



H3C S5580X-EI&S5580S-EI Series Switches

Release Date: March, 2024



New H3C Technologies Co., Limited

Product Overview

H3C S5580X-EI&S5580S-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 S5580X-EI&S5580S-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 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 S5580X-EI&S5580S-EI switches series includes the following models:

- S5580X-24T6Y-EI: 24*10/100/1000Base-T Ports, 8×1000 SFP Combo Ports, and 6×10G/25GBase-X SFP28 Ports, 2 x fan tray slots, 2×power supply slots;
- S5580X-48T6Y-EI: 48×10/100/1000Base-T Ports, and 6×10G/25GBase-X SFP28 Ports, 2 x fan tray slots, 2×power supply slots;
- S5580S-24T6X-EI: 24*10/100/1000Base-T Ports, 8*1000 SFP Combo Ports, and 6*1G/10GBase-X SFP Plus Ports, 2×power supply slots;
- S5580S-48T6X-EI: 48*10/100/1000Base-T Ports and 6*1G/10GBase-X SFP Plus Ports, 2×power supply slots;



S5580X-24T6Y-EI



S5580X-48T6Y-EI



S5580S-24T6X-EI



S5580S-48T6X-EI

Features and Benefits

Comware V9

Comware is a network operating system developed by H3C for use in network equipment. It includes rich networking functions and supports a full range of network equipment from campus to data center and from enterprise to carrier-grade.

Based on Comware V7, Comware V9 has been upgraded and adjusted in terms of openness, containerization, programmability, and visualization to better meet the current trends in network operating systems.

Advantages of Comware V9:

- Comware V9 adopts a native Linux kernel, and all its functionalities are fully implemented in user space, making it easy to upgrade the kernel version.
- Comware V9 supports containerization, allowing Comware to be deployed in the form of containers. It also supports the deployment of third-party applications in containers on devices running Comware V9, enhancing the openness of Comware.
- Comware V9 deepens the modular design concept, making the business modules independent and allowing them to be deployed separately or released as independent software. This enables the Comware V9 platform to be more flexible and adaptable to different network environments. The modular design also makes it easier to upgrade or enhance individual functions without affecting the overall operation of the system.
- Comware V9 has been designed to fully consider the needs of virtualization-based products. It features a lightweight support architecture, which enables faster and more flexible deployment of virtualized products.

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 S5580X-EI&S5580S-EI series switches can be used as the management device of SmartMC. You can log in to the SmartMC network through the S5580X-EI&S5580S-EI to manage the entire network in a unified manner.

Multichassis Link Aggregation Group (M-LAG)

H3C S5580X-EI&S5580S-EI switch series 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.

Multi-Service Integration

Based on H3C's Open Service Architecture (OAA), H3C S5580X-EI&S5580S-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 S5580X-EI&S5580S-EI series switches a converged multi-service bearing platform.

High-Performance IPv4/IPv6 Service Capability

H3C S5580X-EI&S5580S-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 S5580X-EI&S5580S-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 S5580X-EI&S5580S-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 S5580X-EI&S5580S-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 S5580X-EI&S5580S-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 S5580X-EI&S5580S-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.

Intelligent Network Quality Analyzer (iNQA)

H3C S5580X-EI&S5580S-EI switch series supports 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.

Visualization Ability

H3C S5580X-EI&S5580S-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.

Professional lightning protection feature

H3C S5580X-EI&S5580S-EI series switches use professional built-in lightning protection technology, supporting industry-leading 10KV lightning protection capability for its service ports. Even in harsh working environments, it can greatly reduce the equipment damage rate caused by lightning strikes.

Hardware Specifications

Feature	S5580X-24T6Y-EI	S5580X-48T6Y-EI	S5580S-24T6X-EI	S5580S-48T6X-EI
CPU	Dual Core, 1.6GHz			
Flash/SDRAM	4G/2G			
Port Switching Capacity	348Gbps	396Gbps	168Gbps	216Gbps
Packet Forwarding Rate	259Mpps	295Mpps	125Mpps	161Mpps
Dimensions (W×D×H) (unit: mm)	440×360×43.6			
Weight	≤4.5kg	≤4.5kg	≤4.5kg	≤4.5kg
Console Port	1			
Ethernet Port for Management	10/100/1000Base-T electrical port: 1			
USB Port	1			
10/100/1000BASE-T auto-sensing Ethernet Port	24	48	24	48
Combo SFP port	8	-	8	-
10G SFP+ port	-	-	6	6
25G SFP28 port	6	6	-	-
Latency (64byte/μs)	GE: < 5μs 10G/25G < 3μs			
Fan	2 Modular Fans	2 Modular Fans	2 Embedded Fans	2 Embedded Fans
Power supply	2 Modular Power Supply	2 Modular Power Supply	2 Modular Power Supply	2 Modular Power Supply
Input Voltage	AC: Rated voltage range: 100 to 240V AC: 50/60Hz Maximum voltage range: 90V~290V AC, 47~63Hz DC: Rated voltage range: -48V~-60V DC Maximum voltage range: -36V~-72V			

Feature	S5580X-24T6Y-EI	S5580X-48T6Y-EI	S5580S-24T6X-EI	S5580S-48T6X-EI
Power Consumption	MIN:	MIN:	MIN:	MIN:
	Single AC: 14W	Single AC: 17W	Single AC: 16W	Single AC: 17W
	Single DC: 18W	Single DC: 21W	Single DC: 20W	Single DC: 20W
	Dual AC: 16W	Dual AC: 19W	Dual AC: 18W	Dual AC: 19W
	Dual DC: 25W	Dual DC: 28W	Dual DC: 27W	Dual DC: 27W
	Typical	Typical	Typical	Typical
	Single AC: 26W	Single AC: 41W	Single AC: 26W	Single AC: 39W
	Single DC: 29W	Single DC: 43W	Single DC: 29W	Single DC: 41W
	Dual AC: 28W	Dual AC: 41W	Dual AC: 29W	Dual AC: 40W
	Dual DC: 36W	Dual DC: 48W	Dual DC: 36W	Dual DC: 47W
	MAX:	MAX:	MAX:	MAX:
	Single AC: 53W	Single AC: 62W	Single AC: 51W	Single AC: 54W
	Single DC: 54W	Single DC: 61W	Single DC: 52W	Single DC: 49W
	Dual AC: 56W	Dual AC: 63W	Dual AC: 53W	Dual AC: 56W
	Dual DC: 61W	Dual DC: 67W	Dual DC: 68W	Dual DC: 61W
MTBF(Year)	111.92	101.92	120.16	105.7
MTTR(Hour)	1	1	1	1
Working Temperature	-5~50℃			
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	S5580X-EI&S5580S-EI switch series
Port Aggregation	Support port aggregation Support static aggregation Support dynamic aggregation Support cross-device link aggregation
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

Feature	S5580X-EI&S5580S-EI switch series
Jumbo Frame	maximum frame length supported is 10000
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 Voice VLAN Support Private VLAN 802.1Q support MVRP support
Layer 2 Ring Network Protocol	Support STP, RSTP, MSTP PVST (Compatible with PVST+/PVRST+) Support SmartLink Support RRPP Support ERPS (G.8032) Ethernet ring network protection switching Support G.8032 ERPS 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
IRF2 Intelligent Resilience Architecture	Support IRF2 Intelligent Resilience Architecture Support distributed device management, distributed link aggregation, distributed elastic routing Supports stacking via standard Ethernet interfaces, etc. Supports local stacking and remote stacking
IP Routing	Support static routing Support RIPv1/v2, RIPv6

Feature	S5580X-EI&S5580S-EI switch series
	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 OSPF multi-process, MD5 encryption authentication, STUB/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/v2/v3, MLD Snooping v1/v2/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	Supported Stream mirroring Support N:1 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 Supports bidirectional ACL policies in inbound and outbound directions

Feature	S5580X-EI&S5580S-EI switch series
	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
VxLAN	Support VxLAN Layer 2 and Layer 3 gateways Support VxLAN routing Support EVPN VxLAN Support BGP EVPN Support openflow
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 Source guard Support IP/Port/MAC binding function Support OSPF, RIPv2 message plaintext and MD5 ciphertext authentication Support PKI (Public Key Infrastructure, public key infrastructure)
Management	Support hot patch function, online patch upgrade

Feature	S5580X-EI&S5580S-EI switch series
and Maintenance	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 Support NTPv4 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 Support LLDP and LLDP-MED 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
Green Technology	Port automatic power down function Port timing down function (Schedule job) Support EEE (802.3az) energy saving standard

Performance Specification

Entries	S5580X-EI&S5580S-EI switch series
MAC address entries(maximum)	32K
VLAN table (Active VLAN)	4K
VLAN interface	1K
IPv4 routing entries(maximum)	32K
IPv4 ARP entries(maximum)	16K
IPv4 ACL entries	IN: 1792 EG: 768

Entries	S5580X-EI&S5580S-EI switch series
IPv4 multicast L2 entries	1000
IPv4 multicast L3 entries	1000
IPv6 unicast routing entries(maximum)	16K
IPv6 ND entries	16K
IPv6 multicast L2 entries	1000
IPv6 multicast L3 entries	1000
QOS forward queues	8
Jumbo frame length	10000

Ordering Information

Product ID	Product Description
LS-5580X-24T6Y-EI	H3C S5580X-24T6Y-EI L3 Ethernet Switch with 24*10/100/1000Base-T Ports, 8*1000 SFP Combo Ports, and 6*10G/25GBase-X SFP28 Ports,Without Power Supplies
LS-5580X-48T6Y-EI	H3C S5580X-48T6Y-EI L3 Ethernet Switch with 48*10/100/1000Base-T Ports and 6*10G/25GBase-X SFP28 Ports,Without Power Supplies
LS-5580S-24T6X-EI	H3C S5580S-24T6X-EI L3 Ethernet Switch with 24*10/100/1000Base-T Ports,8*1000 SFP Combo Ports, and 6*1G/10GBase-X SFP Plus Ports,Without Power Supplies
LS-5580S-48T6X-EI	H3C S5580S-48T6X-EI L3 Ethernet Switch with 48*10/100/1000Base-T Ports and 6*1G/10GBase-X SFP Plus Ports,Without Power Supplies
Fan	
FAN-40F-1-F	H3C Asset-Manageable Fan Module (4020, Fan Panel Side Exhaust Airflow)
FAN-40B-1-F	H3C Asset-Manageable Fan Module (4020, Fan Panel Side Intake Airflow)
Power supply	
PSR180-12D-B	180W Asset-Manageable DC Power Supply
CA-70A12	Pluggable 70W AC Power Supply



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