 RFC 4443 ICMPv6
 RFC 4541 IGMP & MLD Snooping Switch
 RFC 4861 IPv6 Neighbor Discovery
 RFC 4862 IPv6 Stateless Address Auto-configuration
 RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
 RFC 5340 OSPF for IPv6
 RFC 5340 OSPFv3 for IPv6
 RFC 5722 Handling of Overlapping IPv6 Fragments

MIBs

IEEE 8021-PAE-MIB
 IEEE 8023-LAG-MIB
 RFC 1156 (TCP/IP MIB)
 RFC 1212 Concise MIB Definitions
 RFC 1213 MIB II
 RFC 1229 Interface MIB Extensions
 RFC 1286 Bridge MIB
 RFC 1493 Bridge MIB
 RFC 1573 SNMP MIB II
 RFC 1643 Ethernet MIB
 RFC 1650 Ethernet-Like MIB
 RFC 1657 BGP-4 MIB
 RFC 1724 RIPv2 MIB
 RFC 1757 Remote Network Monitoring MIB
 RFC 1850 OSPFv2 MIB
 RFC 1907 SNMPv2 MIB
 RFC 2011 SNMPv2 MIB for IP
 RFC 2012 SNMPv2 MIB for TCP
 RFC 2013 SNMPv2 MIB for UDP
 RFC 2021 RMONv2 MIB
 RFC 2096 IP Forwarding Table MIB
 RFC 2233 Interface MIB
 RFC 2233 Interfaces MIB
 RFC 2273 SNMP-NOTIFICATION-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

Specifications (continued)

HP A6602 Router (JC176A)

Standards and protocols (applies to all products in series)

RFC 2574 SNMP USM MIB
 RFC 2618 RADIUS Client MIB
 RFC 2620 RADIUS Accounting MIB
 RFC 2665 Ethernet-Like-MIB
 RFC 2668 802.3 MAU MIB
 RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
 RFC 2688 MAU-MIB
 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 2932IP (Multicast Routing MIB)
 RFC 2933 IGMP MIB
 RFC 3273 HC-RMON MIB
 RFC 3414 SNMP-User based-SM MIB
 RFC 3415 SNMP-View based-ACM MIB
 RFC 3418 MIB for SNMPv3
 RFC 3621 Power Ethernet MIB
 RFC 3813 MPLS LSR MIB
 RFC 3814 MPLS FTN MIB
 RFC 3815 MPLS LDP MIB
 RFC 3826 AES for SNMP's USM MIB
 RFC 4113 UDP MIB
 RFC 4133 Entity MIB (Version 3)
 RFC 4221 MPLS FTN MIB
 LLDP-EXT-DOT1-MIB
 LLDP-EXT-DOT3-MIB
 LLDP-MIB

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
 IEEE 802.1D (STP)
 RFC 1098 A Simple Network Management Protocol (SNMP)
 RFC 1155 Structure of Management Information
 RFC 1157 SNMPv1
 RFC 1215 SNMP Generic traps
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
 RFC 1901 SNMPv2 Introduction
 RFC 1902 SNMPv2 Structure
 RFC 1903 SNMPv2 Textual Conventions
 RFC 1904 SNMPv2 Conformance
 RFC 1905 SNMPv2 Protocol Operations
 RFC 1906 SNMPv2 Transport Mappings
 RFC 1918 Private Internet Address Allocation
 RFC 2272 SNMPv3 Management Protocol
 RFC 2273 SNMPv3 Applications
 RFC 2274 USM for SNMPv3
 RFC 2275 VACM for SNMPv3
 RFC 2570 SNMPv3 Overview
 RFC 2571 SNMP Management Frameworks
 RFC 2572 SNMPv3 Message Processing
 RFC 2573 SNMPv3 Applications
 RFC 2574 SNMPv3 User-based Security Model (USM)
 RFC 2575 SNMPv3 View-based Access Control Model (VACM)
 RFC 2575 VACM for SNMP
 RFC 2576 Coexistence between SNMP versions
 RFC 2578 SMIv2
 RFC 2581 TCP6
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
 RFC 3164 BSD syslog Protocol
 RFC 3176 sFlow
 RFC 3411 SNMP Management Frameworks
 RFC 3412 SNMPv3 Message Processing

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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/v2
 SNMPv1/v2c
 SNMPv1/v2c (read only)
 SNMPv1/v2c/v3

OSPF

RFC 1245 OSPF protocol analysis
 RFC 1246 Experience with OSPF
 RFC 1253 OSPFv2 MIB
 RFC 1583 OSPFv2
 RFC 1587 OSPF NSSA
 RFC 1745 OSPF Interactions
 RFC 1765 OSPF Database Overflow
 RFC 1850 OSPFv2 Management Information Base (MIB), traps
 RFC 2178 OSPFv2
 RFC 2328 OSPFv2
 RFC 2328 OSPFv2
 RFC 2328 OSPFv2 (Premium Edge License)
 RFC 2370 OSPF Opaque LSA Option
 RFC 3101 OSPF NSSA
 RFC 3623 Graceful OSPF Restart
 RFC 5340 OSPF for IPv6
 RFC 5340 OSPFv3 for IPv6

QoS/CoS

IEEE 802.1P (CoS)
 RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2474 DiffServ precedence, with 4 queues per port
 RFC 2474 DS Field in the IPv4 and IPv6 Headers
 RFC 2474 DSCP DiffServ
 RFC 2474, with 4 queues per port
 RFC 2475 DiffServ Architecture
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2597 DiffServ Assured Forwarding (AF)- partial support
 RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting

Security

IEEE 802.1X Port Based Network Access Control
 RFC 1321 The MD5 Message-Digest Algorithm
 RFC 1492 TACACS+
 RFC 2082 RIP-2 MD5 Authentication
 RFC 2104 Keyed-Hashing for Message Authentication
 RFC 2138 RADIUS Authentication
 RFC 2139 RADIUS Accounting
 RFC 2209 RSVP-Message Processing
 RFC 2246 Transport Layer Security (TLS)
 RFC 2459 Internet X.509 Public Key Infrastructure Certificate and CRL Profile
 RFC 2548 Microsoft Vendor-specific RADIUS Attributes
 RFC 2716 PPP EAP TLS Authentication Protocol
 RFC 2818 HTTP Over TLS
 RFC 2865 RADIUS (client only)
 RFC 2865 RADIUS Authentication

RFC 2866 RADIUS Accounting
 RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
 RFC 2868 RADIUS Attributes for Tunnel Protocol Support
 RFC 2869 RADIUS Extensions
 RFC 3567 Intermediate System (IS) to IS Cryptographic Authentication
 RFC 3576 Dynamic Authorization Extensions to RADIUS
 RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
 RFC 3580 IEEE 802.1X RADIUS Access Control Lists (ACLs)
 Guest VLAN for 802.1x
 MAC Authentication
 Port Security
 Secure Sockets Layer (SSL)
 SSHv1 Secure Shell
 SSHv1.5 Secure Shell
 SSHv1/SSHv2 Secure Shell
 SSHv2 Secure Shell

VPN

RFC 2403 - HMAC-MD5-96
 RFC 2404 - HMAC-SHA1-96
 RFC 2405 - DES-CBC Cipher algorithm
 RFC 2407 - Domain of interpretation
 RFC 2547 BGP/MPLS VPNs
 RFC 2764 A Framework for IP Based Virtual Private Networks
 RFC 2796 BGP Route Reflection - An Alternative to Full Mesh IGBP
 RFC 2842 Capabilities Advertisement with BGP-4
 RFC 2858 Multiprotocol Extensions for BGP-4
 RFC 2917 A Core MPLS IP VPN Architecture
 RFC 2918 Route Refresh Capability for BGP-4
 RFC 3107 Carrying Label Information in BGP-4
 RFC 4301 - Security Architecture for the Internet Protocol
 RFC 4302 - IP Authentication Header (AH)
 RFC 4303 - IP Encapsulating Security Payload (ESP)
 RFC 4305 - Cryptographic Algorithm Implementation Requirements for ESP and AH

IPsec

RFC 1828 IP Authentication using Keyed MD5
 RFC 2401 IP Security Architecture
 RFC 2402 IP Authentication Header
 RFC 2406 IP Encapsulating Security Payload
 RFC 2407 - Domain of interpretation
 RFC 2408 - Internet Security Association and Key Management Protocol (ISAKMP)
 RFC 2409 - The Internet Key Exchange
 RFC 2410 - The NULL Encryption Algorithm and its use with IPsec
 RFC 2411 IP Security Document Roadmap
 RFC 2412 - OAKLEY
 RFC 2865 - Remote Authentication Dial In User Service (RADIUS)

IPv4

RFC 2865 - Remote Authentication Dial In User Service (RADIUS)
 RFC 3748 - Extensible Authentication Protocol (EAP)

HP A6600 Router Series

Specifications (continued)



HP A6616 Router Chassis (JC496A)



HP A6608 Router Chassis (JC177B)

Ports	16 HIM slots 2 MPU (for management modules) slots	8 HIM slots 2 MPU (for management modules) slots
Physical characteristics		
Dimensions	18.74(d) x 17.17(w) x 34.88(h) in. (47.6 x 43.61 x 88.6 cm) (20U height)	18.74(d) x 17.17(w) x 12.13(h) in. (47.6 x 43.61 x 30.81 cm) (7U height)
Full configuration weight	220.46 lb. (100 kg)	110.23 lb. (50 kg)
Mounting	EIA standard 19 in. rack	EIA standard 19 in. rack
Performance		
Throughput	up to 252 million pps	up to 108 million pps
Routing table size	2000000 entries	2000000 entries
Environment		
Operating temperature	32°F to 113°F (0°C to 45°C)	32°F to 113°F (0°C to 45°C)
Operating relative humidity	10% to 95%, noncondensing	10% to 95%, noncondensing
Electrical characteristics		
Maximum heat dissipation	6650 BTU/hr (7015.75 kJ/hr)	2217 BTU/hr (2338.94 kJ/hr)
Voltage	100-120/200-240 VAC	100-120/200-240 VAC
Maximum power rating	1950 W	650 W
Frequency	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.
Safety	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2:60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products	CSA 22.2 No. 60950; cUL (CSA 22.2 No. 60950); CSA 22.2 No. 60950 3rd edition; CSA 22.2 No. 950; CSA 950; cUL (CSA 950); EN 60950/IEC 60950; UL 1950 3rd edition; UL 1950; UL 60950; UL 60950-1; CAN/CSA 22.2 No. 60950; CAN/CSA 22.2 No. 60950-1; EN 60825; AS/NZS 60950; KN 60950; GOST R MEK60950; EN 60825-1 Safety of Laser Products-Part 1; EN 60825-2 Safety of Laser Products-Part 2; EN 609500 Safety Information Technology Equipment; UL 60950; CSA 22.2 No. 60950/cUL; IEC 60950; IEC 60950-1; EN 60950; EN 60950-1; IEC 60825; CSA 22.2 No. 950-95; IEC 60950-1:2001 (with CB Report); CAN/CSA-C22.2 No. 60950-1-03; CAN/CSA-C22.2 No. 60950-1; CSA 60950-1; CSA C22.2 60950-1; EU RoHS Compliant; EN 60950-1/A11; CSA 22.2 60950-1; EN 60950: 2000, ZB and ZC Deviations; IEC 60950: 1999, Corr Feb 2000, all national deviations; As/NZS 60950:2000, Australia; UL 60950-1:2003; UL 60950-1:2001; CSA 22.2 60950-1:2003; IEC 60950-1:2001; EN 60950-1:2001; CSA 22.2:60950; AS/NZS 60950: 2000 Australia, Russian GOST Safety Approval; CSA 22.2 No. 950 3rd Edition 1995; UL 60950 3rd Edition; CAN/CSA 22.2 No. 60950-00/UL 60950 3rd Edition, Safety Information for Technology Equipment; EN 60950/IEC 60950 3rd Edition; UL 60950 Standard for the Safety of Information Technology Equipment; EN 60825: Safety of Laser Products
Emissions	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11	FCC part 15 Class A; FCC Rules Part 15, Subpart B Class A; EN 55022/CISPR-22 Class A; VCCI Class A; EN 55022/CISPR 22 Class A; EN 55022 Class A; CISPR 22 Class A; EN 55024; CISPR 22/A2; IEC/EN 61000-3-2; IEC/EN 61000-3-3; EN 55024/A1; IEC 61000-4-2, 4-3, 4-4, 4-5, 4-6, 4-8, 4-11; BSMI CNS 13438; EMC Directive 89/336/EEC; ICES-003 Class A; ANSI C63.4 2003; CISPR 24; ETSI EN 300 386 V1.3.3; AS/NZS CISPR22 Class A; EN 61000-3-2; EN 61000-3-3; Korean EMI Class A; CNS 13438 Class A; EN 55024:1998; EN 61000-4-2; EN 61000-4-3; EN 61000-4-4; EN 61000-4-5; EN 61000-4-6; EN 61000-4-11
Management	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB	IMC - Intelligent Management Center; command-line interface; limited command-line interface; out-of-band management (serial RS-232C); out-of-band management (DB-9 serial port console); out-of-band management; SNMP Manager; Telnet; RMON1; FTP; in-line and out-of-band; terminal interface (serial RS-232C); modem interface; IEEE 802.3 Ethernet MIB; Ethernet Interface MIB

Specifications (continued)

	HP A6616 Router Chassis (JC496A)	HP A6608 Router Chassis (JC177B)
Services	<p>3-year, parts only, global next-day advance exchange (UW054E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HR530E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV943E) 3-year, 24x7 SW phone support, software updates (UV955E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E) 4-year, 24x7 SW phone support, software updates (UV956E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E) 5-year, 24x7 SW phone support, software updates (UV957E) 3 Yr 6 hr Call-to-Repair Onsite (UW055E) 4 Yr 6 hr Call-to-Repair Onsite (UW056E) 5 Yr 6 hr Call-to-Repair Onsite (UW057E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E) 1-year, 24x7 software phone support, software updates (HR532E)</p> <p>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.</p>	<p>3-year, parts only, global next-day advance exchange (UW054E) 3-year, 4-hour onsite, 13x5 coverage for hardware (UW062E) 3-year, 4-hour onsite, 24x7 coverage for hardware (UV930E) 3-year, 4-hour onsite, 24x7 coverage for hardware (HR530E) 3-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 SW phone support and SW updates (UV943E) 3-year, 24x7 SW phone support, software updates (UV955E) 1-year, post-warranty, 4-hour onsite, 13x5 coverage for hardware (HR529E) 1-year, post-warranty, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone support (HR531E) 4-year, 4-hour onsite, 13x5 coverage for hardware (UW063E) 4-year, 4-hour onsite, 24x7 coverage for hardware (UV931E) 4-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV944E) 4-year, 24x7 SW phone support, software updates (UV956E) 5-year, 4-hour onsite, 13x5 coverage for hardware (UW064E) 5-year, 4-hour onsite, 24x7 coverage for hardware (UV932E) 5-year, 4-hour onsite, 24x7 coverage for hardware, 24x7 software phone (UV945E) 5-year, 24x7 SW phone support, software updates (UV957E) 3 Yr 6 hr Call-to-Repair Onsite (UW055E) 4 Yr 6 hr Call-to-Repair Onsite (UW056E) 5 Yr 6 hr Call-to-Repair Onsite (UW057E) 1-year, 6 hour Call-To-Repair Onsite for hardware (HR533E) 1-year, 24x7 software phone support, software updates (HR532E)</p> <p>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.</p>

Specifications (continued)

HP A6616 Router Chassis (JC496A)

Standards and protocols (applies to all products in series)

BGP

RFC 1267 Border Gateway Protocol 3 (BGP-3)
 RFC 1657 Definitions of Managed Objects for BGPv4
 RFC 1771 BGPv4
 RFC 1772 Application of the BGP
 RFC 1773 Experience with the BGP-4 Protocol
 RFC 1774 BGP-4 Protocol Analysis
 RFC 1965 BGP4 confederations
 RFC 1997 BGP Communities Attribute
 RFC 1998 PPP Gandalf FZA Compression Protocol
 RFC 2385 BGP Session Protection via TCP MD5
 RFC 2439 BGP Route Flap Damping
 RFC 2796 BGP Route Reflection
 RFC 2842 Capability Advertisement with BGP-4
 RFC 2858 BGP-4 Multi-Protocol Extensions
 RFC 2918 Route Refresh Capability

Denial of service protection

CPU DoS Protection
 Rate Limiting by ACLs

Device management

RFC 1155 Structure and Mgmt Information (SMIv1)
 RFC 1157 SNMPv1/v2c
 RFC 1305 NTPv3
 RFC 1901 (Community based SNMPv2)
 RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II
 RFC 1902 (SNMPv2)
 RFC 1908 (SNMP v1/2 Coexistence)
 RFC 1945 Hypertext Transfer Protocol - HTTP/1.0
 RFC 2068 Hypertext Transfer Protocol - HTTP/1.1
 RFC 2271 FrameWork
 RFC 2452 MIB for TCPv6
 RFC 2454 MIB for UDPv6
 RFC 2573 (SNMPv3 Applications)
 RFC 2576 (Coexistence between SNMP V1, V2, V3)
 RFC 2578-2580 SMIv2
 RFC 2579 (SMIv2 Text Conventions)
 RFC 2580 (SMIv2 Conformance)
 RFC 2819 (RMON groups Alarm, Event, History and Statistics only)
 RFC 2819 RMON
 RFC 3410 (Management Framework)
 RFC 3416 (SNMP Protocol Operations v2)
 RFC 3417 (SNMP Transport Mappings)
 Multiple Configuration Files
 Multiple Software Images
 SNMP v3 and RMON RFC support
 SSHv1/SSHv2 Secure Shell
 TACACS/TACACS+

General protocols

IEEE 802.1ad Q-in-Q
 IEEE 802.1ad Q-in-Q
 IEEE 802.1ag Service Layer OAM
 IEEE 802.1ah Provider Backbone Bridges
 IEEE 802.1AX-2008 Link Aggregation
 IEEE 802.1D MAC Bridges
 IEEE 802.1p Priority
 IEEE 802.1Q (GVRP)
 IEEE 802.1Q VLANs
 IEEE 802.1s (MSTP)
 IEEE 802.1s Multiple Spanning Trees
 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 (LAG)
 IEEE 802.3ad Link Aggregation Control Protocol (LACP)

HP A6608 Router Chassis (JC177B)

IEEE 802.3ae 10-Gigabit Ethernet
 IEEE 802.3ag Ethernet OAM
 IEEE 802.3ah Ethernet in First Mile over Point to Point Fiber - EFMF
 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 854 TELNET
 RFC 855 Telnet Option Specification
 RFC 856 TELNET
 RFC 857 Telnet Echo Option
 RFC 858 Telnet Suppress Go Ahead Option
 RFC 894 IP over Ethernet
 RFC 896 Congestion Control in IP/TCP Internetworks
 RFC 906 TFTP Bootstrap
 RFC 925 Multi-LAN Address Resolution
 RFC 950 Internet Standard Subnetting Procedure
 RFC 951 BOOTP
 RFC 959 File Transfer Protocol (FTP)
 RFC 1006 ISO transport services on top of the TCP: Version 3
 RFC 1027 Proxy ARP
 RFC 1034 Domain Concepts and Facilities
 RFC 1035 Domain Implementation and Specification
 RFC 1042 IP Datagrams
 RFC 1058 RIPv1
 RFC 1071 Computing the Internet Checksum
 RFC 1091 Telnet Terminal-Type Option
 RFC 1093 NSFNET routing architecture
 RFC 1122 Host Requirements
 RFC 1141 Incremental updating of the Internet checksum
 RFC 1142 OSI ISIS Intra-domain Routing Protocol
 RFC 1144 Compressing TCP/IP headers for low-speed serial links
 RFC 1171 Point-to-Point Protocol for the transmission of multi-protocol datagrams over Point-to-Point links
 RFC 1195 OSI ISIS for IP and Dual Environments
 RFC 1213 Management Information Base for Network Management of TCP/IP-based internets
 RFC 1253 (OSPF v2)
 RFC 1256 ICMP Router Discovery Protocol (IRDP)
 RFC 1293 Inverse Address Resolution Protocol
 RFC 1305 NTPv3
 RFC 1315 Management Information Base for Frame Relay DTEs
 RFC 1321 The MD5 Message-Digest Algorithm
 RFC 1332 The PPP Internet Protocol Control Protocol (IPCP)
 RFC 1333 PPP Link Quality Monitoring
 RFC 1334 PPP Authentication Protocols (PAP)
 RFC 1334 PPP Authentication Protocols (PAP)
 RFC 1349 Type of Service
 RFC 1350 TFTP Protocol (revision 2)
 RFC 1377 The PPP OSI Network Layer Control Protocol (OSINLCP)
 RFC 1381 SNMP MIB Extension for X.25 LAPB
 RFC 1389 RIPv2 MIB Extension
 RFC 1471 The Definitions of Managed Objects for the Link Control Protocol of the Point-to-Point Protocol
 RFC 1472 The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol
 RFC 1490 Multiprotocol Interconnect over Frame Relay
 RFC 1519 CIDR
 RFC 1531 Dynamic Host Configuration Protocol
 RFC 1533 DHCP Options and BOOTP Vendor

Extensions

RFC 1534 DHCP/BOOTP Interoperation
 RFC 1541 DHCP
 RFC 1542 BOOTP Extensions
 RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
 RFC 1552 The PPP Internetworking Packet Exchange Control Protocol (IPXCP)
 RFC 1577 Classical IP and ARP over ATM
 RFC 1631 NAT
 RFC 1638 PPP Bridging Control Protocol (BCP)
 RFC 1661 The Point-to-Point Protocol (PPP)
 RFC 1662 PPP in HDLC-like Framing
 RFC 1695 Definitions of Managed Objects for ATM Management Version 8.0 using SMIv2
 RFC 1700 Assigned Numbers
 RFC 1701 Generic Routing Encapsulation
 RFC 1702 Generic Routing Encapsulation over IPv4 networks
 RFC 1721 RIP-2 Analysis
 RFC 1722 RIP-2 Applicability
 RFC 1723 RIP v2
 RFC 1812 IPv4 Routing
 RFC 1829 The ESP DES-CBC Transform
 RFC 1877 PPP Internet Protocol Control Protocol Extensions for Name Server Addresses
 RFC 1944 Benchmarking Methodology for Network Interconnect Devices
 RFC 1945 Hypertext Transfer Protocol - HTTP/1.0
 RFC 1973 PPP in Frame Relay
 RFC 1974 PPP Stac LZS Compression Protocol
 RFC 1981 Path MTU Discovery for IP version 6
 RFC 1990 The PPP Multilink Protocol (MP)
 RFC 1994 PPP Challenge Handshake Authentication Protocol (CHAP)
 RFC 2082 RIP-2 MD5 Authentication
 RFC 2091 Trigger RIP
 RFC 2104 HMAC: Keyed-Hashing for Message Authentication
 RFC 2131 DHCP
 RFC 2132 DHCP Options and BOOTP Vendor Extensions
 RFC 2138 Remote Authentication Dial In User Service (RADIUS)
 RFC 2205 Resource ReSerVation Protocol (RSVP) - Version 1 Functional Specification
 RFC 2209 Resource ReSerVation Protocol (RSVP) - Version 1 Message Processing Rules
 RFC 2236 IGMP Snooping
 RFC 2246 The TLS Protocol Version 1.0
 RFC 2251 Lightweight Directory Access Protocol (v3)
 RFC 2252 Lightweight Directory Access Protocol (v3): Attribute Syntax Definitions
 RFC 2280 Routing Policy Specification Language (RPSL)
 RFC 2283 MBGP
 RFC 2284 EAP over LAN
 RFC 2338 VRRP
 RFC 2338 VRRP (Premium Edge License)
 RFC 2364 PPP Over AAL5
 RFC 2374 An Aggregatable Global Unicast Address Format
 RFC 2451 The ESP CBC-Mode Cipher Algorithms
 RFC 2453 RIPv2
 RFC 2510 Internet X.509 Public Key Infrastructure Certificate Management Protocols
 RFC 2511 Internet X.509 Certificate Request Message Format
 RFC 2516 A Method for Transmitting PPP Over Ethernet (PPPoE)
 RFC 2529 Transmission of IPv6 over IPv4 Domains without Explicit Tunnels
 RFC 2616 HTTP Compatibility v1.1
 RFC 2622 Routing Policy Specification Language (RPSL)

Specifications (continued)

HP A6616 Router Chassis (JC496A)

Standards and protocols (applies to all products in series)

RFC 2663 NAT Terminology and Considerations
 RFC 2684 Multiprotocol Encapsulation over ATM Adaptation Layer 5
 RFC 2694 DNS extensions to Network Address Translators (DNS_ALG)
 RFC 2702 Requirements for Traffic Engineering Over MPLS
 RFC 2716 PPP EAP TLS Authentication Protocol
 RFC 2747 RSVP Cryptographic Authentication
 RFC 2763 Dynamic Name-to-System ID mapping support
 RFC 2765 Stateless IP/ICMP Translation Algorithm (SIIT)
 RFC 2766 Network Address Translation - Protocol Translation (NAT-PT)
 RFC 2767 Dual Stacks IPv4 & IPv6
 RFC 2784 Generic Routing Encapsulation (GRE)
 RFC 2787 Definitions of Managed Objects for VRRP
 RFC 2865 Remote Authentication Dial In User Service (RADIUS)
 RFC 2866 RADIUS Accounting
 RFC 2868 RADIUS Attributes for Tunnel Protocol Support
 RFC 2869 RADIUS Extensions
 RFC 2961 RSVP Refresh Overhead Reduction Extensions
 RFC 2966 Domain-wide Prefix Distribution with Two-Level IS-IS
 RFC 2973 IS-IS Mesh Groups
 RFC 2993 Architectural Implications of NAT
 RFC 3022 Traditional IP Network Address Translator (Traditional NAT)
 RFC 3027 Protocol Complications with the IP Network Address Translator
 RFC 3031 Multiprotocol Label Switching Architecture
 RFC 3032 MPLS Label Stack Encoding
 RFC 3036 LDP Specification
 RFC 3046 DHCP Relay Agent Information Option
 RFC 3063 MPLS Loop Prevention Mechanism
 RFC 3065 Support AS confederation
 RFC 3137 OSPF Stub Router Advertisement
 RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels
 RFC 3210 Applicability Statement for Extensions to RSVP for LSP-Tunnels
 RFC 3212 Constraint-Based LSP setup using LDP (CR-LDP)
 RFC 3214 LSP Modification Using CR-LDP
 RFC 3215 LDP State Machine
 RFC 3246 Expedited Forwarding PHB
 RFC 3268 Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)
 RFC 3277 IS-IS Transient Blackhole Avoidance
 RFC 3279 Algorithms and Identifiers for the Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
 RFC 3280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile
 RFC 3392 Support BGP capabilities advertisement
 RFC 3410 Applicability Statements for SNMP
 RFC 3416 Protocol Operations for SNMP
 RFC 3417 Transport Mappings for the Simple Network Management Protocol (SNMP)
 RFC 3479 Fault Tolerance for the Label Distribution Protocol (LDP)
 RFC 3487 Graceful Restart Mechanism for LDP
 RFC 3509 OSPF ABR Behavior
 RFC 3526 More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)
 RFC 3564 Requirements for Support of Differentiated Services-aware MPLS Traffic Engineering
 RFC 3567 Intermediate System to Intermediate System (IS-IS) Cryptographic Authentication

HP A6608 Router Chassis (JC177B)

RFC 3602 The AES-CBC Cipher Algorithm and Its Use with IPsec
 RFC 3619 Ethernet Automatic Protection Switching (EAPS)
 RFC 3623 Graceful OSPF Restart
 RFC 3704 Unicast Reverse Path Forwarding (URPF)
 RFC 3706 A Traffic-Based Method of Detecting Dead Internet Key Exchange (IKE) Peers
 RFC 3768 VRRP
 RFC 3768 VRRP
 RFC 3768 VRRP (Premium Edge License)
 RFC 3784 ISIS TE support
 RFC 3786 Extending the Number of IS-IS LSP Fragments Beyond the 256 Limit
 RFC 3811 Definitions of Textual Conventions (TCs) for Multiprotocol Label Switching (MPLS) Management
 RFC 3812 Multiprotocol Label Switching (MPLS) Traffic Engineering (TE) Management Information Base (MIB)
 RFC 3847 Restart signaling for IS-IS
 RFC 4213 Basic IPv6 Transition Mechanisms IP Ping

IP multicast

RFC 1112 IGMP
 RFC 2236 IGMPv2
 RFC 2283 Multiprotocol Extensions for BGP-4
 RFC 2362 PIM Sparse Mode
 RFC 2362 PIM Sparse Mode (Premium Edge License)
 RFC 2362 PIM Sparse Mode
 RFC 2934 Protocol Independent Multicast MIB for IPv4
 RFC 3376 IGMPv3
 RFC 3376 IGMPv3 (host joins only)
 RFC 3569 An Overview of Source-Specific Multicast (SSM)
 RFC 3618 Multicast Source Discovery Protocol (MSDP)
 RFC 3973 Draft 2 PIM Dense Mode
 RFC 3973 Draft 2 PIM Dense Mode
 RFC 3973 PIM Dense Mode
 RFC 3973 PIM Dense Mode (Premium Edge License)
 RFC 3973 PIM Dense Mode
 RFC 4601 Draft 10 PIM Sparse Mode
 RFC 4601 Draft 10 PIM Sparse Mode
 RFC 4605 IGMP/MLD Proxying

IPv6

RFC 1350 TFTP
 RFC 1881 IPv6 Address Allocation Management
 RFC 1886 DNS Extension for IPv6
 RFC 1887 IPv6 Unicast Address Allocation Architecture
 RFC 1981 IPv6 Path MTU Discovery
 RFC 2080 RIPng for IPv6
 RFC 2292 Advanced Sockets API 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 2472 IP Version 6 over PPP
 RFC 2473 Generic Packet Tunneling in IPv6
 RFC 2475 IPv6 DiffServ Architecture
 RFC 2529 Transmission of IPv6 Packets over IPv4
 RFC 2545 Use of MP-BGP-4 for IPv6
 RFC 2553 Basic Socket Interface Extensions for IPv6
 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 2925 Remote Operations MIB (Ping only)
 RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
 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 3315 DHCPv6 (client only)
 RFC 3363 DNS support
 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 (host joins only)
 RFC 3810 MLDv2 for IPv6
 RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6
 RFC 4022 MIB for TCP
 RFC 4113 MIB for UDP
 RFC 4251 SSHv6 Architecture
 RFC 4252 SSHv6 Authentication
 RFC 4252 SSHv6 Transport Layer
 RFC 4253 SSHv6 Transport Layer
 RFC 4254 SSHv6 Connection
 RFC 4291 IP Version 6 Addressing Architecture
 RFC 4293 MIB for IP
 RFC 4419 Key Exchange for SSH
 RFC 4443 ICMPv6
 RFC 4541 IGMP & MLD Snooping Switch
 RFC 4861 IPv6 Neighbor Discovery
 RFC 4862 IPv6 Stateless Address Auto-configuration
 RFC 5095 Deprecation of Type 0 Routing Headers in IPv6
 RFC 5340 OSPF for IPv6
 RFC 5340 OSPFv3 for IPv6
 RFC 5722 Handling of Overlapping IPv6 Fragments

MIBs

IEEE 8021-PAE-MIB
 IEEE 8023-LAG-MIB
 RFC 1156 (TCP/IP MIB)
 RFC 1212 Concise MIB Definitions
 RFC 1213 MIB II
 RFC 1229 Interface MIB Extensions
 RFC 1286 Bridge MIB
 RFC 1493 Bridge MIB
 RFC 1573 SNMP MIB II
 RFC 1643 Ethernet MIB
 RFC 1650 Ethernet-Like MIB
 RFC 1657 BGP-4 MIB
 RFC 1724 RIPv2 MIB
 RFC 1757 Remote Network Monitoring MIB
 RFC 1850 OSPFv2 MIB
 RFC 1907 SNMPv2 MIB
 RFC 2011 SNMPv2 MIB for IP
 RFC 2012 SNMPv2 MIB for TCP
 RFC 2013 SNMPv2 MIB for UDP
 RFC 2021 RMONv2 MIB
 RFC 2096 IP Forwarding Table MIB
 RFC 2233 Interface MIB
 RFC 2233 Interfaces MIB
 RFC 2273 SNMP-NOTIFICATION-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

Specifications (continued)

HP A6616 Router Chassis (JC496A)

Standards and protocols (applies to all products in series)

RFC 2574 SNMP USM MIB
 RFC 2618 RADIUS Client MIB
 RFC 2620 RADIUS Accounting MIB
 RFC 2665 Ethernet-Like-MIB
 RFC 2668 802.3 MAU MIB
 RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
 RFC 2688 MAU-MIB
 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 2932IP (Multicast Routing MIB)
 RFC 2933 IGMP MIB
 RFC 3273 HC-RMON MIB
 RFC 3414 SNMP-User based-SM MIB
 RFC 3415 SNMP-View based-ACM MIB
 RFC 3418 MIB for SNMPv3
 RFC 3621 Power Ethernet MIB
 RFC 3813 MPLS LSR MIB
 RFC 3814 MPLS FTN MIB
 RFC 3815 MPLS LDP MIB
 RFC 3826 AES for SNMP's USM MIB
 RFC 4113 UDP MIB
 RFC 4133 Entity MIB (Version 3)
 RFC 4221 MPLS FTN MIB
 LLDP-EXT-DOT1-MIB
 LLDP-EXT-DOT3-MIB
 LLDP-MIB

Network management

IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
 IEEE 802.1D (STP)
 RFC 1098 A Simple Network Management Protocol (SNMP)
 RFC 1155 Structure of Management Information
 RFC 1157 SNMPv1
 RFC 1215 SNMP Generic traps
 RFC 1757 RMON 4 groups: Stats, History, Alarms and Events
 RFC 1901 SNMPv2 Introduction
 RFC 1902 SNMPv2 Structure
 RFC 1903 SNMPv2 Textual Conventions
 RFC 1904 SNMPv2 Conformance
 RFC 1905 SNMPv2 Protocol Operations
 RFC 1906 SNMPv2 Transport Mappings
 RFC 1918 Private Internet Address Allocation
 RFC 2272 SNMPv3 Management Protocol
 RFC 2273 SNMPv3 Applications
 RFC 2274 USM for SNMPv3
 RFC 2275 VACM for SNMPv3
 RFC 2570 SNMPv3 Overview
 RFC 2571 SNMP Management Frameworks
 RFC 2572 SNMPv3 Message Processing
 RFC 2573 SNMPv3 Applications
 RFC 2574 SNMPv3 User-based Security Model (USM)
 RFC 2575 SNMPv3 View-based Access Control Model (VACM)
 RFC 2575 VACM for SNMP
 RFC 2576 Coexistence between SNMP versions
 RFC 2578 SMIv2
 RFC 2581 TCP6
 RFC 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)
 RFC 3164 BSD syslog Protocol
 RFC 3176 sFlow
 RFC 3411 SNMP Management Frameworks
 RFC 3412 SNMPv3 Message Processing

HP A6608 Router Chassis (JC177B)

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/v2
 SNMPv1/v2c
 SNMPv1/v2c (read only)
 SNMPv1/v2c/v3

OSPF

RFC 1245 OSPF protocol analysis
 RFC 1246 Experience with OSPF
 RFC 1253 OSPFv2 MIB
 RFC 1583 OSPFv2
 RFC 1587 OSPF NSSA
 RFC 1745 OSPF Interactions
 RFC 1765 OSPF Database Overflow
 RFC 1850 OSPFv2 Management Information Base (MIB), traps
 RFC 2178 OSPFv2
 RFC 2328 OSPFv2
 RFC 2328 OSPFv2
 RFC 2328 OSPFv2 (Premium Edge License)
 RFC 2370 OSPF Opaque LSA Option
 RFC 3101 OSPF NSSA
 RFC 3623 Graceful OSPF Restart
 RFC 5340 OSPF for IPv6
 RFC 5340 OSPFv3 for IPv6

QoS/CoS

IEEE 802.1P (CoS)
 RFC 2474 DiffServ Precedence, including 8 queues/port
 RFC 2474 DiffServ precedence, with 4 queues per port
 RFC 2474 DS Field in the IPv4 and IPv6 Headers
 RFC 2474 DSCP DiffServ
 RFC 2474, with 4 queues per port
 RFC 2475 DiffServ Architecture
 RFC 2597 DiffServ Assured Forwarding (AF)
 RFC 2597 DiffServ Assured Forwarding (AF)- partial support
 RFC 2598 DiffServ Expedited Forwarding (EF) Ingress Rate Limiting

Security

IEEE 802.1X Port Based Network Access Control
 RFC 1321 The MD5 Message-Digest Algorithm
 RFC 1492 TACACS+
 RFC 2082 RIP-2 MD5 Authentication
 RFC 2104 Keyed-Hashing for Message Authentication
 RFC 2138 RADIUS Authentication
 RFC 2139 RADIUS Accounting
 RFC 2209 RSVP-Message Processing
 RFC 2246 Transport Layer Security (TLS)
 RFC 2459 Internet X.509 Public Key Infrastructure Certificate and CRL Profile
 RFC 2548 Microsoft Vendor-specific RADIUS Attributes
 RFC 2716 PPP EAP TLS Authentication Protocol
 RFC 2818 HTTP Over TLS
 RFC 2865 RADIUS (client only)
 RFC 2865 RADIUS Authentication

RFC 2866 RADIUS Accounting
 RFC 2867 RADIUS Accounting Modifications for Tunnel Protocol Support
 RFC 2868 RADIUS Attributes for Tunnel Protocol Support
 RFC 2869 RADIUS Extensions
 RFC 3567 Intermediate System (IS) to IS Cryptographic Authentication
 RFC 3576 Dynamic Authorization Extensions to RADIUS
 RFC 3579 RADIUS Support For Extensible Authentication Protocol (EAP)
 RFC 3580 IEEE 802.1X RADIUS Access Control Lists (ACLs)
 Guest VLAN for 802.1x
 MAC Authentication
 Port Security
 Secure Sockets Layer (SSL)
 SSHv1 Secure Shell
 SSHv1.5 Secure Shell
 SSHv1/SSHv2 Secure Shell
 SSHv2 Secure Shell

VPN

RFC 2403 - HMAC-MD5-96
 RFC 2404 - HMAC-SHA1-96
 RFC 2405 - DES-CBC Cipher algorithm
 RFC 2407 - Domain of interpretation
 RFC 2547 BGP/MPLS VPNs
 RFC 2764 A Framework for IP Based Virtual Private Networks
 RFC 2796 BGP Route Reflection - An Alternative to Full Mesh IGBP
 RFC 2842 Capabilities Advertisement with BGP-4
 RFC 2858 Multiprotocol Extensions for BGP-4
 RFC 2917 A Core MPLS IP VPN Architecture
 RFC 2918 Route Refresh Capability for BGP-4
 RFC 3107 Carrying Label Information in BGP-4
 RFC 4301 - Security Architecture for the Internet Protocol
 RFC 4302 - IP Authentication Header (AH)
 RFC 4303 - IP Encapsulating Security Payload (ESP)
 RFC 4305 - Cryptographic Algorithm Implementation Requirements for ESP and AH

IPsec

RFC 1828 IP Authentication using Keyed MD5
 RFC 2401 IP Security Architecture
 RFC 2402 IP Authentication Header
 RFC 2406 IP Encapsulating Security Payload
 RFC 2407 - Domain of interpretation
 RFC 2408 - Internet Security Association and Key Management Protocol (ISAKMP)
 RFC 2409 - The Internet Key Exchange
 RFC 2410 - The NULL Encryption Algorithm and its use with IPsec
 RFC 2411 IP Security Document Roadmap
 RFC 2412 - OAKLEY
 RFC 2865 - Remote Authentication Dial In User Service (RADIUS)

IKEv1

RFC 2865 - Remote Authentication Dial In User Service (RADIUS)
 RFC 3748 - Extensible Authentication Protocol (EAP)

Transceivers

HP X110 100M SFP LC LH40 Transceiver (JD090A)
HP X110 100M SFP LC LH80 Transceiver (JD091A)
HP X110 100M SFP LC FX Transceiver (JD102B)
HP X110 100M SFP LC LX Transceiver (JD120B)
HP X120 622M SFP LC LX 15km Transceiver (JF829A)
HP X120 622M SFP LC LH 40km 1310 Transceiver (JF830A)
HP X120 622M SFP LC LH 80km 1550 Transceiver (JF831A)
HP X124 1G SFP LC LH40 1310nm Transceiver (JD061A)
HP X120 1G SFP LC LH40 1550nm Transceiver (JD062A)
HP X120 1G SFP LC BX 10-U Transceiver (JD098B)
HP X120 1G SFP LC BX 10-D Transceiver (JD099B)
HP X120 1G SFP LC LH100 Transceiver (JD103A)
HP X120 1G SFP LC SX Transceiver (JD118B)
HP X120 1G SFP LC LX Transceiver (JD119B)
HP X125 1G SFP LC LH70 Transceiver (JD063B)
HP X125 1G SFP RJ45 T Transceiver (JD089B)
HP X160 2.5G SFP LC 2km Transceiver (JD084A)
HP X160 2.5G SFP LC 15km Transceiver (JD085A)
HP X160 2.5G SFP LC 40km Transceiver (JD086A)
HP X160 2.5G SFP LC 80km Transceiver (JD087A)
HP X135 10G XFP LC ER Transceiver (JD121A)
HP X130 10G XFP LC LR Transceiver (JD108B)
HP X130 10G XFP LC SR Transceiver (JD117B)

Cables

HP X200 V.24 DTE 3m Serial Port Cable (JD519A)
HP X200 V.24 DCE 3m Serial Port Cable (JD521A)
HP X200 V.35 DTE 3m Serial Port Cable (JD523A)
HP X200 V.35 DCE 3m Serial Port Cable (JD525A)
HP X200 X.21 DTE 3m Serial Port Cable (JD527A)
HP X200 X.21 DCE 3m Serial Port Cable (JD529A)
HP X260 RS449 3m DTE Serial Port Cable (JF825A)
HP X260 RS449 3m DCE Serial Port Cable (JF826A)
HP X260 RS530 3m DTE Serial Port Cable (JF827A)
HP X260 RS530 3m DCE Serial Port Cable (JF828A)
HP X260 8E1 BNC 75 ohm 3m Router Cable (JD512A)
HP X260 E1 RJ45 BNC 75-120 ohm Conversion Router Cable (JD511A)

Security Modules

HP A6600 VPN Firewall Module (JC639A)

Router Modules

HP A6600 1-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module (JC161A)
HP A6600 2-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module (JC162A)
HP A6600 2-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module (JC169A)
HP A6600 1-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module (JC170A)

HP A6600 4-port OC-3c/STM-1c or 2-port OC-12c/STM-4c POS SFP HIM Module (JC172A)

HP A6600 2-port OC-3c/STM-1c or 1-port OC-12c/STM-4c POS SFP HIM Module (JC173A)

HP A6600 1-port OC-48c/STM-16c POS/CPOS SFP HIM Module (JC494A)

HP A6600 1-port OC-3c/STM-1c ATM SFP HIM Module (JC175A)

HP A6600 2-port OC-3c/STM-1c ATM SFP HIM Module (JC495A)

HP 4-port GbE SFP HIM A6600 Module (JC171A)

HP 8-port GbE SFP HIM A6600 Module (JC174A)

HP A6600 4-port Gig-T HIM Module (JC163A)

HP A6600 8-port Gig-T HIM Module (JC164A)

HP A6600 1-port 10-GbE XFP HIM Module (JC168A)

HP A-MSR 2-port Enhanced Sync/Async Serial MIM Module (JD540A)

HP A-MSR 4-port Enhanced Sync/Async Serial MIM Module (JD541A)

HP A-MSR 8-port Enhanced Sync/Async Serial MIM Module (JD552A)

HP A-MSR 2-port Gig-T MIM Module (JD548A)

HP A-MSR 8-port E1/CE1/PRI (75ohm) MIM Module (JD563A)

HP A-MSR 8-port E1/Fractional E1 (75ohm) MIM Module (JF255A)

HP A-MSR 8-port T1/CT1/PRI MIM Module (JC160A)

HP A-MSR 1-port E3/CE3/FE3 MIM Module (JD630A)

HP A-MSR 8-port T1/Fractional T1 MIM Module (JC159A)

HP A-MSR 1-port T3/CT3/FT3 MIM Module (JD628A)

NEW HP A6600 8-port 10/100Base-T HIM Module (JC575A)

NEW HP A6600 2-port OC-48c/STM-16c RPR SFP HIM Module (JC576A)

Memory

HP A6600 1 GB SDRAM Memory (JC179A)

HP A6602 Router (JC176A)

HP A-RPS800 Redundant Power System (JD183A)

HP X290 1m RPS Cable (JD637A)

HP A6604 Router Chassis (JC178B)

HP A7500 650W DC Power Supply (JD209A)

HP A7500 650W AC Power Supply (JD217A)

NEW HP A6604 Dustproof Frame (JC572A)

NEW HP A6604 Spare Fan Assembly (JC569A)

HP A6600 Router Software License (JC180A)

HP A6600 RPE-X1 Main Processing Unit (JC165A)

HP FIP-100 A6600 Module (JC166A)

HP FIP-200 A6600 Module (JC167A)

NEW HP A6600 RSE-X1 Main Processing Unit (JC566A)

HP A6600 Router Series accessories (continued)

NEW HP A6600 24-port GbE SFP Service Aggregation Platform (SAP) Module (JC568A)

NEW HP A6600 48-port Gig-T Service Aggregation Platform (SAP) Module (JC567A)

HP A6600 FIP-110 Flexible Interface Platform Module (JC166B)

HP A6600 FIP-210 Flexible Interface Platform Module (JC167B)

HP A6600 VPN Firewall Module (JD250A)

HP A6616 Router Chassis (JC496A)

HP A6600 650W AC Power Supply (JC492A)

HP A6600 650W DC Power Supply (JC493A)

NEW HP A6616 Spare Fan Assembly (JC571A)

NEW HP A6616 Dustproof Frame (JC574A)

HP A6600 RPE-X1 Carrier Card (JC497A)

HP A6600 Router Software License (JC180A)

HP A6600 RPE-X1 Main Processing Unit (JC165A)

HP FIP-100 A6600 Module (JC166A)

HP FIP-200 A6600 Module (JC167A)

NEW HP A6600 RSE-X1 Main Processing Unit (JC566A)

NEW HP A6600 24-port GbE SFP Service Aggregation Platform (SAP) Module (JC568A)

NEW HP A6600 48-port Gig-T Service Aggregation Platform (SAP) Module (JC567A)

HP A6600 FIP-110 Flexible Interface Platform Module (JC166B)

HP A6600 FIP-210 Flexible Interface Platform Module (JC167B)

HP A6600 VPN Firewall Module (JD250A)

HP A6608 Router Chassis (JC177B)

HP A7500 650W DC Power Supply (JD209A)

HP A7500 650W AC Power Supply (JD217A)

NEW HP A6608 Spare Fan Assembly (JC570A)

NEW HP A6608 Dustproof Frame (JC573A)

HP A6600 Router Software License (JC180A)

HP A6600 RPE-X1 Main Processing Unit (JC165A)

HP FIP-100 A6600 Module (JC166A)

HP FIP-200 A6600 Module (JC167A)

NEW HP A6600 RSE-X1 Main Processing Unit (JC566A)

NEW HP A6600 24-port GbE SFP Service Aggregation Platform (SAP) Module (JC568A)

NEW HP A6600 48-port Gig-T Service Aggregation Platform (SAP) Module (JC567A)

HP A6600 FIP-110 Flexible Interface Platform Module (JC166B)

HP A6600 FIP-210 Flexible Interface Platform Module (JC167B)

HP A6600 VPN Firewall Module (JD250A)

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