



Key features

- High-performance WAN routing
- Compact, multi-core centralized processing architecture
- · Comprehensive routing, switching, and security
- Modular WAN and LAN connectivity options
- Robust high availability and resiliency

Product overview

The HP HSR6600 Router Series is made up of high-performance services WAN routers that are ideal for small- to medium-sized campus WAN edge and aggregation, as well as high-end branch deployments.

These routers are built with a compact multi-core centralized processing architecture that delivers, in a 2 RU form factor, robust routing, security, full Layer 2 switching, and modular WAN and LAN interface options, all integrated in a single fast and powerful routing platform.

In addition, these routers feature robust carrier-class reliability capabilities to reduce disruption from network or system failures.

Features and benefits

Connectivity

Multiple WAN interfaces

support Fast Ethernet/Gigabit Ethernet/10GbE ports, OC3~OC48 POS/CPOS, and ATM ports

· Flexible port selection

provides a combination of fiber/copper interface modules, 100/1000BASE-X auto-speed selection, and 10/100/1000BASE-T auto-speed detection plus auto duplex and MDI/MDI-X; is speed adaptable between 155 M POS/622 M POS/Gigabit Ethernet

Loopback

supports internal loopback testing for maintenance purposes and an increase in availability; loopback detection protects against incorrect cabling or network configurations and can be enabled on a per-port or per-VLAN basis for added flexibility

Performance

High-performance platform

provides up to 15 Mpps forwarding performance

Layer 3 routing

Static IPv4 routing

provides simple, manually configured IPv4 routing

Routing Information Protocol (RIP)

uses a distance vector algorithm with UDP packets for route determination; supports RIPv1 and RIPv2 routing; includes loop protection

Open Shortest Path First (OSPF)

Interior Gateway Protocol (IGP) uses link-state protocol for faster convergence; supports ECMP, NSSA, and MD5 authentication for increased security and graceful restart for faster failure recovery

• Border Gateway Protocol 4 (BGP-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 for increased flexibility, as well as scales to very large networks

Intermediate system to intermediate system (IS-IS)

Interior Gateway Protocol (IGP) uses 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 the 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

provides OSPF support for IPv6

• 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 Label Distribution Protocol (LDP); 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

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

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

Domain Name System (DNS)

provides a distributed database that translates domain names and IP addresses, which simplifies network design; supports client and server

 Dynamic Host Configuration Protocol (DHCP) simplifies the management of large IP networks

Quality of Service (QoS)

Traffic policing

supports Committed Access Rate (CAR) and line rate

Congestion management

supports FIFO, PQ, CQ, WFQ, CBQ, and RTPQ

Congestion avoidance

Weighted Random Early Detection (WRED)/Random Early Detection (RED)

· Other QoS technologies

support traffic shaping, FR QoS, MPLS QoS, and MP QoS/LFI

Security

Stateful VPN Firewall

provides enhanced stateful packet inspection and filtering; supports flexible security zones and virtual firewall containment; provides advanced VPN services with Triple DES (3DES) and Advanced Encryption Standard (AES) encryption at high performance and low latency, Web content filtering, and application prioritization and enhancement

Access control list (ACL)

supports powerful ACLs for both IPv4 and IPv6; ACLs are used for filtering traffic to prevent unauthorized users from accessing the network, or for controlling network traffic to save resources; 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 be set to operate on specific dates or times

Remote Authentication Dial-In User Service (RADIUS)

eases switch security access administration by using a password authentication server

• Terminal Access Controller Access-Control System (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 NAPT to support unlimited connections; supports blacklist in NAT/NAPT/internal server, a limit on the number of connections, session log, and multi-instance

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 UFPF

Dynamic Virtual Private Network (DVPN)

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

Management

· Management interface control

each of the following interfaces can be enabled or disabled depending on security preferences: console port, telnet port, or reset button

· Industry-standard CLI with a hierarchical structure

reduces training time and expenses, and increases productivity in multivendor installations

Management security

multiple privilege levels with password protection restrict access to critical configuration commands; ACLs provide telnet and SNMP access; local and remote syslog capabilities allow logging of all access

SNMPv1, v2, and v3

provide complete support of SNMP; provide full support of industry-standard Management Information Base (MIB) plus private extensions; SNMPv3 supports increased security using encryption

• 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 a 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 timekeeping consistent 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, TFTP, and SFTP support

FTP allows bidirectional transfers over a TCP/IP network and is used for configuration updates; Trivial FTP is a simpler method using User Datagram Protocol (UDP)

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

Resiliency and high availability

Virtual Router Redundancy Protocol (VRRP)

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

Hot-swappable modules

facilitate the replacement of hardware interface modules without impacting the traffic flow through the system

Graceful restart

features are fully supported, including graceful restart for OSPF, IS-IS, BGP, LDP, and RSVP; the 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 achieve nonstop forwarding (NSF)

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

Optional redundant power supply

provides uninterrupted power; allows hot-swapping of one of the two supplies when installed

• 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

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

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

two kinds of engines are hardware separated: main controller engine (routing engine) and service engines (Flexible Interface Platform [FIP]); the main controller engine is used for route computing and system management, and service engines are used for processing services

Additional information

• Green initiative support

provides support for RoHS and WEEE regulations

Warranty and support

1-year warranty

with advance replacement and 10-calendar-day delivery (available in most countries)

• Electronic and telephone support

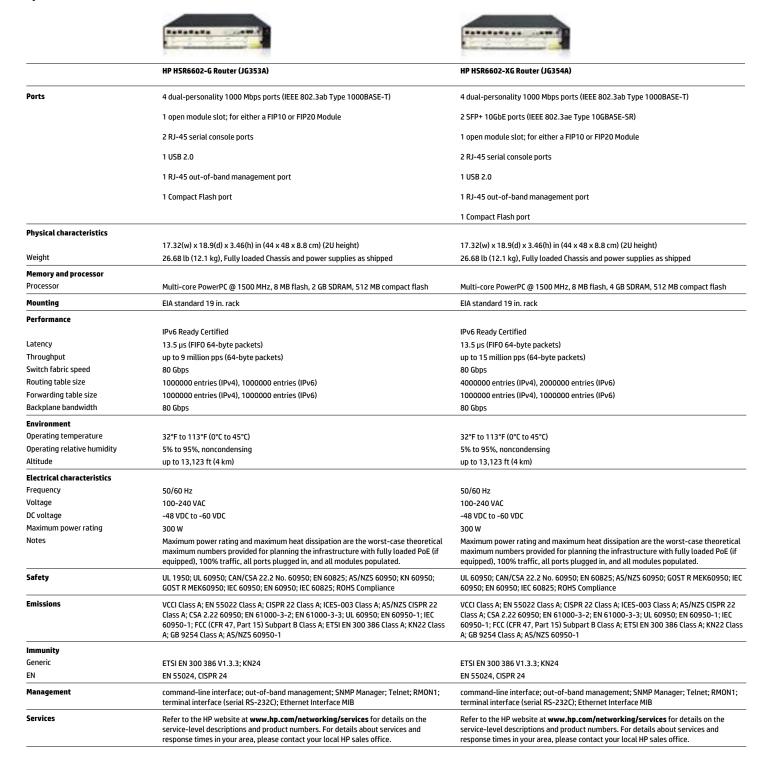
limited electronic and telephone support is available from HP; to reach our support centers, refer to

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

Specifications



Specifications (continued)

Standards and protocols	HP HSR6602-G Router (JG353A)	HP HSR6602-XG Router (JG354A)	
	BGP	IEEE 802.3i 10BASE-T	RFC 1552 The PPP Internetworking Packet Exchange
(applies to all products in series)	RFC 1267 Border Gateway Protocol 3 (BGP-3)	IEEE 802.3u 100BASE-X	Control Protocol (IPXCP)
,	RFC 1657 Definitions of Managed Objects for BGPv4	IEEE 802.3x Flow Control	RFC 1577 Classical IP and ARP over ATM
	RFC 1771 BGPv4	IEEE 802.3z 1000BASE-X	RFC 1631 NAT
	RFC 1772 Application of the BGP	RFC 768 UDP	RFC 1638 PPP Bridging Control Protocol (BCP)
	RFC 1773 Experience with the BGP-4 Protocol	RFC 783 TFTP Protocol (revision 2)	RFC 1661 The Point-to-Point Protocol (PPP)
	RFC 1774 BGP-4 Protocol Analysis	RFC 791 IP	RFC 1662 PPP in HDLC-like Framing
	RFC 1965 BGP4 confederations	RFC 792 ICMP	RFC 1695 Definitions of Managed Objects for ATM
	RFC 1997 BGP Communities Attribute	RFC 793 TCP	Management Version 8.0 using SMIv2
	RFC 1998 PPP Gandalf FZA Compression Protocol	RFC 826 ARP	RFC 1700 Assigned Numbers
	RFC 2385 BGP Session Protection via TCP MD5	RFC 854 TELNET	RFC 1701 Generic Routing Encapsulation
	RFC 2439 BGP Route Flap Damping	RFC 855 Telnet Option Specification	RFC 1702 Generic Routing Encapsulation over IPv4
	RFC 2796 BGP Route Reflection	RFC 856 TELNET	networks
	RFC 2842 Capability Advertisement with BGP-4	RFC 857 Telnet Echo Option	RFC 1721 RIP-2 Analysis
	RFC 2858 BGP-4 Multi-Protocol Extensions	RFC 858 Telnet Suppress Go Ahead Option	RFC 1722 RIP-2 Applicability
	RFC 2918 Route Refresh Capability	RFC 894 IP over Ethernet	RFC 1723 RIP v2
	• •	RFC 896 Congestion Control in IP/TCP Internetworks	RFC 1812 IPv4 Routing
	Denial of service protection	RFC 906 TFTP Bootstrap	RFC 1829 The ESP DES-CBC Transform
	CPU DoS Protection	RFC 925 Multi-LAN Address Resolution	RFC 1877 PPP Internet Protocol Control Protocol
	Rate Limiting by ACLs	RFC 950 Internet Standard Subnetting Procedure	Extensions for Name Server Addresses
	- ,	RFC 951 B00TP	RFC 1944 Benchmarking Methodology for Network
	Device management	RFC 959 File Transfer Protocol (FTP)	Interconnect Devices
	RFC 1155 Structure and Mgmt Information (SMIv1)	RFC 1006 ISO transport services on top of the TCP:	RFC 1945 Hypertext Transfer Protocol HTTP/1.0
	RFC 1157 SNMPv1/v2c	Version 3	RFC 1973 PPP in Frame Relay
	RFC 1305 NTPv3	RFC 1027 Proxy ARP	RFC 1974 PPP Stac LZS Compression Protocol
	RFC 1901 (Community based SNMPv2)	RFC 1034 Domain Concepts and Facilities	RFC 1981 Path MTU Discovery for IP version 6
	RFC 1901-1907 SNMPv2c, SMIv2 and Revised MIB-II	RFC 1035 Domain Implementation and Specification	RFC 1990 The PPP Multilink Protocol (MP)
	RFC 1902 (SNMPv2)	RFC 1042 IP Datagrams	RFC 1994 PPP Challenge Handshake Authentication
	RFC 1908 (SNMP v1/2 Coexistence)	RFC 1058 RIPv1	Protocol (CHAP)
	RFC 1945 Hypertext Transfer Protocol HTTP/1.0	RFC 1071 Computing the Internet Checksum	RFC 2082 RIP-2 MD5 Authentication
	RFC 2068 Hypertext Transfer Protocol HTTP/1.1	RFC 1091 Telnet Terminal-Type Option	RFC 2091 Trigger RIP
	RFC 2271 FrameWork	RFC 1093 NSFNET routing architecture	RFC 2104 HMAC: Keyed-Hashing for Message
	RFC 2452 MIB for TCP6	RFC 1122 Host Requirements	Authentication
	RFC 2454 MIB for UDP6	RFC 1141 Incremental updating of the Internet	RFC 2131 DHCP
	RFC 2573 (SNMPv3 Applications)	checksum	RFC 2132 DHCP Options and BOOTP Vendor Extensio
	RFC 2576 (Coexistence between SNMP V1, V2, V3)	RFC 1142 OSI IS-IS Intra-domain Routing Protocol	RFC 2138 Remote Authentication Dial In User Service
	RFC 2578-2580 SMIv2	RFC 1144 Compressing TCP/IP headers for low-speed	(RADIUS)
	RFC 2579 (SMIv2 Text Conventions)	serial links	RFC 2205 Resource ReSerVation Protocol (RSVP) -
	RFC 2580 (SMIv2 Conformance)	RFC 1171 Point-to-Point Protocol for the transmission	Version 1 Functional Specification
	RFC 2819 (RMON groups Alarm, Event, History and	of multi-protocol datagrams over Point-to-Point links	RFC 2209 Resource ReSerVation Protocol (RSVP)
	Statistics only)	RFC 1195 OSI ISIS for IP and Dual Environments	Version 1 Message Processing Rules
	RFC 2819 RMON	RFC 1213 Management Information Base for Network	RFC 2236 IGMP Snooping
	RFC 3410 (Management Framework)	Management of TCP/IP-based internets	RFC 2246 The TLS Protocol Version 1.0
	RFC 3416 (SNMP Protocol Operations v2)	RFC 1253 (OSPF v2)	RFC 2252 Lightweight Directory Access Protocol (v3)
	RFC 3417 (SNMP Transport Mappings)	RFC 1256 ICMP Router Discovery Protocol (IRDP)	Attribute Syntax Definitions
	Multiple Configuration Files	RFC 1293 Inverse Address Resolution Protocol	RFC 2280 Routing Policy Specification Language (RP
	Multiple Software Images	RFC 1305 NTPv3	RFC 2283 MBGP
	SNMP v3 and RMON RFC support	RFC 1315 Management Information Base for Frame	RFC 2284 EAP over LAN
	SSHv1/SSHv2 Secure Shell	Relay DTEs	RFC 2338 VRRP
	TACACS/TACACS+	RFC 1321 The MD5 Message-Digest Algorithm	RFC 2364 PPP Over AAL5
		RFC 1332 The PPP Internet Protocol Control Protocol	RFC 2374 An Aggregatable Global Unicast Address
	General protocols	(IPCP)	Format
	IEEE 802.1ad Q-in-Q	RFC 1333 PPP Link Quality Monitoring	RFC 2451 The ESP CBC-Mode Cipher Algorithms
	IEEE 802.1ag Service Layer OAM	RFC 1334 PPP Authentication Protocols (PAP)	RFC 2453 RIPv2
	IEEE 802.1ah Provider Backbone Bridges	RFC 1334 PPP Authentication Protocols (PAP)	RFC 2510 Internet X.509 Public Key Infrastructure
	IEEE 802.1AX-2008 Link Aggregation	RFC 1349 Type of Service	Certificate Management Protocols
	IEEE 802.1D MAC Bridges	RFC 1350 TFTP Protocol (revision 2)	RFC 2511 Internet X.509 Certificate Request Messag
	IEEE 802.1p Priority	RFC 1377 The PPP OSI Network Layer Control Protocol	Format
	IEEE 802.1Q (GVRP)	(OSINLCP)	RFC 2516 A Method for Transmitting PPP Over Ether
	IEEE 802.1Q VLANs	RFC 1381 SNMP MIB Extension for X.25 LAPB	(PPPoE)
	IEEE 802.1s (MSTP)	RFC 1389 RIPv2 MIB Extension	RFC 2529 Transmission of IPv6 over IPv4 Domains
	IEEE 802.1s Multiple Spanning Trees	RFC 1471 The Definitions of Managed Objects for the	without Explicit Tunnels
	IEEE 802.1v VLAN classification by Protocol and Port	Link Control Protocol of the Point-to-Point Protocol	RFC 2616 HTTP Compatibility v1.1
	IEEE 802.1w Rapid Reconfiguration of Spanning Tree	RFC 1472 The Definitions of Managed Objects for the	RFC 2622 Routing Policy Specification Language (RF
	IEEE 802.1X PAE	Security Protocols of the Point-to-Point Protocol	RFC 2663 NAT Terminology and Considerations
	IEEE 802.3 Type 10BASE-T	RFC 1490 Multiprotocol Interconnect over Frame Relay	RFC 2684 Multiprotocol Encapsulation over ATM
	IEEE 802.3ab 1000BASE-T	RFC 1519 CIDR	Adaptation Layer 5
	IEEE 802.3ac (VLAN Tagging Extension)	RFC 1519 Clork RFC 1531 Dynamic Host Configuration Protocol	RFC 2694 DNS extensions to Network Address
	IEEE 802.3ad Link Aggregation (LAG)	RFC 1533 DHCP Options and BOOTP Vendor Extensions	Translators (DNS_ALG)
	IEEE 802.3ad Link Aggregation (LAG)	RFC 1533 DHCP Options and BOOTP Vendor Extensions	RFC 2702 Requirements for Traffic Engineering Ove
	IEEE 802.3ad Link Aggregation Control Protocol (LACP) IEEE 802.3ae 10-Gigabit Ethernet	RFC 1534 DHCP/BOOTP III(eroperation	MPLS
	IEEE 802.3ag Ethernet OAM	RFC 1541 DICP	RFC 2716 PPP EAP TLS Authentication Protocol
	IEEE 802.3ah Ethernet in First Mile over Point to Point	RFC 1542 Clarifications and Extensions for the Bootstrap	RFC 2747 RSVP Cryptographic Authentication
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RFC 1542 Clarifications and Extensions for the Bootstrap

IEEE 802.3ah Ethernet in First Mile over Point to Point

RFC 2716 PPP EAP TLS Authentication Protocol RFC 2747 RSVP Cryptographic Authentication RFC 2763 Dynamic Name-to-System ID mapping

Specifications (continued)

	HP HSR6602-G Router (JG353A) RFC 2763 Dynamic Name-to-System ID mapping support	HP HSR6602-XG Router (JG354A)	
Standards and protocols		Engineering (TE) Management Information Base (MIB)	RFC 5340 OSPF for IPv6
(applies to all products in series)	RFC 2765 Stateless IP/ICMP Translation Algorithm (SIIT)	RFC 3847 Restart signaling for IS-IS	RFC 5340 OSPFv3 for IPv6
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	RFC 2766 Network Address Translation - Protocol	RFC 4213 Basic IPv6 Transition Mechanisms	RFC 5722 Handling of Overlapping IPv6 Fragmen
	Translation (NAT-PT)		
	RFC 2767 Dual Stacks IPv4 & IPv6	IP multicast	MIBs
	RFC 2784 Generic Routing Encapsulation (GRE)	RFC 1112 IGMP	IEEE 8021-PAE-MIB
	RFC 2787 Definitions of Managed Objects for VRRP	RFC 2236 IGMPv2	IEEE 8023-LAG-MIB
	RFC 2865 Remote Authentication Dial In User Service	RFC 2283 Multiprotocol Extensions for BGP-4	RFC 1156 (TCP/IP MIB)
	(RADIUS)	RFC 2362 PIM Sparse Mode	RFC 1212 Concise MIB Definitions
	RFC 2866 RADIUS Accounting	RFC 2934 Protocol Independent Multicast MIB for IPv4	RFC 1213 MIB II
	RFC 2868 RADIUS Attributes for Tunnel Protocol Support	RFC 3973 PIM Dense Mode	RFC 1229 Interface MIB Extensions
	RFC 2869 RADIUS Extensions	RFC 4601 PIM Sparse Mode	RFC 1286 Bridge MIB
	RFC 2961 RSVP Refresh Overhead Reduction Extensions	RFC 4605 IGMP/MLD Proxying	RFC 1493 Bridge MIB
	RFC 2966 Domain-wide Prefix Distribution with		RFC 1573 SNMP MIB II
	Two-Level IS-IS	IPv6	RFC 1643 Ethernet MIB
	RFC 2973 IS-IS Mesh Groups	RFC 1350 TFTP	RFC 1650 Ethernet-Like MIB
	RFC 2976 The SIP INFO Method	RFC 1881 IPv6 Address Allocation Management	RFC 1657 BGP-4 MIB
	RFC 3022 Traditional IP Network Address Translator	RFC 1886 DNS Extension for IPv6	RFC 1724 RIPv2 MIB
	(Traditional NAT)	RFC 1887 IPv6 Unicast Address Allocation Architecture	RFC 1757 Remote Network Monitoring MIB
	RFC 3027 Protocol Complications with the IP Network	RFC 1981 IPv6 Path MTU Discovery	RFC 1850 OSPFv2 MIB
	Address Translator	RFC 2080 RIPng for IPv6	RFC 1907 SNMPv2 MIB
	RFC 3031 Multiprotocol Label Switching Architecture	RFC 2292 Advanced Sockets API for IPv6	RFC 2011 SNMPv2 MIB for IP
	RFC 3032 MPLS Label Stack Encoding	RFC 2373 IPv6 Addressing Architecture	RFC 2012 SNMPv2 MIB for TCP
	RFC 3036 LDP Specification	RFC 2375 IPv6 Multicast Address Assignments	RFC 2013 SNMPv2 MIB for UDP
	RFC 3046 DHCP Relay Agent Information Option	RFC 2460 IPv6 Specification	RFC 2021 RMONv2 MIB
	RFC 3063 MPLS Loop Prevention Mechanism	RFC 2461 IPv6 Neighbor Discovery	RFC 2096 IP Forwarding Table MIB
	RFC 3065 Support AS confederation	RFC 2462 IPv6 Stateless Address Auto-configuration	RFC 2233 Interfaces MIB
	RFC 3137 OSPF Stub Router Advertisement	RFC 2463 ICMPv6	RFC 2273 SNMP-NOTIFICATION-MIB
	RFC 3209 RSVP-TE Extensions to RSVP for LSP Tunnels	RFC 2464 Transmission of IPv6 over Ethernet Networks	RFC 2452 IPV6-TCP-MIB
	RFC 3210 Applicability Statement for Extensions to	RFC 2472 IP Version 6 over PPP	RFC 2454 IPV6-UDP-MIB
	RSVP for LSP-Tunnels	RFC 2473 Generic Packet Tunneling in IPv6	RFC 2465 IPv6 MIB
	RFC 3212 Constraint-Based LSP setup using LDP	RFC 2475 IPv6 DiffServ Architecture	RFC 2466 ICMPv6 MIB
	(CR-LDP)	RFC 2529 Transmission of IPv6 Packets over IPv4	RFC 2571 SNMP Framework MIB
	RFC 3214 LSP Modification Using CR-LDP	RFC 2545 Use of MP-BGP-4 for IPv6	RFC 2572 SNMP-MPD MIB
	RFC 3215 LDP State Machine	RFC 2553 Basic Socket Interface Extensions for IPv6	RFC 2574 SNMP USM MIB
	RFC 3246 Expedited Forwarding PHB	RFC 2710 Multicast Listener Discovery (MLD) for IPv6	RFC 2618 RADIUS Client MIB
	RFC 3268 Advanced Encryption Standard (AES)	RFC 2711 IPv6 Router Alert Option	RFC 2620 RADIUS Accounting Client MIB
	Ciphersuites for Transport Layer Security (TLS)	RFC 2740 OSPFv3 for IPv6	RFC 2665 Ethernet-Like-MIB
	RFC 3277 IS-IS Transient Blackhole Avoidance	RFC 2893 Transition Mechanisms for IPv6 Hosts and	RFC 2668 802.3 MAU MIB
	RFC 3279 Algorithms and Identifiers for the Internet	Routers	RFC 2674 802.1p and IEEE 802.1Q Bridge MIB
	X.509 Public Key Infrastructure Certificate and	RFC 2925 Definitions of Managed Objects for Remote	RFC 2688 MAU-MIB
	Certificate Revocation List (CRL) Profile	Ping, Traceroute, and Lookup Operations (Ping only)	RFC 2737 Entity MIB (Version 2)
	RFC 3280 Internet X.509 Public Key Infrastructure	RFC 3056 Connection of IPv6 Domains via IPv4 Clouds	RFC 2787 VRRP MIB
	Certificate and Certificate Revocation List (CRL) Profile	RFC 3162 RADIUS and IPv6	RFC 2819 RMON MIB
	RFC 3392 Support BGP capabilities advertisement	RFC 3306 Unicast-Prefix-based IPv6 Multicast Addresses	RFC 2863 The Interfaces Group MIB
	RFC 3410 Applicability Statements for SNMP	(v2 models only)	RFC 2925 Ping MIB
	RFC 3416 Protocol Operations for SNMP	RFC 3307 IPv6 Multicast Address Allocation	RFC 2932IP (Multicast Routing MIB)
	RFC 3417 Transport Mappings for the Simple Network	RFC 3315 DHCPv6 (client and relay)	RFC 2933 IGMP MIB
	Management Protocol (SNMP)	RFC 3363 DNS support	RFC 3273 HC-RMON MIB
	RFC 3479 Fault Tolerance for the Label Distribution	RFC 3484 Default Address Selection for IPv6	RFC 3414 SNMP-User based-SM MIB
	Protocol (LDP)	RFC 3493 Basic Socket Interface Extensions for IPv6 (v2	RFC 3415 SNMP-View based-ACM MIB
	RFC 3487 Graceful Restart Mechanism for LDP	models only)	RFC 3418 MIB for SNMPv3
	RFC 3509 OSPF ABR Behavior	RFC 3513 IPv6 Addressing Architecture	RFC 3813 MPLS LSR MIB
	RFC 3526 More Modular Exponential (MODP)	RFC 3542 Advanced Sockets API for IPv6	RFC 3814 MPLS FTN MIB
	Diffie-Hellman groups for Internet Key Exchange (IKE)	RFC 3587 IPv6 Global Unicast Address Format	RFC 3815 MPLS LDP MIB
	RFC 3564 Requirements for Support of Differentiated	RFC 3596 DNS Extension for IPv6	RFC 3826 AES for SNMP's USM MIB
	Services-aware MPLS Traffic Engineering	RFC 3810 MLDv2 (host joins only)	RFC 4113 UDP MIB
	RFC 3567 Intermediate System to Intermediate System	RFC 3810 MLDv2 for IPv6	RFC 4133 Entity MIB (Version 3)
	(IS-IS) Cryptographic Authentication	RFC 3810 Multicast Listener Discovery Version 2	RFC 4221 MPLS FTN MIB
	RFC 3602 The AES-CBC Cipher Algorithm and Its Use with	(MLDv2) for IPv6	LLDP-EXT-DOT1-MIB
	IPsec	RFC 4022 MIB for TCP	LLDP-EXT-DOT3-MIB
	RFC 3619 Ethernet Automatic Protection Switching	RFC 4113 MIB for UDP	LLDP-MIB
	(EAPS)	RFC 4251 SSHv6 Architecture	
	RFC 3623 Graceful OSPF Restart	RFC 4252 SSHv6 Authentication	Network management
	RFC 3704 Unicast Reverse Path Forwarding (URPF)	RFC 4252 SSHv6 Transport Layer	IEEE 802.1AB Link Layer Discovery Protocol (LL
	RFC 3706 A Traffic-Based Method of Detecting Dead	RFC 4253 SSHv6 Transport Layer	IEEE 802.1D (STP)
	Internet Key Exchange (IKE) Peers	RFC 4254 SSHv6 Connection	RFC 1098 A Simple Network Management Proto
	RFC 3768 Virtual Router Redundancy Protocol (VRRP)	RFC 4291 IP Version 6 Addressing Architecture	(SNMP)
	RFC 3784 ISIS TE support	RFC 4293 MIB for IP	RFC 1155 Structure of Management Information
	RFC 3786 Extending the Number of IS-IS LSP Fragments	RFC 4419 Key Exchange for SSH	RFC 1157 SNMPv1
	Beyond the 256 Limit	RFC 4443 ICMPv6	RFC 1215 SNMP Generic traps
	RFC 3811 Definitions of Textual Conventions (TCs) for	RFC 4541 IGMP & MLD Snooping Switch	RFC 1757 RMON 4 groups: Stats, History, Alarm
	Multiprotocol Label Switching (MPLS) Management	RFC 4862 IPv6 Stateless Address Auto-configuration	Events

RFC 4541 IGMP & MLD Snooping Switch
RFC 4862 IPv6 Stateless Address Auto-configuration
RFC 5095 Deprecation of Type 0 Routing Headers in IPv6

RFC 3811 Definitions of Textual Conventions (TCs) for Multiprotocol Label Switching (MPLS) Management RFC 3812 Multiprotocol Label Switching (MPLS) Traffic

RFC 1901 SNMPv2 Introduction

Specifications (continued)

Standards and protocols

(applies to all products in series)

HP HSR6602-G Router (JG353A) 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 2819 Four groups of RMON: 1 (statistics), 2 (history), 3 (alarm) and 9 (events)

RFC 2819 Remote Network Monitoring Management Information Base

RFC 3164 BSD syslog Protocol RFC 3176 sFlow

RFC 3411 SNMP Management Frameworks

RFC 3412 SNMPv3 Message Processing RFC 3414 SNMPv3 User-based Security Model (USM) RFC 3415 SNMPv3 View-based Access Control Model

νΔςΜ) 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). RFC 2154 OSPF w/ Digital Signatures (Password, MD-5)

REC 2178 OSPEV2

RFC 2328 OSPFv2

RFC 2370 OSPF Opaque LSA Option

HP HSR6602-XG Router (JG354A)

RFC 3101 OSPF NSSA RFC 3623 Graceful OSPF Restart RFC 5340 OSPF for IPv6 RFC 5340 OSPFv3 for IPv6

Oos/cos

IEEE 802.1P (CoS)

RFC 2474 DiffServ Precedence, including 8 gueues/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

RFC 2598 DiffServ Expedited Forwarding (EF)

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 Remote Authentication Dial In User Service (RADIUS) Usage Guidelines 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

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 IBGP

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 4302 - IP Authentication Header (AH) RFC 4303 - IP Encapsulating Security Payload (ESP)

RFC 4305 - Cryptographic Algorithm Implementation

Requirements for ESP and AH

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

RFC 3748 - Extensible Authentication Protocol (EAP)

HP HSR6600 Router Series accessories

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 X125 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 X120 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)

HP X130 10G SFP+ LC SR Transceiver (JD092B)

HP X130 10G SFP+ LC LR Transceiver (JD094B)

HP X130 10G SFP+ LC ER 40km Transceiver (JG234A)

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)

Power Supply

HP 5800 300W AC Power Supply (JC087A)

HP 5800 300W DC Power Supply (JC090A)

Fan Tray

HP HSR6602 Router Spare Fan Assembly (JG359A)

Router Modules

HP 6600 8-port 10/100Base-T HIM Module (JC575A)

HP 6600 4-port Gig-T HIM Module (JC163A)

HP 6600 8-port Gig-T HIM Module (JC164A)

HP 6600 4-port GbE SFP HIM Module (JC171A)

HP 6600 8-port GbE SFP HIM Module (JC174A)

HP 6600 1-port 10-GbE XFP HIM Module (JC168A)

HP 6600 1-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module (JC161A)

HP 6600 2-port OC-3/STM-1 (E1/T1) CPOS SFP HIM Module (JC162A)

HP 6600 2-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module (JC169A)

HP 6600 1-port OC-3/STM-1 (E3/T3) CPOS SFP HIM Module (JC170A)

HP 6600 4-port OC-3c/STM-1c or 2-port OC-12c/STM-4c POS SFP HIM Module (JC172A)

HP 6600 2-port OC-3c/STM-1c or 1-port OC-12c/STM-4c POS SFP HIM Module (JC173A)

HP 6600 1-port OC-3c/STM-1c ATM SFP HIM Module (JC175A)

HP 6600 1-port OC-48c/STM-16c POS/CPOS SFP HIM Module (JC494A)

HP 6600 2-port OC-3c/STM-1c ATM SFP HIM Module (JC495A)

HP 6600 2-port OC-48c/STM-16c RPR SFP HIM Module (JC576A)

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

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

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

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

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

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

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

HP MSR 8-port E1/Fractional E1 (750hm) MIM Module (JF255A)

HP 6600 FIP-10 Flexible Interface Platform Router Module (JG357A)

HP 6600 FIP-20 Flexible Interface Platform Router Module (JG358A)

Memory

HP X610 2G VLP DDR3 SDRAM Memory (JG482A)



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