H3C S5590-EI Series Converged Gigabit Switches

Release Date: Dec, 2023

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 tandem lower layer switches, 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.

H3C S5590-EI switches series includes the following models:

- S5590-28T8XC-EI: 28 x 10/100/1000BASE-T ports, 4 x 100/1000BASE-X SFP Combo ports, 8 x 10G/1G BASE-X SFP+ ports, 1 x expansion slot, 2 x fan tray slots, 2 x power supply slots;

- S5590-48T4XC-EI: 48 x 10/100/1000BASE-T ports, 4 x 10G/1G BASE-X SFP+ ports, 1 x expansion slot, 2 x fan tray slots, 2 x power supply slots;

- S5590-28S8XC-EI: 28 x 100/1000BASE-X SFP ports, 4 x 10/100/1000BASE-T Combo ports, 8 x 10G/1G BASE-X SFP+ ports, 1 x expansion slot, 2 x fan tray slots, 2 x power supply slots;

- S5590-48S4XC-EI: 48 x 100/1000BASE-X SFP ports, 4 x 10G/1G BASE-X SFP+ ports, 1 x expansion slot, 2 x fan tray slots, 2 x power supply slots;

- S5590-28P8XC-EI: 28 x 10/100/1000BASE-T ports (PoE+), 4 x 100/1000BASE-X SFP Combo ports, 8 x 10G/1G BASE-X SFP+ ports, 1 x expansion slot, 2 x fan tray slots, 2 x power supply slots;

- S5590-48P6XC-EI: 48*10/100/1000BASE-T ports (PoE+), 6*10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, 2 × power supply slots;
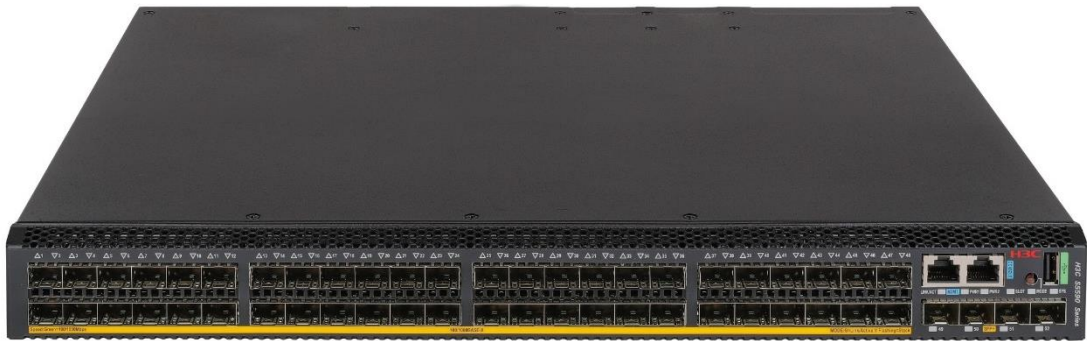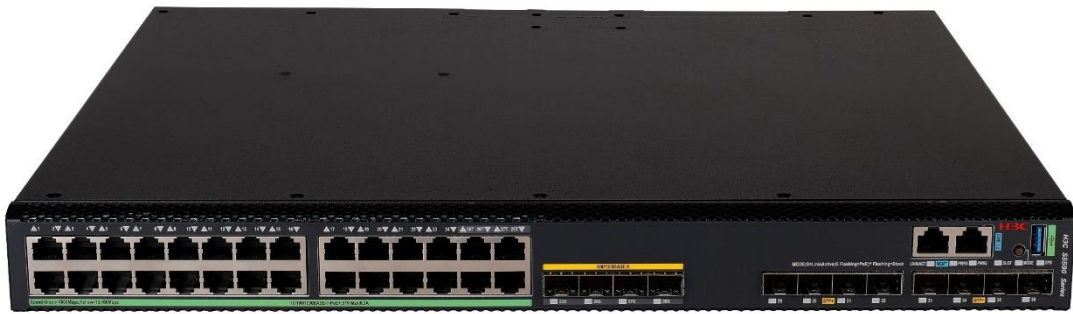
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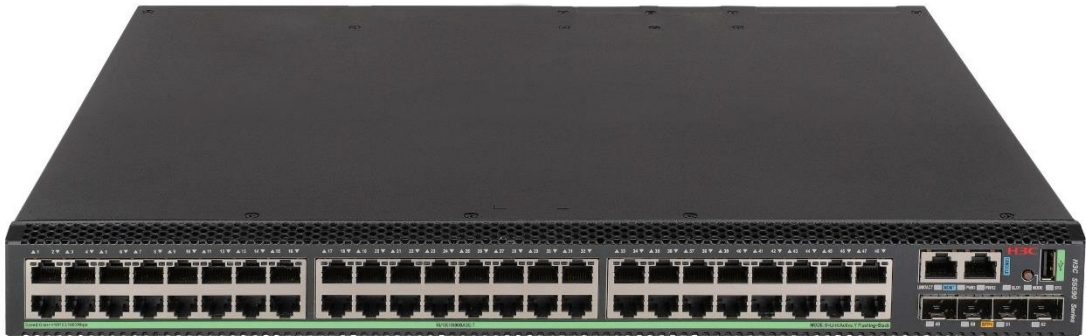
S5590-48T4XC-EI

S5590-28S8XC-EI

S5590-48S4XC-EI

S5590-28P8XC-EI

S5590-48P6XC-EI

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 provides unified operation, maintenance, and management of the network by built-in graphical operation platform.

SmartMC simplifies the operation, maintenance, and management of Small and Medium-sized campuses:

- **Smart management:** includes device role selection, FTP server configuration, global configuration, and network management port configuration, etc.

- **Intelligent operation and maintenance:** include group management, equipment, or group upgrade backup, monitoring and equipment failure replacement, etc.

- **Visualization:** includes networking topology visualization and management, device list display, device ports display, etc.

- **Smart business:** includes user management, etc. After network access users are created and successfully activated, these users can access the SmartMC network through the one-key-armed port.

The 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.

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, 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

MACsec is an ideal hop-by-hop link-layer security protocol for Ethernet networks, which are typically insecure. It provides the following services:

- **Data encryption:** Encrypts data over the Ethernet link to protect data against security issues such as eavesdropping.

- **Antireplay:** Prevents packets from being intercepted and modified en route to protect the network against unauthorized access.

- **Tampering protection:** prevents packet tampering to protect data integrity.

MACsec supports the following deployments:

- **Client-oriented:** Protects data transmission over the link between the client and its access device.

- **Device-oriented mode:** Protects data transmission over the link between two peering devices.

H3C S5590-EI series switches support all ports 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.

Precision Time Protocol (PTP)

H3C S5590-EI series switches support the 1588V2 function to meet the high-precision time synchronization requirements between network devices. Compared with GPS time synchronization with the same precision, it improves security and lowers deployment costs.

Intelligent Network Quality Analyzer (iNQA)

H3C S5590-EI series switches support iNQA. iNQA provides the following benefits:

- True measurement results—iNQA measures the service packets directly to calculate packet loss results, thus reflecting the real network quality.

- Wide application range—Applicable to Layer 2 network and Layer 3 IP network. iNQA supports the network-level and direct link measurement flexibly.

- Fast fault location—iNQA obtains the packet loss time, packet loss location, and number of lost packets in real time.

- Applicable to different applications—You can apply iNQA to multiple scenarios, such as point-to-point, point-to-multipoint, and multipoint-to-multipoint.

Multichassis Link Aggregation Group (M-LAG) (Original DRNI)

H3C S5590-EI series switches support M-LAG, which enables links of multiple switches to aggregate into one to implement device-level link backup. M-LAG is applicable to servers dual-homed to a pair of access devices for node redundancy.

- **Streamlined topology:** M-LAG simplifies the network topology and spanning tree configuration by virtualizing two physical devices into one logical device.

- **Independent upgrading:** The DR member devices can be upgraded independently one by one to minimize the impact on traffic forwarding.

- **High availability:** The DR system uses a keepalive link to detect multi-active collision to ensure that only one member device forwards traffic after a DR system splits.

Visualization Ability

H3C S5590-EI series switches support Telemetry technology, which can send the switch's real-time resource information and alarm information to the O&M platform through the gRPC protocol.

The platform can realize network quality backtracking, troubleshooting, risk early warning, architecture optimization and other functions to accurately guarantee user experience by analyzing real-time data.

Hardware Specifications

Feature	S5590-28T8XC-EI	S5590-48T4XC-EI	S5590-28S8XC-EI	S5590-48S4XC-EI	S5590-28P8XC-EI	S5590-48P6XC-EI
CPU	Dual Core, 1.2GHz					
SDRAM	2G					
Flash	4G					

Feature	S5590-28T8XC-EI	S5590-48T4XC-EI	S5590-28S8XC-EI	S5590-48S4XC-EI	S5590-28P8XC-EI	S5590-48P6XC-EI
Switching Capacity	2.4Tbps					
Latency (64byte/μs)	GE: < 5μs 10GE < 3μs					
Port Switching Capacity	616Gbps	576Gbps	616Gbps	576Gbps	616Gbps	616Gbps
Packet Forwarding Rate	462Mpps	432Mpps	462Mpps	432Mpps	462Mpps	462Mpps
Dimensions (W×D×H) (unit: mm)	440×360×44				440×400×44	
Weight	≤7kg					
Console Port	1					
Ethernet Port for Management	10/100/1000Base-T port: 1					
USB Port	1					
10/100/1000BASE-T auto-sensing Ethernet Port	28	48	4 (combo)	-	28	48
SFP port	4 (combo)	-	28	48	4 (combo)	-
SFP+ port	8	4	8	4	8	6
Expansion Card Slot	1	1	1	1	1	1
PoE	-	-	-	-	PoE+ Support	PoE+ Support
Input Voltage	AC: Rated voltage range: 100 to 240V AC: 50/60Hz Maximum voltage range: 90V ~ 290V AC, 47 ~ 63Hz				AC: Rated voltage range: 100 to 240V AC: 50/60Hz Maximum voltage range: 90V ~ 290V AC, 47 ~ 63Hz HVDC: Rated voltage: 240V DC Maximum voltage range: 180V ~ 320V DC	
80 PLUS	-				Y (80 PLUS Platinum)	
Power Consumption	MIN Single AC:	MIN Single AC:	MIN Single AC:	MIN Single AC:	MIN Single AC:	MIN Single AC:

Feature	S5590-28T8XC-EI	S5590-48T4XC-EI	S5590-28S8XC-EI	S5590-48S4XC-EI	S5590-28P8XC-EI	S5590-48P6XC-EI
	38W Dual AC:45W MAX Single AC: 108W Dual AC:114W	41WDual AC:48W MAX Single AC: 105W Dual AC:108W	39W Dual AC:46W MAX Single AC: 119W Dual AC:123W	42W Dual AC:49W MAX Single AC: 137W Dual AC:142W	48W Dual AC:53W MAX Single AC: 938W (PoE 770W) Dual AC: 1046W (with PoE 840W)	52W Dual AC: 59W MAX Single AC: 945W (PoE 770W) Dual AC: 1745W (PoE 1440W)
MTBF(Year)	105.15	101.63	110.74	101.01	32.15	28.62
MTTR(Hour)	1	1	1	1	1	1
Working Temperature	-5 ℃ to 45 ℃					
Relative Humidity of Working Environment	5 % to 95 % (non-condensing)					

Note: This content is applicable only to regions outside mainland China. H3C reserves the right to interpret the content.

Software Specifications

Feature	S5590-EI switch series
VLAN	VLAN ID range 0 to 4095(Total 4096) Access/Trunk/Hybrid VLAN Port-based VLAN MAC-based VLAN IP subnet-based VLAN Protocol-based VLAN IEEE 802.1P(CoS priority) Super VLAN Private VLAN Voice VLAN QinQ(802.1Q-in-802.1Q) Vlan mapping Static/Dynamic/Blackhole/Multiport unicast MAC MAC automatic learning and aging Port-based/VLAN-based MAC learning limit MAC filter Port isolation IEEE 802.3x flow control (full duplex) Storm suppression based on port rate percentage PPS -based storm suppression

Feature	S5590-EI switch series
	bps -based storm suppression
	Loop detection(VLAN and VXLAN network)
	MVRP(Multiple VLAN Registration Protocol)
	GVRP(Generic VLAN Registration Protocol)
	STP(Spanning tree protocol)
	RSTP(Rapid Spanning Tree Protocol)
	MSTP(Multiple Spanning Tree Protocol)
	PVST(Per-VLAN Spanning Tree) (compatible with PVST+/RPVST+)
	BPDU/root/loop/TC-BPDU/PVST BPDU/disputeloopback guard
	BPDU filter
	role/TC-BPDU transmission restriction
	LLDP(Link Layer Discovery Protocol) and LLDP-MED(Link Layer Discovery Protocol Media Endpoint Discovery)
	DCBX(Data Center Bridging Exchange Protocol)
	Broadcast/multicast/unknown unicast storm constrain
	Jumbo frame
	Store-and-forward(Default)
	Cut-through-forward
Ethernet link aggregation	Static aggregation
	Dynamic aggregation
	S-MLAG(Simple multichassis link aggregation)
	10GE/25G/40GE/100GE port aggregation
	LACP(Link Aggregation Control Protocol)
	M-LAG(Multichassis Link Aggregation)
IP Services	Static/Dynamic/Gratuitous/proxy ARP
	ARP snooping/fast-reply/direct route advertisement/ping
	ARP attack detection
	ARP source suppression
	Ping, Tracert
	DHCP(Dynamic Host Configuration Protocol)
	DHCP Server/relay agent/client/snooping
	DHCP Option 43, Option 82, and Option 184,
	DNS(Domain Name System)
	DDNS(Dynamic Domain Name System)
	mDNS(Multicast Domain Name System)
	IRDP(ICMP Router Discovery Protocol)
	UDP helper
	ND(Neighbor Discovery)
	ND snooping/proxy/direct route advertisement/ping
	DHCPv6 Server/relay agent/client/snooping/guard
	GRE(Generic Routing Encapsulation)
	HTTP redirect
	GRE tunneling

Feature	S5590-EI switch series
	VXLAN tunneling and VXLAN-DCI tunneling
	IPv4/IPv6 over IPv4 tunneling, and IPv4/IPv6 over IPv6 tunneling
	IPv4/IPv6 Fast Forwarding
Routing	Static routing, RIP, OSPF, IS-IS, and BGP
	IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+
	IPv4/IPv6 dual stack
	IPv4/IPv6 ECMP(Equal-cost multi-path routing)
	IPv4/IPv6 PBR(Policy-based routing)
	IPv4/IPv6 Routing policy
	Pingv6, Telnetv6, FTPv6, TFTPv6, DNSv6, ICMPv6
	Dual-stack PBR(policy-based routing)
Multicast	PIM-DM, PIM-SM, PIM-SSM, and Any-RP
	PIM snooping
	MSDP(Multicast Source Discovery Protocol)
	IGMPv1/IGMPv2/IGMPv3
	IGMP proxying
	IGMP Snooping
	IGMP snooping proxying
	IGMP Filter and IGMP Fast leave
	IPv6 PIM-DM, PIM-SM, PIM-SSM, and Any-RP
	IPv6 PIM snooping
	MLDv1/MLDV2
	MLD proxying
	MLD Snooping
	MLD snooping proxying
	Multicast routing and forwarding
	Multicast VLAN
	MVPN(Multicast VPN)
	Multicast policy and Multicast QoS
ACL/QoS	ACL(Access Control List)
	advanced ACL
	User-defined ACL
	Ingress and Egress ACL
	Ingress/Egress CAR
	Diff-Serv QoS
	Eight queues each interface
	802.1P/DSCP Priority marking and remarking
	802.1p, TOS, DSCP, and EXP priority mapping
	Flexible queue scheduling algorithms including SP, WRR, SP+WRR, WFQ, SP+WRR
	Traffic shaping
	Time ranges
	Traffic classification based on source MAC, destination MAC, source IP, destination IP, port, protocol, and VLAN

Feature	S5590-EI switch series
	Congestion avoidance, Tail-Drop, RED(Random Early Detection) and WRED(Weighted Random Early Detection)
MPLS	Static LSP(label switched path) LDP(Label Distribution Protocol) IPv6 LDP Tunnel policies VRF(Virtual Routing and Forwarding) MPLS L2VPN MPLS L3VPN MPLS Ping/Tracert MCE(Multi-VPN Instance Customer Edge) IPv6 MCE MPLS OAM
Security	RBAC(Role-based access control) AAA(Authentication, Authorization, and Accounting) RADIUS(Remote Authentication Dial-In User Service)(include DHCP, Radius, LLDP) TACACS(Terminal Access Controller Access Control System) HWTACACS(HW Terminal Access Controller Access Control System) (Same authentication processes and implementations with TACACS+) User hierarchical management and password protection 802.1X authentication Portal authentication MAC authentication Web authentication Triple authentication Guest VLAN Port security SSH1.x and SSH2.0(Secure Shell) SSL(Secure Sockets Layer) HTTPs Public Key Infrastructure (PKI) Control Plane Protection (CoPP), Wireless Intrusion Prevention System (WIPS) Attack detection and prevention TCP attack prevention IPSG(IP source guard) IPv6 RA Guard ARP attack protection ND attack protection uRPF(Unicast Reverse Path Forwarding) MFF(MAC-forced forwarding) SAVI(Source Address Validation Improvement) FIPS(Federal Information Processing Standards) MACsec(Media Access Control Security) All ports AES256 MACsec

Feature	S5590-EI switch series
	Microsegmentation
	Hierarchical user management and password protection
	EAD(Endpoint Admission Defense)
	Basic and advanced ACLs for packet filtering
	OSPF, RIPv2, BGPv4 plain text and MD5 authentication
High Availability	Ethernet OAM(IEEE 802.3ah)
	CFD(Connectivity Fault Detection)(IEEE 802.1ag and ITU-T Y.1731)
	DLDP(Device Link Detection Protocol)
	RRPP(Rapid Ring Protection Protocol)
	ERPS(G.8032 Ethernet Ring Protection Switching)
	Smart Link
	Monitor Link
	VRRPv2(Virtual Router Redundancy Protocol)
	VRRPv3
	BFD(Bidirectional forwarding detection)
	Hardware BFD
	BFD for VRRP/BGP/IS-IS/OSPF/RSVP/static routing, with a failover detection time less than 50 milliseconds
	Track
	Process redundancy/placement
	CPU protection
	Hot patching, online patch upgrade
	Link aggregation
	VCT(virtual cable test)
	Smart-Link
	ISSU(In-Service Software Upgrade)
Network Management	NQA(Network quality analyzer)
	iNQA(Intelligent Network Quality Analyzer)
	eMDI(Enhanced Media Delivery Index)
	performance management through gRPC or NETCONF
	NTP(Network Time Protocol)
	PTP(Precision Time Protocol) IEEE 1588 version 2/IEEE 802.1AS/SMPTE ST 2059-2/AES67-2015
	SNMPv1/SNMPv2c/SNMPv3
	RMON(Remote Network Monitoring) and groups 1,2,3 and 9
	NETCONF/YANG
	EAA(Embedded Automation Architecture)
	Port mirroring SPAN(Switch Port Analyzer)/RSPAN(Remote SPAN)
	Flow mirroring
	N:9 port mirroring
	local and remote port mirroring
	NetStream/IPv6 NetStream, traffic analysis sampling ratio 1:1
	sFlow
	Information center

Feature	S5590-EI switch series
	VCF(Virtual Converged Framework)
	CWMP(CPE WAN Management Protocol/TR-069)
	Fault alarm and automatic fault recovery
	System logs
	Alarming based on severity
	Power, fan, and temperature alarming
	Debugging information output
	Device status monitoring mechanism, including the CPU engine, backplane, chips and other key components
	Configuration through CLI, Telnet, and console port
	Zero Touch Provisioning
	Loading and upgrading through XModem/FTP/TFTP/SFTP/USB
	Secure Boot
	Embedded AC, maximum support management 2K AP
	iMC network management system
	SmartMC(embedded Smart Graphical Management Center)(built-in Web GUI)
Stacking	IRF2(Intelligent Resilient Framework 2)
	Distributed device management
	Distributed link aggregation
	Distributed resilient routing
	Stacking through standard Ethernet ports
	Local device stacking and remote device stacking
	LACP-, BFD-, and ARP-based multi-active detection (MAD)
Automatic Configuration	Server-based automatic configuration
	USB-based automatic configuration
Programmability and Automation	Ansible
	Auto DevOps by using Python, NETCONF, TCL, and Restful APIs for automated network programming
Visualization	gRPC(Google remote procedure call)
	INT(Inband Telemetry)
	Flow group
	MOD(Mirror On Drop)
OpenFlow	OpenFlow 1.3
	Multiple controllers (EQUAL, master/slave)
	Multiple tables flow
	Group table
VXLAN	VXLAN L2 switching
	VXLAN L3 routing
	Centralized VXLAN gateway
	Distributed VXLAN gateway
	VXLAN M-LAG
	VXLAN-DCI
	OVSDB(Open vSwitch Database)

Feature	S5590-EI switch series
	VXLAN VTEP
	MP-BGP EVPN control plane
	EVPN VXLAN
	EVPN M-LAG
Intelligent Lossless Network	PFC(Priority-based Flow Control)
	ECN(Explicit Congestion Notification)
Energy Saving	Port automatic power down function
	Port timing down function (Schedule job)
	EEE(802.3az Energy Efficient Ethernet)
EMC	FCC Part 15 Subpart B CLASS A
	ICES-003 CLASS A
	VCCI CLASS A
	CISPR 32 CLASS A
	EN 55032 CLASS A
	CISPR 35
	AS/NZS CISPR 32
	EN 55035
	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
	ETSI EN 300 386
Safety	UL 62368-1
	CSA C22.2 No. 62368-1-14
	IEC 62368-1
	EN 62368-1
	EN 60825-1
	AS/NZS 62368-1
	GB 4943.1
RoHS	EU RoHS2.0 Directive
	China RoHS 2.0

Performance Specification

Entries	S5590-EI Series
MAC address entries(maximum)	320K
VLAN table (Active VLAN)	4K

Entries	S5590-EI Series
VLAN interface	4093
IPv4 routing entries(maximum)	80K
IPv4 ARP entries(maximum)	64K
IPv4 ACL entries	IN: 3.75K EG: 512
IPv4 multicast L2 entries	8K
IPv4 multicast L3 entries	4K
IPv6 unicast routing entries(maximum)	32K
IPv6 ND entries	32K
IPv6 multicast L2 entries	8K
IPv6 multicast L3 entries	4K
QOS forward queues	8
Jumbo frame length	13312
Max Stacking Members	9
Max Stacking Bandwidth	480Gbps

Removable Components Matrix

FRU model	S5590-28T8XC-EI S5590-28S8XC-EI S5590-48T4XC-EI S5590-48S4XC-EI	S5590-28P8XC-EI S5590-48P6XC-EI
Removable power supplies		
PSR180-12A-B	Supported	Not supported
PSR180-12A-F	Supported	Not supported
PSR180-12D-B	Supported	Not supported
PSR600-54A-B	Not supported	Supported
PSR920-54A-B	Not supported	Supported
PSR1600-54A-B	Not supported	Supported
Removable fan trays		
LSPM1FANSA-SN	Supported	Supported
LSPM1FANSB-SN	Supported	Supported
Expansion cards		
LSPM6FWD	Supported	Supported
LSWM2QP2P	Supported	Supported
LSWM2SP8P	Supported	Supported

LSWM2ZQP2P	Supported	Supported
LSWM2ZSP8P	Supported	Supported
LSWM2SP2PB	Supported	Supported
LSWM2SP4PB	Supported	Supported

PoE Power Capacity

Power supply 1	Power supply 2	S5590-28P8XC-EI		S5590-48P6XC-EI	
		Total PoE power capacity	PoE Ports Quantity	Total PoE power capacity	PoE Ports Quantity
PSR600-54A-B	/	450W	15.4W (802.3af): 28 30W (802.3at): 15	450W	15.4W (802.3af): 28 30W (802.3at): 15
PSR920-54A-B	/	770W	15.4W (802.3af): 28 30W (802.3at): 25	770W	15.4W (802.3af): 28 30W (802.3at): 25
PSR1600-54A-B (Input Voltage: 90V AC~176V AC)	/	770W	15.4W (802.3af): 28 30W (802.3at): 25	770W	15.4W (802.3af): 28 30W (802.3at): 25
PSR1600-54A-B (Input Voltage:176V AC~290V AC or 180V DC~320V DC)	/	840W	15.4W (802.3af): 28 30W (802.3at): 28	1440W	15.4W (802.3af): 48 30W (802.3at): 48
PSR600-54A-B	PSR600-54A-B	840W	15.4W(802.3af): 28 30W (802.3at): 28	1020W	15.4W (802.3af): 48 30W (802.3at): 34
PSR600-54A-B	PSR920-54A-B	840W	15.4W (802.3af): 28 30W (802.3at): 28	1020W	15.4W (802.3af): 48 30W (802.3at): 34
PSR600-54A-B	PSR1600-54A-B	840W	15.4W (802.3af): 28 30W (802.3at): 28	1020W	15.4W (802.3af): 48 30W (802.3at): 34
PSR920-54A-B	PSR920-54A-B	840W	15.4W (802.3af): 28 30W (802.3at): 28	1440W	15.4W (802.3af): 48 30W (802.3at): 48
PSR920-54A-B	PSR1600-54A-B	840W	15.4W (802.3af): 28 30W (802.3at): 28	1440W	15.4W (802.3af): 48 30W (802.3at): 48
PSR1600-54A-B	PSR1600-54A-B	840W	15.4W (802.3af): 28	1440W	15.4W (802.3af): 48

Power supply 1	Power supply 2	S5590-28P8XC-EI		S5590-48P6XC-EI	
		Total PoE power capacity	PoE Ports Quantity	Total PoE power capacity	PoE Ports Quantity
			30W (802.3at): 28		30W (802.3at): 48

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 802.1ae (MACsec)
	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)
	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)

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)
	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)
	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)
	RFC 5905 (NTPv4)

Ordering Information

Product ID	Product Description
LS-S5590-28T8XC-EI-GL	H3C S5590-28T8XC-EI L3 Ethernet Switch with 28*10/100/1000Base-T Ports (Including 4*SFP Combo Ports),8*1G/10GBase-X SFP Plus Ports and 1*Slot, Without Power Supplies
LS-S5590-48T4XC-EI-GL	H3C S5590-48T4XC-EI L3 Ethernet Switch with 48*10/100/1000Base-T Ports,4*1G/10GBase-X SFP Plus Ports and 1*Slot, Without Power Supplies
LS-S5590-28S8XC-EI-GL	H3C S5590-28S8XC-EI L3 Ethernet Switch with 28*100/1000Base-X SFP Ports (Including 4*GE Combo Ports),8*1G/10GBase-X SFP Plus Ports and 1*Slot, Without Power Supplies
LS-S5590-48S4XC-EI-GL	H3C S5590-48S4XC-EI L3 Ethernet Switch with 48*100/1000Base-X SFP Ports,4*1G/10GBase-X SFP Plus Ports and 1*Slot, Without Power Supplies
LS-S5590-28P8XC-EI-GL	H3C S5590-28P8XC-EI L3 Ethernet Switch with 28*10/100/1000BASE-T PoE+ Ports (Including 4*SFP Combo Ports),8*1G/10G BASE-X SFP Plus Ports, and 1*Slot, Without Power Supplies Switch
LS-S5590-48P6XC-EI-GL	H3C S5590-48P6XC-EI L3 Ethernet Switch with 48*10/100/1000BASE-T PoE+ Ports,6*1G/10G BASE-X SFP Plus Ports, and 1*Slot, Without Power Supplies Switch
Fan	
LSPM1FANSA-SN	H3C Fan Module (Fan Panel Side Intake Airflow)
LSPM1FANSB-SN	H3C Fan Module (Fan Panel Side Exhaust Airflow)
Power supply	
PSR180-12A-B	180W Asset-Manageable AC Power Supply Module (Power Panel Side Exhaust Airflow)
PSR180-12A-F	180W Asset-Manageable AC Power Supply Module (Power Panel Side Intake Airflow)
PSR180-12D-B	180W Asset-Manageable DC Power Supply (Power Panel Side Exhaust Airflow)
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,920W/56V PoE Power Supply
Modules	
LSPM6FWDB	H3C S5000 Series SecBlade IV Next Generation Firewall B Module
LSWM2QP2P	2-Port 40G QSFP Plus Interface Card
LSWM2SP8P	8-Port 10G SFP Plus Interface Card
LSWM2ZQP2P	H3C S6520X 2 Ports 100G QSFP28 Interface Module
LSWM2ZSP8P	H3C S6520X 8 Ports 25G SFP28 Interface Module
LSWM2SP2PB	H3C 2-Port 10G SFP Plus Ethernet Optical Interface Module

LSWM2SP4PB	H3C 4-Port 10G SFP Plus Ethernet Optical Interface Module
Transceivers	
SFP-GE-SX-MM850-A	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
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

Datasheet history

Description	Location	Date
Added the 'Removable Components Matrix'	Removable Components Matrix	December 25, 2023
Updated the 'Software Specifications'	Software Specifications	December 25, 2023

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