H3C S9500

(left to right) H3C S9502, S9505, S9508, S9508V and S9512

Overview

The H3C® S9500 series of intelligent, multilayer modular LAN switches is ideal for enterprise environments where non-stop availability of critical applications and the highest performance, security and granular control are required.

These switches provide unparalleled investment protection for the enterprise with industry-leading scalability and flexible modular architecture, delivering high performance Gigabit and 10-Gigabit switching and routing.

The S9500 series enables end-to-end connectivity and network application control in an architecture scaleable to 1.44 Terabits per second. Three available chassis models—featuring 14, 10 and 7 slots—provide flexibility based on the switching capacity and interface port density required:

- S9512: Highest capacity, 14-slot chassis, with two slots supporting dual load-sharing, redundant switch fabrics and 12 slots for any combination of switching I/O modules, supporting up to 48 10-Gigabit ports or 576 10/100/1000 ports.
- S9508: 10-slot chassis, with two slots for dual load-sharing, redundant switch fabrics and eight slots for switching I/O modules, supporting up to 32 10-Gigabit ports or 384 10/100/1000 ports.
- S9505: 7-slot chassis, with two slots for dual load-sharing, redundant switch fabrics and five slots for switching I/O modules, supporting up to 20 10-Gigabit ports or 240 10/100/1000 ports.
- S9502: 4-slot chassis, with two slots for dual load-sharing, redundant switch fabrics and two or three slots for switching I/O modules, supporting up to 10 10-gigabit ports or 144 10/100/1000 ports.

Application modules for the S9500 provide the flexibility to add a firewall, IPsec encryption, network monitoring with NetFlow, and Layer 2 VPN networking using Virtual Private LAN Service (VPLS) simply by adding modules to the chassis.

Key Benefits

Intelligent Enterprise Infrastructure

Enterprise network infrastructure is evolving dramatically, from the core to the edge of the network, with greater demands being placed on the entire network system to deliver:

- Highly intelligent, non-stop transport of data and access to information resources
- Guaranteed quality of service (QoS) for mission critical business applications, including Voice over IP (VoIP), storage and video
- Comprehensive security for network access control, encryption and protection of corporate resources
- Unprecedented levels of management visibility and granular control
- An open, standards-based architecture to enable seamless growth and future investment without proprietary lock-ins

The S9500 has been designed to stand up to these challenges for the most demanding enterprise environments. The S9500 delivers a comprehensive infrastructure solution that is highly resilient, intelligent, secure and scalable—one that is capable of adapting to the evolving needs of the enterprise.

Resilient Architecture for Business Continuity

With a highly resilient modular architecture, the S9500 series enhances business continuity by helping ensure availability of convergent enterprise applications including data, voice and video. All critical system components including power supplies, cooling fans and switch fabrics are redundant and hot-swappable, minimizing any impact to the enterprise in the event a single component should fail.

All S9500 chassis models support the option for dual switch fabrics providing high resiliency and rapid failover—less than one second—to deliver the highest possible availability of network resources. With dual switch fabrics installed, both fabrics are active and load-sharing, ensuring resiliency as well as doubling effective system performance.

Key Benefits (continued)

Changes in network topology due to device or link failures can lead to disruption of service for critical business applications. Rapid recovery from such topology changes is achieved with features such as Multiple Spanning Tree Protocol (MSTP), Rapid Spanning Tree Protocol (RSTP), Open Shortest Path First (OSPF) routing and Virtual Router Redundancy Protocol (VRRP).

Application Convergence: QoS and Power Over Ethernet

Real-time applications such as voice over IP (VoIP) demand high Quality of Service (QoS) and differentiated service levels to function properly. The S9500 series provides robust QoS and advanced traffic management features, allowing critical applications to be prioritized and serviced as the needs of the organization dictate.

Additionally, the S9500 supports industry-standard IEEE 802.3af Power over Ethernet (PoE) to provide both electrical power and network connectivity to PoE-capable devices, such as IP telephones and wireless access points, making the switches ideal for large-scale enterprise edge deployment. PoE simplifies network deployment by eliminating the need for separate data and power infrastructures, significantly reducing installation and maintenance costs. PoE also provides greater flexibility for moves, adds and changes on the network, as powered network devices can be deployed or relocated anywhere an Ethernet connection is available without requiring a dedicated power outlet.

Enterprise-Class Security

Security is paramount in today's enterprise and as dependency on information technology continues to rise, so does the need for highly secure IT systems and infrastructure. The S9500 series features advanced security capabilities, including user and device authentication, policy-based access controls, encrypted system management access and quarantine enforcement for containment of vulnerabilities and deliberate attacks.

The S9500 provides secure network access using standard IEEE 802.1X along with with user- and device-based access control capabilities. RADIUS support enables user authentication. Port- and VLAN-based Access Control Lists (ACLs) and dynamic traffic filtering capabilities can be deployed to further control access to network resources.

Additional security measures are enforced on access to switch management utilities via Secure Shell version 2 (SSH v2) and SNMP v3 with authentication and encryption of network management traffic.

Optional firewall and IPsec modules deliver an unprecedented level of integrated security. The firewall module enables a stateful firewall that operates in either a routed or transparent mode, and offers high-efficiency packet filtering, transparent proxy, stateful detection security technology. The IPsec module is a high-performance hardware-based encryption VPN module designed for enterprises requiring support for multiple VPN applications. It provides multiple VPN functions (L2TP VPN, GRE VPN, IPsec VPN) and supports IPsec hardware encryption of DES, 3DES, and AES with a maximum of 256-bit encryption.

The S9500 series plays an integral role in providing quarantine protections solutions that automate containment of security threats in the enterprise. Leveraging the industry-leading TippingPoint® Intrusion Prevention System, the switch delivers endpoint enforcement at the network edge.

Scalable Performance

With its 1.44 Terabits-per-second-capable backplane and wire-speed switching capacity, the S9500 provides exceptional scalability for core, data center, distribution and edge environments within the enterprise. System performance and connectivity options can be tailored to each environment with a wide selection of switching modules, scaling up to 48 10-Gigabit ports or 576 Gigabit ports in a single chassis.

The flexible design of the S9500 allows for any combination of switching modules to be used in a single system, allowing easy expansion of network capacity, accommodating a range of port densities and media types for 10-Gigabit and Gigabit Ethernet.

Installation of the optional second switch fabric increases performance from 720 Gbps to 1.44 Tbps, as the fabrics are load-sharing. Each switching I/O module provides on-board local multilayer switching, maximizing system performance and application response times; adding modules increases the aggregate system performance, to a maximum Layer 2/3 switching capacity of 856 Mpps. In addition, the backplane is designed to accommodate higher-performing switch fabrics.

Standards-based link aggregation (via IEEE 802.3ad) allows scalable, high-bandwidth interconnectivity between network devices, with the ability to aggregate multiple Gigabit or 10-Gigabit links together as a single "trunk". Link aggregation of ports is supported across modules within the S9500 for virtually non-stop network availability.

Prioritization and Traffic Management

Eight priority queues per port enable standard IEEE 802.1p Class of Service Quality of Service (CoS/QoS). Protocol filtering and bandwidth rate limiting capabilities allow the switch to enforce port-based controls for efficient use of network resources and prioritization of business-critical or time-sensitive applications, including Voice over IP (VoIP).

For example, protocols associated with key business applications can receive prioritized, high-bandwidth service, while protocols associated with non-critical (or even undesirable) applications can receive lower priority and bandwidth resources, or be blocked completely.

Key Benefits (continued)

Standards-Based Interoperability and Investment Protection

Enterprises today rely on open standards-based technology solutions to enable interoperability among new and existing systems and to ensure that today's investments will continue to provide value well into the future without being locked-in to a particular vendor's products or technology.

The S9500 has an open architecture, facilitating seamless growth and migration based on widely accepted international standards, free from costly lock-ins and the restrictions of proprietary approaches.

H3C's standards-based design philosophy—inherent in the S9500 and all other H3C products—provides investment protection as well as the flexibility to deploy "best-in-class" technology solutions which leverage industry standards.

Enterprise Class Management and Control

The S9500 system features independent channels for data and management control. The dedicated data channel provides high-speed data switching and packet forwarding, while a separate management channel provides control, monitoring, route learning and distribution.

A comprehensive set of management features allows the S9500 to provide enterprise-wide visibility and control to IT staff for configuration, network monitoring and advanced troubleshooting capabilities. Management features are accessible via an intuitive command line interface (CLI), as well as by SNMP, with hierarchical access controls and password protection for secure management access.

Additional management security is provided through user authentication and the data encryption capabilities of SNMP v3 and SSH v2, further reducing the likelihood of unauthorized access or snooping of management traffic.

Seamless Migration to IPv6

IPv6-ready hardware architecture enables migration from today's IPv4 networks to IPv6 whenever required, without the worry of costly forklift upgrades. An optional Advanced Feature Software version enables comprehensive IPv6 capabilities including RIPng, OSPFv3, BGP-4, MLD, and PIM (SM and DM). IPv6 routing functions are performed in hardware for maximum routing performance.

Ethernet Metro Area Network

Ethernet Metro Area Networks (MANs) offer enterprises a compelling solution for linking diverse sites together over metropolitan area distances into a seamless Ethernet switched network. The simplicity and affordability of Ethernet, in comparison to legacy technologies used for metro area networks, have driven significant new Ethernet-based MAN deployments that will continue to accelerate.

The S9500 supports long range optical lasers on its Gigabit and 10-Gigabit Ethernet Modules for linking S9500s across the metro area, as well as technologies like "Q-in-Q" encapsulation (VLAN VPN) and MPLS for creating IP-VPNs, and Virtual Private LAN Service (VPLS) for creating Layer 2 VPNs. Combined with Ethernet, VPLS transforms the MAN—with many enterprise sites—into a large Ethernet switch with any-to-any connectivity.

Feature Highlights

Highly flexible, resilient architecture for end-to-end enterprise deployment in the core, data center, distribution layer and network edge.
High-density multilayer switching for Gigabit and 10-Gigabit Ethernet.
Up to 576 Gigabit or 48 10-Gigabit Ethernet ports.
1.44 Tbps system bandwidth; up to 856 Mpps switching capacity.
Advanced traffic prioritization and routing of multicast traffic in hardware for convergent applications including voice over IP, streaming audio and video.
Virtually non-stop operation with redundant power supplies, fans and switch fabrics, as well as hot-swappable switching I/O modules.
Robust network access control and enterprise-wide security via standards-based IEEE 802.1X, RADIUS authentication and advanced Access Control Lists, as well as authentication and encryption of management traffic.
Industry-standard Power over Ethernet to power IP phones, wireless access points and other devices; reduces implementation and maintenance costs.
Unifies management and administration with a common operating system and centralized control available via H3C IMC (Intelligent Management Center).
Granular QoS and traffic management for enhanced availability and performance of critical business applications.
Extensive L2/3/4 switching and routing capability, including advanced features* like IS-IS, BGP-4, MBGP, MPLS, and VPLS, applicable in very large enterprises.
Specialized application modules for enhanced security, network analysis and Layer 2 Ethernet VPN enable the flexibility to integrate major capabilities as the network evolves.
Extensive IPv6 feature suite◊ with support for full IPv6 addressing and routing, and transition mechanisms such as dual stack and tunneling. IPv6 can be supported on all existing I/O modules using "Centralized Mode", preserving previous investment in those modules.

* Available in the H3C Advanced Feature Software v3, at additional cost

◊ Available in the H3C Advanced Feature Software v5 IPv6, at additional cost

Service and Support

H3C Global Services offers the resources and talents of a major corporation plus more than two decades of experience in resolving network challenges and delivering business benefits to enterprises around the world.

Global support with a personalized, local focus in the local language helps drive productivity and minimize expenses. Because H3C understands both the technology and the business, we're the partner you need to remain strong and competitive.

Suggested Service, Support and Training Offerings	
H3C Guardian[SM] Maintenance Service	This service provides comprehensive on-site support and includes advance hardware replacement, expedited telephone technical support and software upgrades
H3C Express[SM] Maintenance Service	This service provides speedy access to H3C shipment of advance hardware replacements (including a four-hour option), expedited telephone technical support and software upgrades
Network Health Check	An activity-auditing service focused on improving network performance and productivity Includes traffic monitoring, utilization analysis, problem identification, and asset deployment recommendations Extensive report provides blueprint for action
Network Installation and Implementation Services	Experts set up and configure equipment and integrate technologies to maximize functionality and minimize business disruption For large and complex sites, implementation services include personalized configuration, project management, extended testing and coaching on network administration
Project Management	Provides extra focus and resources that special projects demand H3C engineers manage entire process from initial specifications to post-project review Using structured methodology, requirements are identified, projects planned and progress of implementation activities tracked
Global Education and Training	Self-paced and instructor-led technology and product courses, plus certification programs

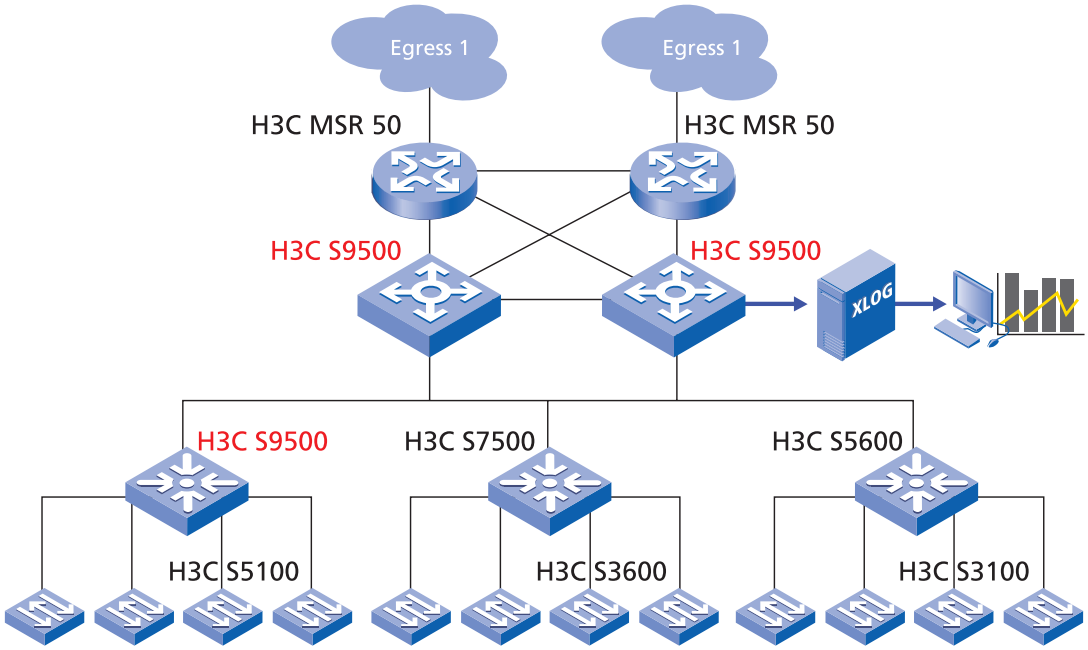
For additional information, please visit www.h3cnetworks.com/services

Product Warranty

The H3C S9500 has a 1-year hardware warranty that includes the power supply and fan assembly.

Campus Network Applications

The H3C S9500 Series can be deployed in the core and distribution layers of campus networks to provide high performance, high security, and manageability. The S9500 series offers high capacity, wire-speed switching capability, which can serve as the core switch of the entire campus network, with their wire-speed 10G/1G ports connecting to the distribution layer devices. The integrated firewall module enables the switch to apply unique security policies according to different service needs. The network traffic analysis function, together with the Xlog system, delivers a clear picture of the network service traffic. The series can also block or control non-essential traffic to avoid bandwidth abuse by P2P service.



Specifications *(Specifications apply to all models, unless otherwise noted)*

Features	S9502	S9505	S9508/S9508V	S9512
Switching Capacity	240 Gbps	300 Gbps 600 Gbps (Engine II)	480 Gbps 960 Gbps (Engine II)	720 Gbps 1.44T(Engine II)
Backplane Capacity	450 Gbps	750 Gbps	1.2 Tbps	1.8 Tbps
L2/L3 Throughput	143 Mpps	178 Mpps 356 Mpps (Engine II)	285 Mpps 570 Mpps (Engine II)	428 Mpps 856 Mpps (Engine II)
Number of slots	4	7	10	14
Number of slots for interface modules	2/3	5	8	12
MAC address table	14k/card 42k/System (VLAN non-cross cards)	14k/card 70k/System (VLAN non-cross cards)	14k/card 112k/System (VLAN non-cross cards)	14k/card 168k/System (VLAN non-cross cards)
L2 features	• STP, RSTP, MSTP • Isolate VLAN, Super VLAN, Dynamic VLAN, Guest VLAN, Protocol-Based VLAN, IP Subnet-Based VLAN, Port-Based VLAN, GVRP, QinQ, ARP Proxy, LACP(802.3ad), DHCP Snooping, Jumbo Frame Support, Smart Link, RRPP, 802.17, 802.17B			
L3 features	• RIPv1, RIPv2, OSPF, IS-IS, BGPv4 • Static Routing • Graceful Restart for OSPFv2/IS-IS/BGPv4 • ECMP (Equal-cost multipath), Policy routing, RRP, DHCP-RELAY, DHCP-SERVER			
Multicast	• IGMP V1/2/3, IGMP snooping V1/2/3, PIM-DM, PIM-SM, MSDP/MBGP, Any-RP			
Multi-services Features IPv6 Features	• MPLS, MPLS L3 VPN, VLL L2 VPN, VPLS VPN*, L2TP, GRE, IPSec VPN*, Firewall function*, Network traffic Analysis* • RIPng, OSPFv3, IS-ISv6, BGP4+ • IPv6 Policy Routing, VRRPv3, Neighbor Discovery Protocol, Path MTU Discovery, DHCPv6, Ping v6, Telnet v6, FTPv6, TFTPv6, DNSv6, ICMPv6, MLD (Multicast Listener Discovery) v1, MLD Snooping v1, PIMv6 • IPv6 over IPv4 tunnel & 6to4, ISATAP, GRE tunnel			

*Corresponding service modules are required to support the features.

Specifications (continued)

Features	S9502	S9505	S9508/S9508V	S9512
QoS	• 802.3x, DiffServ, 802.1p, DSCP • Traffic Classification based L2–L4 ACL • CAR (Commit Access Rate), Traffic Shaping • Queue Scheduling Algorithm:SP, WRR, SP+WRR • Congestion Avoidance Algorithm: WRED and tail drop • Each port supporting 8 priority queues.			
Security	• Hierarchical user management and password protection • 802.1x authentication • IP, MAC, and VLAN binding • Packet filtering • Port-based broadcast frame suppression • Protection from attacks by virus packets, such as DOS attacks • AAA, RADIUS, HWTACACS • SSH 2.0 (security shell), SFTP, SNMPv3			
Management and maintenance	• Console, AUX Modem, Telnet, SSH2.0 CLI • WEB, SNMP v1/2/3 management • RMON v1 (remote monitoring), 1/2/3/9 groups • FTP, SFTP, TFTP, Port Mirroring (N:1) • NQA (Network Quality Analyzer), RSPAN, 802.3ah, System logging			
Reliability	• MTBF >200,000 hours • MTTR < 0.5 hours • Dual main control boards • 1+1 power supplies • Modules hot-swappable			
Size (W×H×D) (mm)	436 x 265 (6U) x 420	436 x 486 (11U) x 450	436 x 619 (14U) x 450 436 x 886 (20U) x 450	436 x 753 (17U) x 450
Weight (in maximum configuration)	40 kg	65 kg	80 kg S9508V: 90 kg	100 kg
Environmental	• Operating temperature: 0°C ~ 45°C. • Relative humidity: 10% ~ 90%, non-condensing			
Power Supply				
Input voltage AC	100~240 VAC auto-ranging (50~60Hz)	100~240 VAC auto-ranging (50~60Hz)	2000W AC power supply module: 100~240 VAC auto-ranging (50~60Hz) auto-ranging (50~60Hz) Output 1200W:100~120 VAC, Output 2000W:200~240 VAC;	
Input voltage DC	-48–60 VDC	-48–60 VDC	2000W DC power supply module: -48–60 VDC	
Max power output of single power module	600W	1200W	2000W	
Max power dissipation	< 600W	< 1000W	< 1200W	<1600W
Power redundancy	1+1 redundancy; hot swappable			
Industry standards support				
Ethernet Protocol	• IEEE 802.1D Bridging • IEEE 802.1p/Q VLAN tagging • IEEE 802.1w RSTP • IEEE 802.1s MSTP • IEEE 802.1X Port based access control • IEEE802.3 10Base-T • IEEE802.3u 100BASE-TX, 100BASE-FX • IEEE802.3z 1000BASE-SX, 1000BASE-LX • IEEE802.3ab 1000BASE-T • IEEE802.3ae 10 Gigabit Ethernet • IEEE802.3x Flow control • IEEE802.3ad Link aggregation • IEEE802.3af (PoE) Power over Ethernet			

Specifications (continued)

Features	S9502	S9505	S9508/S9508V	S9512
	• IEEE802.3ak	10GBASE-CX4		
	• IEEE 802.17	Resilient packet ring (RPR) access method & physical layer specifications		
Administration Protocol				
BGPv4	• RFC1771	BGPv4		
	• RFC1772	Application of the BGP		
	• RFC1965	BGPv4 autonomous system confederations		
	• RFC1997	Communities attribute		
	• RFC1998	PPP Gandalf FZA Compression Protocol		
	• RFC2385	Transmission Control Protocol (TCP) MD5 authentication for BGP		
	• RFC2439	Route flap dampening		
	• RFC2796	Route reflection		
	• RFC1657	Definitions of Managed Objects for BGPv4		
OSPF v2	• RFC2328	OSPF v2		
	• RFC1587	OSPF NSSA		
	• RFC2370	OSPF opaque link-state advertisement (LSA) option		
	• RFC1850	OSPF v2 Management Information Base (MIB), traps		
IS-IS	• ISO10589	IS-IS		
	• RFC1195	IS-IS		
	• RFC2973	IS-IS mesh groups		
RIP	• RFC1058	RIP v1		
	• RFC1723	RIP v2		
	• RFC1724	RIP v2 MIB		
	• RFC2453	RIP v2		
	• RFC2083	PNG (Portable Network Graphics) Specification Version		
IP General	• RFC791	IP		
	• RFC792	ICMP		
	• RFC793	TCP		
	• RFC768	UDP		
	• RFC826	ARP		
	• RFC783	TFTP		
	• RFC854	Telnet		
	• RFC894	IP Over Ethernet		
	• RFC1213	MIB-II		
	• RFC950	Internet Standard Subnetting Procedure		
	• RFC959	FTP		
	• RFC1141	Incremental updating of the Internet checksum.		
	• RFC1122	Requirements for Internet Hosts - Communication Layers		
	• RFC1256	ICMP Router Discovery Messages		
	• RFC1393	Trace route Using an IP Option		
	• RFC 2338	VRRP		
	• RFC 2787	Definitions of Managed Objects for VRRP		
	• RFC 1542 & 2131	DHCP relay		
	• RFC2236	IGMP Snooping		
	• RFC2280	Routing Policy Specification Language (RPSL)		
	• RFC1305	NTPv3		
	• RFC1573	Evolution of the Interfaces Group of MIB-II		
	• RFC1157	SNMP		
	• RFC857	Telnet Echo Option		
	• RFC858	Telnet Suppress Go Ahead Option		
	• RFC1093	NSFNET routing architecture		
	• RFC1631	NAT		
	• RFC2663	NAT Terminology and Considerations		
	• RFC2138	RADIUS		
	• RFC1492	HWTACACS		
	• RFC 1112	Host extensions for IP multicasting.		

Specifications (continued)

Features	S9502	S9505	S9508/S9508V	S9512
	• RFC 2236	Internet Group Management Protocol, Version 2.		
	• RFC 2715	Interoperability Rules for Multicast Routing Protocols.		
	• RFC 2362	PIM-SM		
	• Draft	PIM-DM:draft-ietf-idmr-pim-new-v2-02		
	• RFC 3618	MSDP		
	• RFC 2283	Multi-protocol Extensions for BGPv4		
QoS	• RFC2474	Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers.		
	• RFC2475	Architecture for Differentiated Service.		
	• RFC3168	The Addition of Explicit Congestion Notification (ECN) to IP.		
MPLS	• RFC3031	Multi-protocol Label Switching Architecture.		
	• RFC3032	MPLS Label Stack Encoding.		
	• RFC3033	The Assignment of the Information Field and Protocol Identifier in the Q.2941 Generic Identifier and Q.2957 User-to-user Signaling for the Internet Protocol.		
	• RFC3036	LDP Specification.		
	• RFC3037	LDP Applicability.		
VPN	• RFC2547	BGP/MPLS VPN.		
	• RFC2764	A Framework for IP Based Virtual Private Networks		
	• RFC2796	BGP Route Reflection - An Alternative to Full Mesh IBGP.		
	• RFC2842	Capabilities Advertisement with BGPv4.		
	• RFC2858	Multi-protocol Extensions for BGPv4		
	• RFC2917	A Core MPLS IP VPN Architecture		
	• RFC2918	Route Refresh Capability for BGPv4.		
	• RFC3107	Carrying Label Information in BGPv4.		
VLL & VPLS	• Draft	Draft-martini-l2circuit-trans-mpls-08.txt		
	• Draft	Draft-martini-l2circuit-encap-mpls-04.txt		
	• Draft	Draft-kompella-ppvpn-l2vpn-01.txt		
	• RFC4762	VPLS VPN		
POS	• RFC1619	PPP Over SONET		
	• RFC1661	The Point-to-Point Protocol		
	• RFC1662	PPP in HDLC-like Framing		
	• RFC2687	PPP in a Real-time Oriented HDLC-like Framing.		
ITU	• G.650 (4/97)	Definition and test methods for the relevant parameters of single-mode fibers		
	• G.652 (4/97)	Characteristics of a single-mode optical fiber cable		
	• G.661 (11/96)	Definition and test methods for the relevant generic parameters of optical fiber amplifiers		
	• G.662 (7/95)	Generic characteristics of optical fiber amplifier devices and sub-systems		
	• G.663 (10/96)	Application related aspects of optical fiber amplifier devices and sub-systems		
	• G.671 (11/96)	Transmission characteristics of passive optical components		
	• G.681 (10/96)	Functional characteristics of interoffice and long-haul line systems using optical amplifiers, including optical multiplexing		
	• G.703(1998)	Physical/Electrical Characteristics of hierarchical digital interfaces		
	• G.957(1999)	Optical interfaces for equipments and systems relating to the Synchronous Digital Hierarchy		
	• G.958	Digital line systems based on the synchronous digital hierarchy for use on optical fiber cables		
ETS	• ETS 300 019-2 1999	Equipment engineering; environmental conditions and environment tests for telecommunications equipment.		
IEC	• IEC 1000 1995	Electromagnetic compatibility		
	• IEC 297 1986	Dimensions of mechanical structures of the 482.6 mm series		
EMC	• EN 55022; 1998 + A1: 2000 + A2: 2003		• EN 55024: 1998+ A1: 2001 + A2: 2003	
	• CISPR 22: 2003		• CISPR 24: 1997+A1:2001+A2:2002	
	• ETSI EN 300 386V1.3.2:2003		• VCCI V-3: 2003.04	
	• AS/NZS CISPR 22		• CNS 13438:1997	
	• FCC part 15:2003 Class A		• EMC Directive 89/336/EEC	
	• R&TTE Directive 99/5/EC Article 3.1 (b)		• IECS-003	
	• GB9254			

Specifications (continued)

Features	S9502	S9505	S9508/S9508V	S9512
IPSec	• RFC2401 Security Architecture for the Internet Protocol • RFC2402 IP Authentication Header • RFC2403 The Use of HMAC-MD5-96 within ESP and AH • RFC2404 The Use of HMAC-SHA-1-96 within ESP and AH • RFC2405 The ESP DES-CBC Cipher Algorithm With Explicit IV • RFC2406 IP Encapsulating Security Payload (ESP) • RFC2407 The Internet IP Security Domain of Interpretation for ISAKMP • RFC2408 Internet Security Association and Key Management Protocol (ISAKMP) • RFC2409 The Internet Key Exchange (IKE) • RFC2410 The NULL Encryption Algorithm and Its Use With IPSec			
Safety	• EN 60950:2000 • EN 60825-2:2000 • CSA C22.2 No. 60950-1-03 1st Ed. April 1, 2003		• EN 60825-1:1993+A1:1997 • UL 60950-1:2003, First Edition • IEC 60950	

H3C S9500 Series Port Densities Information and WAN Interfaces

Maximum System Port Densities	S9502	S9505	S9508/S9508V	S9512
10 Gigabit Ethernet	12	20	32	48
OC-48 POS	12	20	32	48
OC-192 POS	3	5	8	12
Gigabit Ethernet	144	240	384	576
Fast Ethernet	144	240	384	576

Ordering Information

S9500 Chassis

SKU No.	Product Name
0235A21X	H3C S9502 Chassis (2 I/O slots, 1 switch fabric slot)
0235A17A	H3C S9505 Chassis (5 I/O slots, 1 switch fabric slot)
0235A16T	H3C S9508 Chassis (8 I/O slots, 2 switch fabric slots)
0235A17B	H3C S9512 Chassis (12 I/O slots, 2 switch fabric slots)

Main Control Unit

SKU No.	Product Name
0231A67W	H3C S9502 Processing Board
0231A74W	H3C S9505 Processing Board
0231A74X	H3C S9508 Processing Board
0231A74Y	H3C S9512 Processing Board
0231A74V	H3C S9500 Processing Board, Clock Module
0231A68E	H3C S9512 Processing Board (XRCoreEngine II)
0231A68B	H3C S9508 Processing Board (XRCoreEngine II)
0231A687	H3C S9505 Processing Board (XRCoreEngine II)
0231A67G	H3C S9500 Processing Board (XRCoreEngine II), Clock Module

Ordering Information (continued)

Software

SKU No.	Product Name
3130A151	H3C S9502 Host Software
3130A08F	H3C S9505 Host Software
3130A08G	H3C S9508 Host Software
3130A09E	H3C S9512 Host Software

Standard Modules

SKU No.	Product Name	Description
0231A47N	H3C S9500 20-Port 100BASE-FX (B)	SFP (LC)
0231A46N	H3C S9500 4-Port 10GBASE-R/W (B)	XFP (LC)
0231A47P	H3C S9500 32-Port 10/100BASE-TX and 4-Port 1000BASE-X (B)	RJ45, SFP (LC)
0231A47Q	H3C S9500 48-Port 10/100BASE-TX (B)	RJ45

Selective QinQ Standard Modules (IPv6 Hardware Ready)

SKU No.	Product Name	Description
0231A66T	H3C S9500 12-Port 1000BASE-X (DB)	SFP (LC)
0231A72W	H3C S9500 24-Port 10/100/1000BASE-T (DB)	RJ45
0231A735	H3C S9500 48-Port 10/100/1000BASE-T (DB)	PoE, RJ45
0231A73B	H3C S9500 24-Port 1000BASE-X (DB)	SFP (LC)
0231A66X	H3C S9500 48-Port 1000BASE-X (DB)	SFP (LC)
0231A69S	H3C S9500 48-Port 10/100/1000BASE-T (DB)	RJ45
0231A67J	H3C S9500 1-Port 10GBASE-R (DB)	XENPAK (SC)
0231A67L	H3C S9500 2-Port 10GBASE-R/W (DB)	XFP (LC)
0231A69R	H3C S9500 4-Port 10Gigabit Ethernet Optical (DB)	XFP (LC)
0231A69U	H3C S9500 4-Port 10GBase-R/W Ethernet Optical (DB)	XFP (LC)
0231A83L	H3C S9500 48-Port Gigabit Ethernet Optical (DB)	SFP (LC)

MPLS+VLL Enhanced Modules

SKU No.	Product Name	Description
0231A47A	H3C S9500 48-Port 10/100BASE-TX (CA)	RJ45
0231A47R	H3C S9500 20-Port 100BASE-FX (CA)	SFP (LC)
0231A46Q	H3C S9500 12-Port 1000BASE-X (CA)	SFP (LC)
0231A46P	H3C S9500 24-Port 1000BASE-X (CA)	SFP (LC)
0231A46R	H3C S9500 24-Port 10/100/1000BASE-T (CA)	RJ45
0231A46H	H3C S9500 1-Port 10GBASE-R (CA)	XENPAK (SC)
0231A46J	H3C S9500 2-Port 10GBASE-R/W (CA)	XFP (LC)
0231A46K	H3C S9500 4-Port 10GBASE-R/W (CA)	XFP (LC)
0231A47B	H3C S9500 32-Port 10/100BASE-TX and 4-Port 1000BASE-X (CA)	RJ45, SFP (LC)
0231A46S	H3C S9500 4-Port OC-3c POS and 8-Port 1000BASE-X (CA)	SFP (LC)
0231A46L	H3C S9500 4-Port OC-48c POS (CA)	SFP (LC)
0231A46M	H3C S9500 1-Port OC-192c POS (CA)	XFP (LC)
0231A67A	H3C S9500 8-Port 10/100/1000BASE-T and 4-Port 1000BASE-X (CA)	RJ45, SFP (LC)

Ordering Information (continued)

RPR Modules

SKU No.	Product Name	Description
0231A67H	H3C S9500 2-Port OC-192c RPR (CA)	XFP (LC)
0231A67E	H3C S9500 2-Port OC-48c RPR (CA)	SFP (LC)
0231A69K	H3C S9500 2-Port GE RPR and 8-Port GE Optical (DB)	SFP (LC)
0231A69M	H3C S9500 4-Port GE RPR and 8-Port GE Optical (DB)	SFP (LC)

Power Supplies

SKU No.	Product Name	Description
0231A67T	H3C S9500 AC P/S 90-264V	Max 600W
0231A688	H3C S9500 DC P/S 36-75V	Max 600W
0231A48G	H3C S9500 AC P/S 90-264V	Max 1,200W
0231A48D	H3C S9500 DC P/S 36-75V	Max ,1200W
0231A48H	H3C S9500 AC P/S 90-264V	Max 2,000W
0231A48F	H3C S9500 DC P/S 36-75V	Max 2,000W

PoE Upgrade Kit (for Switch S9502)

SKU No.	Product Name	Description
0231A735	H3C S9500 48-Port 10/100/1000BASE-T (DB)	PoE, RJ45
0231A48J	H3C S9500 DIMM for PoE Master and Slave Power Management	Mandatory for PoE function.
0231A685	H3C S9500 PoE Power Supply	External system, max 2,500W

PoE Upgrade Kit (for Switch S9505/Switch S9508/Switch S9512)

SKU No.	Product Name	Description
0231A735	H3C S9500 48-Port 10/100/1000BASE-T (DB)	PoE, RJ45
0231A48J	H3C S9500 DIMM for PoE Master and Slave Power Management	Mandatory for PoE function.
0231A67Q	H3C S9500 PoE Entry	Mandatory for PoE function.

Service Modules

SKU No.	Product Name	Description
0231A827	H3C S9500 Firewall	RJ45, Console
0231A47D	H3C S9500 NAT	No Front Panel Access
0231A47F	H3C S9500 VPLS	No Front Panel Access
0231A67C	H3C S9500 Network Anlysis	No Front Panel Access
0231A737	H3C S9500 8-Port 1000BASE-X IPSEC (DB)	SFP (LC)
0231A739	H3C S9500 8-port 1000BASE-X Firewall (DB)	SFP (LC)

Spare Parts

SKU No.	Product Name	Description
0231A48A	H3C S9508 Spare Fan	Spare Fan for S9508
0231A47Y	H3C S9505/9512 Spare Fan	Spare Fan for S9505/9512
0231A48K	1GB SDRAM Memory	1GB Memory Upgrade

Ordering Information (continued)

Optical Modules

SKU No.	Product Name	Description
0231A320	H3C 100BASE-FX SFP Transceiver, Multi-Mode	1310nm, 2km, LC
0231A564	H3C 100BASE-LX SFP Transceiver, Single Mode	1310nm, 15km, LC
0231A089	H3C 100BASE-LH40 SFP Transceiver, Single Mode	1310nm, 40km, LC
0231A090	H3C 100BASE-LH80 SFP Transceiver, Single Mode	1550nm, 80km, LC
0231A12T	H3C 100BASE-LX BIDI SFP Transceiver, Single Mode	TX1310/RX1550, 15km, LC
0231A12U	H3C 100BASE-LX BIDI SFP Transceiver, Single Mode	TX1550/RX1310, 15km, LC
0231A562	H3C 1000BASE-SX SFP Transceiver, Multi-Mode	850nm, 550m, LC
0231A563	H3C 1000BASE-LX SFP Transceiver, Single Mode	1310nm, 10km, LC
02312170	H3C 1000BASE-LH40 SFP Transceiver, Single Mode	1310nm, 40km, LC
02312172	H3C 1000BASE-LH40 SFP Transceiver, Single Mode	1550nm, 40km, LC
02312173	H3C 1000BASE-LH70 SFP Transceiver, Single Mode	1550nm, 70km, LC
0231A321	H3C 1000BASE-LH100 SFP Transceiver, Single Mode	1550nm, 100km, LC
0231A085	H3C 1000BASE-T SFP	RJ45
0231A11U	H3C 1000BASE-LX BIDI SFP Transceiver, Single Mode	TX1310/RX1490, 10km, LC
0231A11V	H3C 1000BASE-LX BIDI SFP Transceiver, Single Mode	TX1490/RX1310, 10km, LC
0231A453	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1470nm, 70km, LC
0231A454	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1490nm, 70km, LC
0231A455	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1510nm, 70km, LC
0231A456	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1530nm, 70km, LC
0231A449	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1550nm, 70km, LC
0231A450	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1570nm, 70km, LC
0231A451	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1590nm, 70km, LC
0231A452	H3C 1000BASE-LH70 CWDM SFP Transceiver, Single Mode	1610nm, 70km, LC
0231A03X	H3C OC-48c (2.5G) POS SFP, Single Mode	1310nm, 2km, LC
0231A03Y	H3C OC-48c (2.5G) POS SFP, Single Mode	1310nm, 15km, LC
0231A04A	H3C OC-48c (2.5G) POS SFP, Single Mode	1310nm, 40km, LC
0231A04B	H3C OC-48c (2.5G) POS SFP, Single Mode	1550nm, 80km, LC
0231A363	H3C 10GBASE-SR XENPAK, Multi-Mode	850nm, 300m, SC
0231A323	H3C 10GBASE-LR XENPAK, Single Mode	1310nm, 10km, SC
0231A324	H3C 10GBASE-ER XENPAK, Single Mode	1550nm, 40km, SC
0231A08H	H3C 10GBASE-ZR XENPAK, Single Mode	1550nm, 80km, SC
0231A494	H3C 10GBASE-SR XFP, Multi-Mode	850nm, 300m, LC
0231A438	H3C 10GBASE-LR/LW XFP, Single Mode	1310nm, 10km, LC
0231A03W	H3C 10GBASE-ER/EW XFP, Single Mode	1550nm, 40km, LC
0231A41G	H3C 10GBASE-ZR XFP, Single Mode	1550nm, 80km, LC
0231A04G	H3C OC-192c (10G) POS XFP, Single Mode	1310nm, 10km, LC

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