H3C S5560S-SI Layer 3 Gigabit Access Switch Series

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Product Overview

H3C S5560S-SI is the latest development of Gigabit Layer 3 access switch. It's the second-generation intelligent managed switches designed for networks requiring high performance, high port density, high uplink bandwidth and easy to deploy.

H3C S5560S-SI series switch offers Gigabit connectivity with10/100/1000 autosensing ports and 1G or 10G optical uplink.

H3C S5560S-SI series switch includes four models as follows:

- S5560S-28P-SI: 24*10/100/1000TX Ethernet ports + 4*SFP ports;

- S5560S-52P-SI: 48*10/100/1000TX Ethernet ports + 4*SFP ports;

- S5560S-28S-SI: 24*10/100/1000TX Ethernet ports + 4*SFP+ ports;

- S5560S-52S-SI: 48*10/100/1000TX Ethernet ports +4*SFP+ ports;

Features and benefits

High scalability

H3C S5560S-SI switch series offers fixed 4-port 10GE or 4-port GE uplink ports which offer high cost-effective GE/10GE uplink with high density Gigabit access, protecting customer's investigation.

H3C S5560S-SI switch series supports Intelligent Resilient Framework 2 (IRF2), which can stack up to 9 models as one logical device, offering high scalability and flexibility.

IPV6 features

The S5560S-SI switch series comes with IPv4/IPv6 dual-stack platform which provides hardware-based IPv4/IPv6 wire-speed forwarding and IPv4/IPv6 Layer 3 routing protocols. It also supports IPV6-based ACL, QOS, multicasting and NMS that can help the network upgrade from IPV4 to IPV6.

Intelligent Resilient Framework 2 (IRF2)

H3C S5560S-SI switch series is pre-built with Intelligent Resilient Framework 2 (IRF2). IRF2 provides the following benefits:

- High scalability: With IRF2, plug-n-play device aggregation can be achieved by adding one or more switches into the IRF2 stack and enabling IRF2 stacking on the new device. New devices can be managed with a single IP, and upgraded at the same time to reduce network expansion cost.
- High reliability: The IRF2 patented 1: N backup technology allows each slave device in the IRF2 stack to serve as the backup of the master, creating control and data link redundancy, as well as uninterrupted layer-3 forwarding. This improves the reliability, avoids unplanned business downtime and serves to improve overall performance. When the master device fails, traffic remains uninterrupted.
- Load balancing: IRF2 supports cross-device link aggregation, upstream and downstream can be connected to more than one physical link, which creates another layer of network redundancy and boosts the network resource utilization.
- Availability: H3C Implements IRF2 through standard Gigabit Ethernet (1GE) ports or 10 Gigabit Ethernet (10GE) ports which allocates bandwidth for business and application access and reasonably splits local traffic and upstream traffic. IRF2 rules not only able to obey within and across the rack, but also across the LAN.

Comprehensive security control policies

- H3C S5560S-SI switch series supports innovative single-port multi-authentication, the access authentication modes supported by different clients are different. For example, some clients can only perform MAC addresses Authentication (such as the printer terminal), and some user host for 802.1X authentication, and some user hosts only want to access through the Web portal authentication. In order to flexibly adapt to the multi-authentication requirements of the network environment, the S5560S-SI switch series support single-port multi-authentication unified deployment.

- ARP attack and ARP virus are major threats to LAN security, so the S5560S-SI switch series comes with diverse ARP protection functions such as ARP Detection to challenge the legitimacy of client, validate the ARP packets, and set a speed limit for ARP to prevent ARP swarm attacks from targeting CPU.
- H3C S5560S-SI switch series support EAD (End User Admission Domination) function. Once working with the iMC (intelligent Management Centre) system, EAD integrates terminal security policies, such as anti-virus and patch update, into network access control and access right control policies to form a cooperative security system. By checking, isolating, updating, managing, and monitoring access terminals, EAD changes passive, single point network protection to active, comprehensive network protection, and changes separate management to centralized management, enhancing the network

capability for preventing viruses, worms, and new threats.

Abundant QoS policies

- The S5560S-SI switch series supports packet filtering at Layer 2 through Layer 4, and traffic classification based on source MAC addresses, destination MAC addresses, source IP addresses, destination IP addresses, TCP/UDP port numbers, protocol types, and VLANs. It supports flexible queue scheduling algorithms based on ports and queues, including strict priority (SP), weighted round Robin (WRR) and SP+WRR. The S5560S-SI switch series enables committed access rate (CAR) with the minimum granularity of 8 kbps. It supports port mirroring in the outbound and inbound directions, to monitor the packets on the specific ports, and to mirror the packets to the monitor port for network detection and troubleshooting.

Excellent manageability

- The H3C S5560S-SI switch series makes switch management with ease with the support of SNMPv1/v2/v3, which can be managed by NM platforms, such as Open View and iMC. With CLI and Telnet switch management is made easier. And with SSH 2.0 encryption, switch management security is enhanced.

High Availability

The switch offers the following hardware high availability features:
- Automatically monitors power module and fan tray status, and generates alarms when a power or temperature event occurs.
- Adjusts fan speed based on the change in temperature.
- Self-protection mechanisms that protect power modules against overcurrent, overvoltage, and over-temperature conditions.

In addition to hardware redundancy, the switch provides a variety of node and link redundancy and protection mechanisms, including:
- Ethernet link aggregation, including LACP.
- Spanning tree protocols, including STP, RSTP and MSTP.
- IRF 2 in daisy or ring topology in conjunction with multi-chassis link aggregation.

Hardware Specifications

Feature	S5560S-28P-SI	S5560S-52P-SI	S5560S-28S-SI	S5560S-52S-SI
Box switching capacity	598Gbps			
Port switching capacity	56Gbps	104Gbps	128Gbps	176Gbps
Forwarding capacity	42Mpps	78Mpps	96Mpps	132Mpps
CPU	1 Core, 800MHz			
Flash/SDRAM	512MB/256MB			
Dimensions (H × W × D)	43.6 × 440 × 160 mm	43.6 × 440 × 230 mm	43.6 × 440 × 160 mm	43.6 × 440 × 230 mm
Weight	< 2.5 kg	< 3.5 kg	< 2.5 kg	< 3.5 kg
Management port	1 console port			
Maximum stacking num	9			
Stacking bandwidth	16Gbps		80Gbps	
Networking interface	24 × 10/100/1000Base-T autosensing Ethernet ports 4 × SFP ports	48 × 10/100/1000Base-T autosensing Ethernet ports 4 × SFP ports	24 × 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports	48× 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports
Port Surge	6KV	6KV	6KV	6KV
Input voltage	AC: The rated voltage range is 100V to 240V, 50/60Hz.			
Total power consumption	MIN: AC 9W MAX: AC 23W	MIN: AC 18W MAX: AC 41W	MIN: AC 10W MAX: AC 24W	MIN: AC 19W MAX: AC 44W
Fan number	Fan-less	1	1	1
MTBF(Year)	150.86	115.68	131.97	153.41
MTTR(Hour)	1	1	1	1
Operating temperature	-5℃ ~ 50℃(normal operating temperature) -5℃ ~ 45℃(When using transceiver modules with maximum transmission distance < 80km) -5℃ ~ 40℃(When using transceiver modules with maximum transmission distance ≥ 80km)			
Storage temperature	-40℃ ~ 70℃			
Relative humidity (non-condensing)	5% RH to 95% RH, non-condensing			

Software Specifications

Feature	S5560S-SI switch series
Port aggregation	GE/10GE port aggregation Dynamic aggregation Static aggregation Multi-chassis link aggregation
Broadcast/Multicast/Unicast storm suppression	Storm suppression based on port bandwidth percentage Storm suppression based on PPS Storm suppression based on BPS Broadcast traffic/Multicast traffic/Unknown unicast traffic suppression
Ethernet features	802.3x traffic control and half-duplex backpressure Green Ethernet (EEE) Automatic port energy-saving
IRF2	Distributed device management, distributed link aggregation, and distributed resilient routing Stacking through standard Ethernet interfaces Local device stacking and remote device stacking
MAC address table	Static MAC address Blackhole MAC address Setting the maximum number of port MAC addresses to be learned
VLAN	Port-based VLAN MAC-based VLAN Protocol-based VLAN QinQ and selective QinQ VLAN mapping Voice VLAN MVRP
DHCP	DHCP Client DHCP Snooping DHCP Snooping option82 DHCP Relay DHCP auto-config DHCP Server
VLAN interface	Both IPv4 and IPv6 supported
ARP	ARP Detection ARP speed limit

Feature	S5560S-SI switch series
ND	Support
DNS	IPV4 and IPV6 Static and Dynamic DNS
IP routing	IPV4/IPV6 static routing RIP/RIPng, OSPFV1/V2/V3
Multicast	IGMP Snooping V2/V3 PIM Snooping MLD Snooping Multicast VLAN IGMP v2/v3 PIM-SM/PIM-SSM/PIM-DM
Layer 2 ring network protocol	STP/RSTP/MSTP/PVST/PVST+ STP Root Protection Smart Link RRPP G.8032 ERPS (Ethernet Ring Protection Switching)
ACL	Packet filtering at Layer 2 through layer 4 Traffic classification based on source MAC addresses, destination MAC addresses, source IPv4/IPv6 addresses, Time range-based ACL VLAN-based ACL Bidirectional ACL
QoS	Port rate limit (receiving and transmitting) Packet redirection Committed access rate (CAR) Eight output queues on each port Flexible queue scheduling algorithms based on ports and queues, including SP, WRR and SP+WRR 802.1p DSCP remarking
Traffic Statistic	Sflow
Forwarding	Wire-speed/Line-rate architecture
Mirroring	Port mirroring Traffic mirroring RSPAN

Feature	S5560S-SI switch series
Security	Hierarchical user management and password protection AAA authentication support RADIUS authentication HWTACACS SSH2.0 Port isolation 802.1X authentication, centralized MAC authentication Port security IP Source Guard HTTPs EAD
Management and maintenance	Loading and upgrading through XModem/FTP/TFTP Zero Touch Provisioning Configuration through CLI, Telnet, and console port SNMPv1/v2c/v3 and Web-based NMS Restful Remote monitoring (RMON) alarm, event, and history recording IMC NMS System log, alarming based on severities, and output of debugging information NTP Ping, Tracert NQA Virtual cable test (VCT) Device link detection protocol (DLDP) Loopback-detection

Performance Specification

Entries	S5560S-SI switch series
MAC address entries	16K
Static Mac address	1K
VLAN table	4094
VLAN interface	1K
IPv4 routing entries	8K
IPv4 ARP entries	4K

Entries	S5560S-SI switch series
IPv4 ACL entries	S5560S-28P-SI, S5560S-28S-SI: 1.5K S5560S-52P-SI, S5560S-52S-SI: 3K
IPv4 multicast L2 entries	2000
IPv6 unicast routing entries	2K – the number of configured VLAN interfaces
IPv4 multicast L3 entries	1K
QOS forward queues	8
IPv6 ACL entries	1.5K
IPv6 ND entries	1K
Jumbo frame length	10000
MAX num in one link group	8
Link group num	124

Ordering Information:

Product ID	Product Description
LS-5560S-28P-SI-GL	H3C S5560S-28P-SI L2 Ethernet Switch with 24*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC)
LS-5560S-52P-SI-GL	H3C S5560S-52P-SI L2 Ethernet Switch with 48*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC)
LS-5560S-28S-SI-GL	H3C S5560S-28S-SI L2 Ethernet Switch with 24*10/100/1000BASE-T Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)
LS-5560S-52S-SI-GL	H3C S5560S-52S-SI L2 Ethernet Switch with 48*10/100/1000BASE-T Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)

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