H3C S5590-EI Series Converged Hybrid Multigiga Switches

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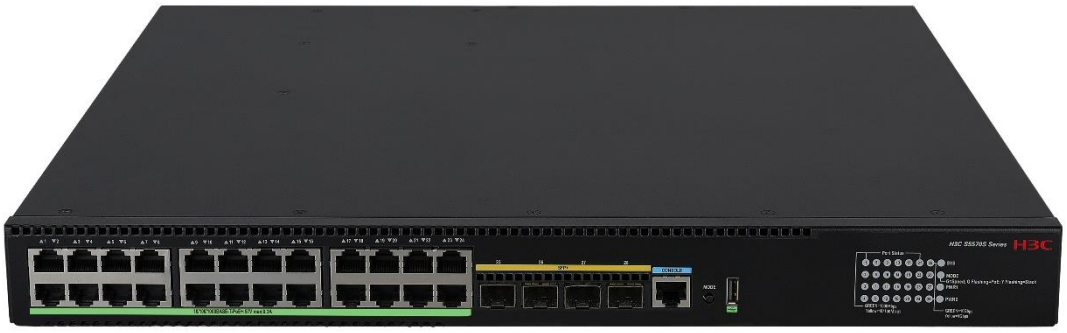
New H3C Technologies Co., Limited

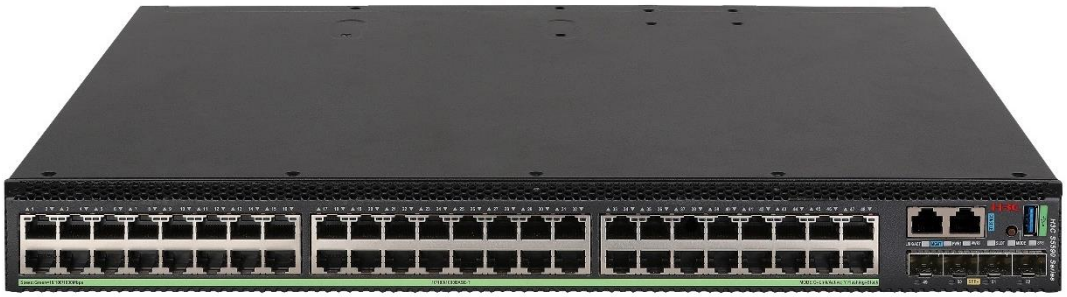
Product overview

H3C S5590-EI series switches are a new generation of high-performance, high-port density, high-security Layer 3 Ethernet switches developed by H3C Technology Co., Ltd. (hereinafter referred to as H3C) using industry-leading ASIC technology, supporting IPv4/IPV6 Dual-stack management and forwarding, support static routing protocols and routing protocols such as RIP, OSPF, BGP, ISIS, etc., and support rich management and security features. It is a Gigabit Layer 3 Ethernet switch product for converged service networks.

In the campus network, H3C S5590-EI series switches can be used as aggregation layer equipment, or as the core of small and medium-sized enterprises; downward can provide high-density GE and MultiGiga ports, upward through 10G/25G/40G/100G fiber or link aggregation is aggregated to the core switch to build a high-performance end-to-end IP network solution together with other H3C products.



S5590-24UXM4YC-EI



S5590-48UXM4YC-EI

H3C S5590-EI switches series includes the following models:

- S5590-24UXM4YC-EI: 16*10/100/1000Base-T Ports(PoE++), 8*100M/1G/2.5G/5G/10G Base-T Ports(PoE++), 4*10G/25GBase-X SFP28 Ports, and 1 Slot
- S5590-48UXM4YC-EI: 32*10/100/1000Base-T Ports(PoE++), 16*100M/1G/2.5G/5G/10G Base-T Ports(PoE++), 4*10G/25GBase-X SFP28 Ports, and 1 Slot

Features and benefits

SmartMC (Smart Management Center)

As the network scale increases, a large number of access devices are required at the network edge, which makes the management of these devices very cumbersome. The main purpose of SmartMC is to solve the problem of centralized management of a large number of scattered network devices. It is designed to solve the switch-based operation and maintenance tasks of small enterprises. SmartMC realizes unified operation, maintenance and management of the network by means of built-in equipment and graphical operation.

SmartMC simplify the operation, maintenance and management of small and medium-sized parks:

- Smart management: It mainly includes device role selection, FTP server configuration, global configuration and network management port configuration, etc.
- Intelligent operation and maintenance: Mainly include group management, equipment or group upgrade backup, monitoring and equipment failure replacement, etc.
- Visualize: It mainly includes networking topology visualization and management, device list display, etc.
- Smart business: Mainly includes user management, etc.: After network access users are created and successfully activated, these users can access the SmartMC network through the port of one- key arming.

H3C S5590-EI series switches can be used as the management device of SmartMC. You can log in to the SmartMC network through the S5590 - EI to manage the entire network in a unified manner.

Based on DRNI architecture

H3C S5590-EI series switches support DRNI (Distributed Resilient Network Interconnect, Distributed Resilient Network Interconnect) cross-device link aggregation technology, by virtualizing two physical devices into one device at the forwarding layer to achieve cross-device link aggregation, maintaining the control planes are independent of each other, providing device-level redundancy protection and traffic load sharing to improve system reliability.

Multi-service integration

Based on H3C's Open Service Architecture (OAA), H3C S5590-EI series switches can not only provide the functions of traditional switches, but also integrate security module cards including FW , IPS , and load balancing , mini-iMC cards, and Eagle Vision cards. etc., making the S5590-EI series switches a converged multi-service bearing platform.

High-performance IPv4/IPv6 service capability

H3C S5590-EI series switches implement a hardware-based IPv4/IPv6 dual-stack platform, support multiple tunnel technologies, rich IPv4 and IPv6 Layer 3 routing protocols, multicast technologies and policy routing mechanisms, providing users with complete IPv4/IPv6 solution.

IRF2 (Second Generation Intelligent Resilience Architecture)

H3C S5590-EI series switches support IRF2 (Second Generation Intelligent Resilient Architecture) technology, which is to connect multiple physical devices to each other to make it virtual as a logical device, that is to say, users can regard these multiple devices as one Manage and use a single device. IRF can bring the following benefits to users:

- Simplified management: IRF architecture is formed, it can be connected to any port of any device to log in to a unified logical device. By configuring a single device, it can manage the entire intelligent elastic system and all member devices in the system. There is no need to physically connect to each member device to configure and manage them individually.
- Simplified service: IRF are also run as a single device. For example, the routing protocol will be calculated as a single device. With the application of the cross-device link aggregation technology, it can replace the original generation tree protocol, which saves the interaction of a large number of protocol packets between devices, simplifies network operation, and shortens the convergence time when the network is turbulent.
- Elastic expansion: can realize elastic expansion according to user needs and ensure user investment. And new devices can be "hot-swapped" when they join or leave the IRF architecture, without affecting the normal operation of other devices.
- High reliability: high reliability IRF is reflected in three aspects: link, equipment and protocol. The physical ports between member devices support the aggregation function, and the physical connection between the IRF system and the upper and lower-layer devices also supports the aggregation function, which improves the reliability of the link through multi-link backup; the IRF system consists of multiple member devices. Once the master device fails, the system will quickly and automatically elect a new master to ensure uninterrupted services through the system, thus realizing device-level 1:N backup; the IRF system will have a real-time protocol hot backup function responsible

for the configuration information of the protocol. Backup to all other member devices to achieve 1:N protocol reliability.

- High performance: For high-end switches, the increase in performance and port density is limited by the hardware structure. The performance and port density of an IRF system is the sum of the performance and port numbers of all devices inside the IRF. Therefore, the IRF technology can easily expand the switching capability of the device and the density of user ports several times, thereby greatly improving the performance of the device.

Complete security control strategy

H3C S5590-EI series switches support the EAD (terminal access control) function, and cooperate with the background system to integrate terminal security measures such as terminal antivirus and patch repair with network security measures such as network access control and access authority control into a linked security The system, through the inspection, isolation, repair, management and monitoring of network access terminals, makes the entire network change from passive defense to active defense, from single-point defense to comprehensive defense, and from decentralized management to centralized policy management. , worms and other emerging security threats overall defense capabilities.

H3C S5590-EI series switches support centralized MAC address authentication, 802.1x authentication, support dynamic or static binding of user identification elements such as user account, IP, MAC, VLAN, and port, and implement user policies (VLAN, QoS, ACL) dynamic distribution; support with H3C's iMC system for real-time management of online users, timely diagnosis and disintegration of illegal network behavior.

H3C S5590-EI series switches provide enhanced ACL control logic, support large-capacity ingress and egress port ACLs, and support VLAN-based ACL delivery, which simplifies the user configuration process and avoids waste of ACL resources. In addition, H3C S5590-EI series switches will also support unicast reverse path finding technology (uRPF). The route between the interface and the source address specified in the packet is to verify its authenticity. If it does not exist, the packet is deleted, so that we can effectively prevent the source address spoofing that is increasingly flooding in the network.

MACsec hardware encryption

MACsec (Media Access Control Security, MAC security) defines the method of data security communication based on IEEE 802 local area network. MACsec can provide users with secure MAC layer data transmission and reception services, including user data encryption, data frame integrity check and data source authenticity verification.

MACsec is usually used in conjunction with the 802.1X authentication framework. After the 802.1X authentication process is successful, it identifies the message sent by the authenticated device and uses the MKA (MACsec Key Agreement, MACsec Key Agreement) protocol to negotiate the generated key pair Authenticated user data is encrypted and integrity checked to prevent the port from processing packets

from unauthenticated devices or tampered with unauthenticated devices.

H3C S 5590-EI series switches support upgraded MACsec encryption technology and use 256-bit encryption algorithm to further improve data security; All ports of the device provide 256-bit MACsec encryption to ensure data security.

AI-driven PoE

- Fast PoE: Typically, PIs does not deliver power to PDs the moment the PSE is powered on but wait until the PSE completes startup. Fast PoE enables PIs to deliver power to PDs within few seconds after power is supplied to the PSE.
- Perpetual PoE: Perpetual PoE continuously monitors the PD states and ensures continued power supply to PDs even when the PSE device is hot rebooting.
- AI-driven PoE: Innovatively integrating AI technologies into PoE switches, H3C AI-driven PoE enables completely automated, intelligently managed, healed, and optimized PoE, bringing convenient and outstanding PoE experience to users.

Hardware Specifications

Feature	S5590-24UXM4YC-EI	S5590-48UXM4YC-EI
Port Switching Capacity	792Gbps	984Gbps
Packet Forwarding Capacity	462Mpps	462Mpps
Switching Capacity	2.4Tbps	2.4Tbps
Dimensions (W×D×H) (unit: mm)	440×400×44	440×400×44
weight	≤6.8kg	≤7kg
Console port	1	
Flash/SDRAM	4G/2G	
Ethernet port for management	10/100/1000Base-T electrical port: 1	
USB port	1	
10/100/1000BASE-T auto-sensing Ethernet port	16	32

Feature	S5590-24UXM4YC-EI	S5590-48UXM4YC-EI
(PoE++)		
100M/1G/2.5G/5G/10G Base-T Ports (PoE++)	8	16
10G/25GBase-X SFP28	4	4
expansion card slot	1	
PoE	PoE++ support	
Expansion board	2-port 10G SFP+ interface card 4-port 10G SFP+ interface card 4-port 25GE SFP28 interface card 2-port 40GE QSFP+ interface card	2-port 10G SFP+ interface card 4-port 10G SFP+ interface card 8-port 10G SFP+ interface card 4-port 25GE SFP28 interface card 8-port 25GE SFP28 interface card 2-port 40GE QSFP+ interface card 4-port 40GE QSFP+ interface card 2-port 100GE QSFP28 interface card
Input voltage	AC: Rated voltage range: 100 to 240V AC: 50/60Hz	
Machine leakage current	Meet UL60950-1/EN60950-1/IEC60950-1 /GB4943 standard	
Working temperature	-5 ºC to 45 ºC	
Relative humidity of working environment (non-condensing)	5 % to 95 %	

Software Specifications

Feature	S5590-EI switch series
port aggregation	Support port aggregation Support static aggregation Support dynamic aggregation Support cross-device link aggregation

Feature	S5590-EI switch series
Port Characteristics	Support IEEE802.3x flow control (full duplex) Supports storm suppression based on port rate percentage Supports PPS-based storm suppression Support bps-based storm suppression
Jumbo Frame	maximum frame length supported is 13312
MAC address table	Support black hole MAC address Supports setting the maximum number of port MAC addresses to learn
VLAN	4K support VLAN Port-based VLAN support Supports MAC-based VLANs Protocol -based VLAN IP subnet based VLAN Support QinQ, flexible QinQ Support VLAN Mapping Support Private VLAN Support Voice VLAN 802.1Q support MVRP support
Layer 2 Ring Network Protocol	Support STP/RSTP/MSTP Support SmartLink Support RRPP Support ERPS (G.8032) Ethernet ring network protection switching Support PVST Support port single-pass detection, Root Protection, Loop Protection, Edge Port, BPDU Protection
DHCP	DHCP Client DHCP Snooping DHCP Relay DHCP Server DHCP Snooping option82/DHCP Relay option82 Support built-in Web GUI
IRF2 Intelligent Resilience Architecture	Support IRF2 Intelligent Resilience Architecture (fast convergence within 50ms) Support distributed device management, distributed link aggregation, distributed elastic routing Supports stacking via standard Ethernet interfaces, etc. Supports local stacking and remote stacking

Feature	S5590-EI switch series
IP routing	Support static routing Support RIPv1/v2, RIPng Support OSPFv1/v2, OSPFv3 Support BGP4, BGP4+ for IPv6 Support IS-IS, IS-IS V6 Support equal-cost routing, policy routing Support VRRP/VRRPv3 Support O SPF multi-process, MD5 encryption authentication, S TUB/NSSA area Support route COST setting, support inter-area route filtering
IPv6	Support IPv4/IPv6 dual stack protocol Support ND (Neighbor Discovery) Support PMTU Support IPv6-Ping, IPv6-Tracert, IPv6-Telnet, IPv6-TFTP, IPv6 - ICMP, IPv6 -DNS, IPv6-FTP, IPv6-NTP Support manual tunnel, automatic tunnel IPv4 support over IPv6 tunnel Support 6to4 tunnel Support ISATAP tunnel Support GRE tunnel
multicast	Support IGMP Snooping v1/v2c/v3, MLD Snooping v1/v2c/v3 Support PIM Snooping Support MLD Proxy Support multicast VLAN Support IGMP v1/v2/v3, MLD v1/v2 Support PIM-DM, PIM-SM, PIM-SSM Support MSDP, MSDP for IPv6 Support MBGP, MBGP for Ipv6
mirror	Stream mirroring supported Support N:9 port mirroring Supports local and remote port mirroring Support ERS PAN
ACL\ QoS	Support L2 (Layer 2) ~ L4 (Layer 4) packet filtering function, provide based on source MAC address, destination MAC address, source IP (IPv4/IPv6) address, destination IP (IPv4/IPv6) address, TCP/UDP port number, Traffic Classification for VLANs Support Time Range ACL

Feature	S5590-EI switch series
	Supports bidirectional ACL policies in inbound and outbound directions Supports issuing ACLs based on VLANs Supports limiting the rate at which the port receives packets and the rate at which it sends packets Support message redirection 802.1p and DSCP priority re-marking of packets Support CAR (Committed Access Rate) function Support flexible queue scheduling algorithm, can be set based on port and queue at the same time, support SP, WFQ, SP+WFQ three modes
MPLS	Support M PLS MCE MPLS support L3 VPN MPLS support L2VPN MPLS support SR
VxLAN	Support VxLAN Layer 2 and Layer 3 gateways Support VxLAN routing Support EVPN VxLAN
safety features	Support user hierarchical management and password protection Support 802.1X authentication / centralized MAC address authentication Support Portal authentication Support Guest VLAN Support RADIUS authentication Support HW TACACS+ certification SSH 2.0 support Support port isolation Support port security Support EAD Support SAVI and SAVA to ensure the security of IPv6 environment Support DHCP Snooping to prevent spoofed DHCP server Support dynamic ARP inspection to prevent man-in-the-middle attacks and ARP denial of service Support BPDU guard, Root guard Support uRPF (Unicast Reverse Path Detection) to prevent IP source address spoofing and prevent viruses and attacks Support IP/Port/MAC binding function Support OSPF, RIPv2 message plaintext and MD5 ciphertext authentication

Feature	S5590-EI switch series
	Support PKI (Public Key Infrastructure, public key infrastructure)
management and maintenance	Support hot patch function, online patch upgrade Support XModem /FTP/TFTP loading and upgrading Support command line interface (CLI), Telnet, Console port for configuration Support netcool network management platform Support SNMPv1/v2/v3, RMON (Remote Monitoring) BFD support for VRRP/IS-IS/BGP/RIP/OSPF/Static Routing Support iMC intelligent management center Support Syslog, system log, hierarchical alarm, debug information output NTP support Support power alarm function, fan, temperature alarm Support Ping, Tracert Support VCT (Virtual Cable Test) cable detection function Support DLDP (Device Link Detection Protocol) unidirectional link detection protocol LLDP support Support NETCONF network management protocol Support Python script management operation and maintenance Support Loopback-detection port loopback detection Support NetStream function, traffic analysis sampling ratio 1:1 Support built-in Web GUI Support secure boot
green technology	Port automatic power down function Port timing down function (Schedule job) Support EEE (802.3az) energy saving standard

Performance Specification

Entries	S5590-EI
MAC address entries	max 320K
VLAN table	4K
VLAN interface	4093
IPv4 routing entries	max 80K

Entries	S5590-EI
IPv4 ARP entries	65015
IPv4 ACL entries	Ingress: 3.75K Egress: 512
IPv4 multicast L2 entries	8K
IPv4 multicast L3 entries	4K
IPv6 unicast routing entries	32K
QOS forward queues	8
IPv6 ACL entries	Ingress: 1.87K Egress: 256
IPv6 ND entries	32K
IPv6 multicast L2 entries	8K
IPv6 multicast L3 entries	4K
Jumbo frame length	13312
Max Stacking Members	9
Max Stacking Bandwidth	480Gbps

PoE Power Capacity

Power supply 1	Power supply 2	S5590-24UXM4YC-EI		S5590-48UXM4YC-EI	
		Total PoE power capacity	PoE Ports Quantity	Total PoE power capacity	PoE Ports Quantity
PSR600-54A-B	/	450W	15.4W (802.3af): 24	450W	15.4W (802.3af): 29
			30W (802.3at): 15		30W (802.3at): 15
			60W (802.3bt): 7		60W (802.3bt): 7
			90W (802.3bt): 5		90W (802.3bt): 5
PSR920-54A-B	/	770W	15.4W (802.3af): 24	770W	15.4W (802.3af): 48

Power supply 1	Power supply 2	S5590-24UXM4YC-EI		S5590-48UXM4YC-EI	
		Total PoE power capacity	PoE Ports Quantity	Total PoE power capacity	PoE Ports Quantity
			30W (802.3at): 24		30W (802.3at): 25
			60W (802.3bt): 12		60W (802.3bt): 12
			90W (802.3bt): 8		90W (802.3bt): 8
PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	/	770W	15.4W (802.3af): 24	770W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 25
			60W (802.3bt): 12		60W (802.3bt): 12
			90W (802.3bt): 8		90W (802.3bt): 8
PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	/	1450W	15.4W (802.3af): 24	1450W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 24
			90W (802.3bt): 16		90W (802.3bt): 16
PSR600-54A-B	PSR600-54A-B	1020W	15.4W (802.3af): 24	1020W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 34
			60W (802.3bt): 17		60W (802.3bt): 17
			90W (802.3bt): 11		90W (802.3bt): 11
PSR600-54A-B	PSR920-54A-B	1020W	15.4W (802.3af): 24	1020W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 34
			60W (802.3bt): 17		60W (802.3bt): 17
			90W (802.3bt): 11		90W (802.3bt): 11
PSR600-54A-B	PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	1020W	15.4W (802.3af): 24	1020W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 34
			60W (802.3bt): 17		60W (802.3bt): 17
			90W (802.3bt): 11		90W (802.3bt): 11
PSR600-54A-B	PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	1020W	15.4W (802.3af): 24	1020W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 34
			60W (802.3bt): 17		60W (802.3bt): 17
			90W (802.3bt): 11		90W (802.3bt): 11
PSR920-54A-B	PSR920-54A-B	1600W	15.4W (802.3af): 24	1600W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 26
			90W (802.3bt): 17		90W (802.3bt): 17
PSR920-54A-B	PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	1260W	15.4W (802.3af): 24	1260W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 42
			60W (802.3bt): 21		60W (802.3bt): 21
			90W (802.3bt): 14		90W (802.3bt): 14
PSR920-54A-B	PSR1600-54A-B (Input Voltage:176V	1600W	15.4W (802.3af): 24	1600W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 26

Power supply 1	Power supply 2	S5590-24UXM4YC-EI		S5590-48UXM4YC-EI	
		Total PoE power capacity	PoE Ports Quantity	Total PoE power capacity	PoE Ports Quantity
	AC~290V AC or 180V DC~320V DC)		90W (802.3bt): 17		90W (802.3bt): 17
PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	1600W	15.4W (802.3af): 24	1600W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 26
			90W (802.3bt): 17		90W (802.3bt): 17
PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	1600W	15.4W (802.3af): 24	1600W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 26
			90W (802.3bt): 17		90W (802.3bt): 17
PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	2850W	15.4W (802.3af): 24	2850W	15.4W (802.3af): 48
			30W (802.3at): 24		30W (802.3at): 48
			60W (802.3bt): 24		60W (802.3bt): 47
			90W (802.3bt): 24		90W (802.3bt): 31

Standards And Protocols Compliance

Organization	Standards And Protocols
IEEE	IEEE 802.1D (STP) IEEE 802.1p (CoS) IEEE 802.1Q (VLANs) IEEE 802.1s (MSTP) IEEE 802.1w (RSTP) IEEE 802.1X (Security) IEEE 802.3ad (LACP) IEEE 802.3u (Fast Ethernet) IEEE 802.3ab (1000BASE-T) IEEE 802.3x (Flow Control) IEEE 802.3z (1000BASE-SX, 1000BASE-LX)
RFC	RFC1771 (BGPv4) RFC1772 (Application of the BGP) RFC1965 (BGPv4 autonomous system confederations)

Organization	Standards And Protocols
	RFC1997 (Communities attribute) RFC2385 (Transmission Control Protocol (TCP) MD5 authentication for BGP) RFC2439 (Route flap dampening) RFC2796 (Route reflection) RFC1657 (Definitions of Managed Objects for BGPv4)
	RFC2328 (OSPF v2) RFC1587 (OSPF NSSA) RFC2370 (OSPF opaque link-state advertisement (LSA) option) RFC1850 (OSPF v2 Management Information Base (MIB), traps)
	ISO10589 (IS-IS) RFC1195 (IS-IS) RFC2973 (IS-IS mesh groups)
	RFC1058 (RIP v1) RFC1723 (RIP v2) RFC2453 (RIP v2) RFC2083 (PNG (Portable Network Graphics) Specification Version)
	RFC791 (IP) RFC792 (ICMP) RFC793 (TCP) RFC768 (UDP) RFC826 (ARP) RFC783 (TFTP) RFC854 (Telnet) RFC894 (IP Over Ethernet) 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 1812 (IPv4) RFC 2338 (VRRP)

Organization	Standards And Protocols
	RFC 2787 (Definitions of Managed Objects for VRRP) RFC 2474 (Diffserv) RFC 2131 (DHCP) RFC 2132 (DHCP and BOOTP Extension) RFC2280 (Routing Policy Specification Language (RPSL)) RFC1305 (NTPv3) RFC1157 (SNMP) RFC857 (Telnet Echo Option) RFC858 (Telnet Suppress Go Ahead Option) RFC1093 (NSFNET routing architecture) RFC 2138 (Radius Authentication) RFC 2139 (Radius Accounting) RFC1492 (TACACS) RFC 1518, 1519 (CIDR) RFC 2622 (Routing policy) RFC 2338 (VRRP)
	RFC 1112 (Host extensions for IP multicasting) 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-dm-06) RFC 2283 (Multi-protocol Extensions for BGPv4)
	RFC 2267 (Network Ingress Filtering) 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)
	RFC2702 (Requirements for Traffic Engineering Over 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)

Organization	Standards And Protocols
	RFC3037 (LDP Applicability)
	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)
	Draft (Draft-martini-l2circuit-trans-mpls-08.txt) Draft (Draft-martini-l2circuit-encap-mpls-04.txt) Draft (Draft-kompella-ppvpn-l2vpn-01.txt)
	RFC2080 (RIPng for IPv6) RFC1981 (Path MTU Discovery for IP version 6) RFC2460 (Internet Protocol, Version 6 (IPv6) Specification) RFC2461 (Neighbor Discovery for IP Version 6 (IPv6)) RFC2462 (IPv6 Stateless Address Auto configuration) RFC2463 (Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification) RFC2545 (BGP support IPv6) RFC2740 (OSPF for IPv6) RFC3513 (Internet Protocol Version 6 (IPv6) Addressing Architecture) RFC3596 (DNS Extensions to Support IP Version 6) Draft (Draft-ietf-isis-ipv6-04.txt)
	RFC 1493 (Bridge MIB) RFC 2674 (VLAN MIB Extension) RFC 1573 (Private IF MIB) RFC 1213 (MIB II) RFC 1724 (RIP Version 2 MIB Extension) RFC 1850 (OSPF Version 2 MIB Extension) RFC 2787 (VRRP MIB) RFC 2618 (RADIUS Authentication Client MIB)

Organization	Standards And Protocols
	RFC 2620 (RADIUS Accounting Client MIB) RFC 1155 (Structure and Mgmt Information (SMIv1)) RFC 1157 (SNMPv1/v2c) RFC 1213, 1573 (MIB II) RFC 1901-1907 (SNMPv2c, SMIv2 and Revised MIB-II) RFC 2271 (FrameWork) RFC 2578-2580 (SMIv2) RFC 2819 (RMON) RFC 2668 (IEEE 802.3 MAU MIB) RFC 2665 (Pause control) RFC 2233 (Interfaces MIB) RFC2452 (MIB for TCP6) RFC2454 (MIB for UDP6) RFC2466 (MIB for ICMP6)
EMC	FCC Part 15 (CFR 47) Class A EN 55022 Class A ICES -003 Class A CISPR 22 Class A VCCI Class A AS/NZS 3548 Class A EN 55024 EN 61000-3-2 EN 61000-3-3 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-11 CISPR 24 Class A ETSI EN 300 386 V1.3.2:2003 IEC 61000-3-2 IEC 61000-3-3

Organization	Standards And Protocols
Safety	EN 60950:2000 EN 60825-1:1993+A1:1997 and EN 60825-2:2000 UL 60950 3rd Edition CSA C22.2 No. 60950 3rd Edition IEC 60950: 1999 AS/NZS 3260

Ordering Information

Product ID	Product Description
LS-5590-24UXM4YC-EI-GL	H3C S5590-24UXM4YC-EI L3 Ethernet Switch with 16*10/100/1000Base-T Ports(PoE++), 8*1G/2.5G/5G/10G Base-T Ports(PoE++), 4*10G/25GBase-X SFP28 Ports, and 1 Slot, Without Power Supplies
LS-5590-48UXM4YC-EI-GL	H3C S5590-48UXM4YC-EI L3 Ethernet Switch with 32*10/100/1000Base-T Ports(PoE++), 16*1G/2.5G/5G/10G Base-T Ports(PoE++), 4*10G/25GBase-X SFP28 Ports, and 1 Slot, Without Power Supplies
Fan	
LSPM1FANSA-SN	H3C Fan Module (Fan Panel Side Intake Airflow)
LSPM1FANSB-SN	H3C Fan Module (Fan Panel Side Exhaust Airflow)
Power supply	
PSR600-54A-B	H3C, PSR600-54A-B,600W/56V PoE Power Supply
PSR920-54A-B	H3C, PSR920-54A-B,920W/56V PoE Power Supply
PSR1600-54A-B	H3C, PSR1600-54A-B,1600W/56V PoE Power Supply
Modules	
LSWM2QP2P	2-Port 40G QSFP Plus Interface Card
LSWM2SP2PB	2-Port 10G SFP Plus Ethernet Optical Interface Module
LSW2SP2PM	2-Port 10G SFP Plus Interface Card with MACSec
LSW2XGT2PM	2-Port 10G BASE-T Interface Card with MACSec
LSWM4SP8PM	8-Port 10G SFP Plus with MACSec Interface Module
LSPM4G4T6P	4-Port 10/100/1000BASE-T Ethernet,6-Port SFP(2-Port Combo) Interface Module
LSWM2ZSP2P	2-Port 25G SFP28 Ethernet Optical Interface Module
Transceivers	
SFP-GE-SX-MM850-	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)

A	
SFP-GE-LX-SM1310-A	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)
SFP-GE-LH40-SM1310	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-LH40-SM1550	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)
SFP-GE-LH80-SM1550	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-GE-LH100-SM1550	1000BASE-LH100 SFP Transceiver, Single Mode (1550nm, 100km, LC)
SFP-GE-LX-SM1310-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC)
SFP-GE-LX-SM1490-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC)
SFP-GE-T	1000BASE-T SFP
SFP-XG-LH40-SM1550	SFP+ Module(1550nm,40km,LC)
SFP-XG-LX-SM1310-E	SFP+ Module(1310nm,10km,LC)
SFP-XG-SX-MM850-E	SFP+ Module(850nm,300m,LC)
SFP-25G-SR-MM850	25G SFP28 Optical Transceiver Module (850nm,100m,SR,MM,LC)
QSFP-40G-LR4-WDM1300	40GBASE-LR4 QSFP+ Optical Transceiver Module
QSFP-40G-CSR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,300m,CSR4,Support 40G to 4*10G)
QSFP-40G-SR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,100m,SR4,Support 40G to 4*10G)
Cables	
CAB-CON-1.8m	Single Cable,Console Serial Port Cable,1.8m,D9F,28UL20276(4P)(P296U),MPH-8P8C
LSWM1STK	SFP+ Cable 0.65m
LSWM2STK	SFP+ Cable 1.2m
LSWM3STK	SFP+ Cable 3m
LSTM1STK	SFP+ Cable 5m

SFP-25G-D-CAB-1M	25G SFP28 to 25G SFP28 1m Passive Cable
SFP-25G-D-CAB-3M	25G SFP28 to 25G SFP28 3m Passive Cable
SFP-25G-D-CAB-5M	25G SFP28 to 25G SFP28 5m Passive Cable
LSWM1QSTK0	40G QSFP+ Cable 1m
LSWM1QSTK1	40G QSFP+ Cable 3m
LSWM1QSTK2	40G QSFP+ Cable 5m
LSWM1QSTK3	40G QSFP+ to 4x10G SFP+ Cable 1m
LSWM1QSTK4	40G QSFP+ to 4x10G SFP+ Cable 3m
LSWM1QSTK5	40G QSFP+ to 4x10G SFP+ Cable 5m
OP-MPO8-8LC-10-M	Fiber Connector,MPO(8 core)/PC,8LC/PC(0.5m),Multimode(OM3),3.0mm,10.0m
OP-MPO8-MPO8-10-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,10.0m
OP-MPO8-MPO8-50-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,50.0m
OP-MPO8-MPO8-100-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,100.0m
OP-MPO8-MPO8-200-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,200.0m

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