Huawei Enterprise
Sx700 Series Switch Product

HUAWEI TECHNOLOGIES CO., LTD.

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S12700 Series Agile Switches

Product Overview

Huawei S12700 series agile core switches are designed for next-generation campus networks. Using a fully programmable switching architecture, the S12700 series allows fast, flexible function customization and supports a smooth evolution to Software-Defined Networking (SDN). The S12700 series uses a Huawei Ethernet Network Processor (ENP) and provides a native Wireless Access Controller (AC) to help build a wired and wireless converged network. Its native Broadband Remote Access Server (BRAS) capabilities deliver refined user and service management, and Huawei's Packet Conservation Algorithm for Internet (iPCA) supports hop-by-hop monitoring of any service flows, helping manage services in a more refined way. The S12700 series runs the Huawei Versatile Routing Platform (VRP), which provides high-performance L2/L3 switching services and rich network services, such as Multiprotocoal Label Switching (MPLS) VPN, hardware IPv6, desktop cloud, and video conferencing. In addition, the S12700 series offers a variety of reliability technologies, including in-service software upgrade, non-stop forwarding, Cluster Switch System Generation2(CSS2), a switch fabric hardware clustering system that allows 1+N backup of Main Processing Units (MPUs), hardware Eth-OAM/BFD, and ring network protection. These technologies help improve productivity and maximize network operation time, reducing Total Cost of Ownership (TCO). The S12700 series is available in two models: S12708 and S12712.

S12712

S12708

Product Characteristics

Make your network more agile and service-oriented

- The high-speed ENP chip used in the S12700 series is tailored for Ethernet. The chip's flexible packet processing and traffic control capabilities can meet current and future service requirements, helping build a highly scalable network.
- In addition to providing all the capabilities of common switches, the S12700 series provides fully programmable open interfaces and supports programmable forwarding behaviors. Enterprises can use the open interfaces to develop new protocols and functions independently, or jointly with other vendors, to build campus networks that meet their needs.
- The ENP chip uses a fully programmable architecture, on which enterprises can define their own forwarding models, forwarding behaviors, and lookup algorithms. This architecture speeds service innovation and enables the provisioning of a customized service within six months, without replacing hardware. In contrast, traditional Application Specific Integrated Circuit (ASIC) chips use a fixed forwarding architecture and follow a fixed forwarding process. For this reason, new services cannot be provisioned until new hardware is developed to support the services, which can take one to three years.

Deliver abundant services more agilely

- The S12700 series' native ACs allow enterprises to build a wireless network without additional AC hardware. Each S12700 switch can manage 4,000 APs and 64,000 users. It is the first core switch that provides T-bit AC capabilities, avoiding the performance bottleneck on independent AC devices. The native T-bit AC capabilities help organizations better cope with challenges in the high-speed wireless era.
- The S12700 series' native BRAS authenticates both wired and wireless users, delivering the same user experience whether they are connected to the network through wired or wireless access devices. The native BRAS supports various authentication methods, including PPPoE, 802.1X, MAC, and Portal authentication, and is capable of managing users based on user groups, domains, and time ranges. These functions visualize user and service management and enable the transformation from device-centered management to user-centered management.

Provide more agile fine granular management

- iPCA, Packet Conservation Algorithm for Internet, changes the traditional method of using simulated traffic for fault location. iPCA technology can monitor network quality for any service flow at any network node, at any time, and without extra costs. It can detect temporary service interruptions within one second and can identify faulty ports accurately. This cutting-edge fault detection technology turns "extensive management" into "fine granular management."
- Super Virtual Fabric (SVF) technology can not only virtualize fixed-configuration switches into S12700 switch line cards but also virtualize APs as switch ports. With this virtualization technology, a physical network with core/aggregation switches, access switches, and APs can be virtualized into a "super switch," offering the simplest network management solution.
- The S12700 series manages access switches similar to the way an AC manages APs, saving the laborious configuration on access switches. It manages access switches and APs uniformly through CAPWAP tunnels, allowing access switches and APs to connect to the network with zero configuration.

Industry-leading line cards

- Using Huawei’s advanced ENP chips, the S12700 series supports several million hardware entries, leaving traditional switches far behind. The S12700 series provides 1M MAC address entries and 3M Forwarding Information Base (FIB) entries, meeting requirements of route-intensive scenarios, such as the Metropolitan Area Network (MAN) for a television broadcasting or education network. Providing 1M NetStream entries enables fine granular traffic statistics for college campus networks and large-scale enterprise campus networks.
- The S12700 series provides a 1.5 GB buffer on each line card to prevent packet loss upon traffic bursts, delivering high-quality video services. Traditional switches only provide 4 MB buffer per card, which cannot ensure high-quality video stream transmission.
- The S12700 series supports high-density line-speed cards, such as 48 x 10 GE and 8 x 100 GE line cards. Each S12700 chassis can provide a maximum of 576 x 10 GE ports and 96 x 100 GE ports. This large port capacity fully meets the requirements of bandwidth-consuming applications, such as multimedia video conferencing, protecting customer investments.

End-to-end reliability design

Device-level reliability: CSS2 switch fabric hardware clustering technology

- Based on back-to-back clustering technology, widely used on high-end core routers, the S12700 series employs second-generation switching fabric hardware clustering technology, CSS2, an enhancement to CSS switching fabric clustering technology.
- CSS2 technology connects cluster member switches through switch fabric unit hardware channels; therefore, cluster control and data packets need only be forwarded once by the switch fabric units and do not go through service cards. Compared with traditional service port clustering technologies, CSS2 minimizes the impact of software failures, reduces service interruption risks caused by service cards, and also significantly shortens transmission latency.
- CSS2 supports 1+N backup of MPUs. This means a cluster can run stably as long as one MPU of any chassis in the cluster is working normally. In a cluster connected by service ports, each chassis must have at least one MPU working normally; therefore, CSS2 is more reliable than traditional service port clustering technologies.
- CSS2 prevents a cluster from splitting. Cluster control and data packets are transmitted over independent channels. Even if all links between switch fabric units fail, the cluster will not split because these packets can still be transmitted over the control channels between MPUs. In a cluster connected by service ports, control packets and data packets are forwarded through links between service cards. Once a link between member devices fails, control packets and data packets will be lost, causing the cluster to split.

Network-level reliability: End-to-end hardware protection switching

- The S12700 uses a series of link detection and protection switching technologies, such as hardware Eth-OAM, BFD, G.8032, and Smart Ethernet Protection (SEP), to realize 50 ms end-to-end protection switching. These technologies help build a campus network that responds quickly to topology changes and provides the most reliable services.

Product Specifications

Item	S12708	S12712
Switching capacity	12.32/27.04 Tbit/s	17.44/37.28 Tbit/s
Packet forwarding rate	6,240 /9,120 Mpps	9,120/12,960 Mpps
MPU slots	2	2
SFU slots	4	4
Service card slots	8	12
Redundancy design	MPUs, SFUs, power supplies, and fan modules	
CSS2	1+N backup of MPUs in a cluster	
	Up to 1.92 Tbit/s cluster bandwidth, 21 us inter-chassis transmission latency	
Wireless network management	Native AC	
	AP access control, AP region management, and AP profile management	
	Radio profile management, uniform static configuration, and centralized dynamic management	
	Basic WLAN services, QoS, security, and user management	
	Deployment of ACs on different network layers	
User management	Native BRAS	
	PPPoE, 802.1X, MAC, and Portal authentication	
	Traffic- and time-based accounting	
	User authorization based on user groups, domains, and time ranges	
VLAN	LNP, access, trunk, and hybrid interface type	
	Default VLAN	
	VLAN switching	
	QinQ and selective QinQ	
	MAC address-based VLAN assignment	
ARP	256K ARP entries	

Item	S12708	S12712
MAC address	1M MAC address entries	
	Dynamic MAC address learning and aging	
	Static, dynamic, and blackhole MAC address entries	
	Source MAC address filtering	
	MAC address limiting based on ports and VLANs	
Ring network protection	Spanning Tree Protocol (STP) (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
	SEP	
	Bridge Protocol Data Unit (BPDU), root protection, and loop protection	
	BPDU tunnel	
	G.8032 Ethernet Ring Protection Switching (ERPS)	
IP routing	3M IPv4 routing entries	
	1M IPv6 routing entries	
	IPv4 dynamic routing protocols, such as RIP, OSPF, IS-IS, and BGP	
	IPv6 routing protocols, such as RIPng, OSPFv3, IS-ISv6, and BGP4+	
Multicast	128,000 multicast routing entries	
	IGMPv1/v2/v3 and IGMP v1/v2/v3 snooping	
	PIM-DM, PIM-SM, and PIM-SSM	
	Multicast Source Discovery Protocol (MSDP) and Multiprotocol Extensions for BGP (MBGP)	
	Fast leave	
	Multicast traffic control	
	Multicast querier	
	Multicast protocol packet suppression	
	Multicast Call Admission Control (CAC)	
	Multicast ACL	
MPLS	Basic MPLS functions	
	MPLS Operations, Administration, and Maintenance (OAM)	
	MPLS Traffic Engineering (TE)	
	MPLS VPN/VLL/VPLS	

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Reliability	Link Aggregation Control Protocol (LACP) and E-Trunk	
	Virtual Router Redundancy Protocol (VRRP) and Bidirectional Forwarding Detection (BFD) for VRRP	
	BFD for BGP/IS-IS/OSPF/static route	
	Non-Stop Forwarding (NSF) and Graceful Restart (GR) for BGP/IS-IS/OSPF/LDP	
	TE Fast ReRoute (FRR) and IP FRR	
	Eth-OAM 802.3ah and 802.1ag (hardware)	
	ITU-Y.1731	
	Device Link Detection Protocol (DLDP)	
	In-Service Software Upgrade (ISSU)	
QoS	256,000 ACLs	
	Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority	
	ACLs and actions such as Committed Access Rate (CAR), re-marking, and scheduling	
	Queuing algorithms, such as SP, WRR, DRR, SP + WRR, and SP + DRR	
	Congestion avoidance mechanisms, including (WRED) and tail drop	
	5-level H-QoS	
	Traffic shaping	
Configuration and maintenance	Terminal access services such as console port login, Telnet, and SSH	
	Network management protocols, such as SNMPv1/v2/v3	
	File uploading and downloading through FTP and TFTP	
	BootROM upgrade and remote in-service upgrade	
	Hot patches	
	User operation logs	

Item	S12708	S12712
Security and management	MAC address, Portal, 802.1x, and Dynamic Host Configuration Protocol (DHCP) snooping triggered authentication	
	RADIUS and HWTACACS authentication for login users	
	Command line authority control based on user levels, preventing unauthorized users from using command configurations	
	Defense against DoS attacks, Transmission Control Protocol (TCP) SYN Flood attacks, User Datagram Protocol (UDP) Flood attacks, broadcast storms, and heavy traffic attacks	
	1K CPU hardware queues for hierarchical scheduling and protection of protocol packets on the control plane	
	Remote Network Monitoring (RMON)	
Value-added services	Firewall	
	Network Address Translation (NAT)	
	IPSec	
	Intrusion Protection System (IPS)	
	Load balancing Analog Digital Conversion (ADC)	
Buffer capacity	1.5 GB per card	
Energy saving	Energy Efficient Ethernet (802.3az)	
Dimensions (H x W x D in mm)	663.95 x 442 x 489, 15U	832.75 x 442 x 489, 19U
Weight (empty chassis)	19.8 kg	38.45 kg
Operating voltage	DC: –38.4V to –72V AC: 90V to 290V	
Total power capacity	6,600W	6,600W

Ordering Information

S12700 basic configuration	
LE2BN66ED000	N66E DC assembly rack (eight 60A outputs, maximum 2,200W per output, 600 x 600 x 2,200 mm)
LE2BN66EA000	N66E AC assembly rack (four 16A outputs, maximum 2,500W per output, 600 x 600 x 2,200 mm)
ET1BS12708S0	S12708 assembly chassis
ET1BS12712S0	S12712 assembly chassis
Monitoring unit	
EH1D200CMU00	Centralized monitoring unit
Main processing unit	
ET1D2MPUA000	S12700 main control unit A, optional clock
Switch fabric unit	
ET1D2SFUA000	S12700 switch fabric unit A
ET1D2SFUC000	S12700 switch fabric unit C
ET1D2SFUD000	S12700 switch fabric unit D
100M/1000M Ethernet electrical interface cards	
ET1D2G48TEA0	48-port 10/100/1000 BASE-T interface card (EA, RJ45)
ET1D2G48TEC0	48-port 10/100/1000 BASE-T interface card (EC, RJ45)
ET1D2G48TX1E	48-port 10/100/1000 BASE-T interface card (X1E, RJ45)*
100M/1000M Ethernet optical interface cards	
ET1D2G24SEC0	24-port 100/1000 BASE-X interface card (EC, SFP)
ET1D2G48SEA0	48-port 100/1000 BASE-X interface card (EA, SFP)
ET1D2G48SEC0	48-port 100/1000 BASE-X interface card (EC, SFP)
ET1D2G48SX1E	48-port 100/1000 BASE-X interface card (X1E, SFP)
100M/1000M Ethernet electrical and optical interface cards	
ET1D2T36SEA0	36-port 10/100/1000 BASE-T and 12-port 100/1000 BASE-X interface card (EA, RJ45/SFP)
10 GE optical interface cards	
ET1D2X04XEA0	4-port 10G BASE-X interface card (EA, XFP)
ET1D2X04XEC1	4-port 10G BASE-X interface card (EC, XFP)

S12700 basic configuration	
ET1D2S04SX1E	4-port 10G BASE-X and 24-port 100/1000 BASE-X and 8-port 10/100/1000 BASE-T combo interface card (X1E, RJ45/SFP/SFP+)
ET1D2S08SX1E	8-port 10G BASE-X and 8-port 100/1000 BASE-X and 8-port 10/100/1000 BASE-T combo interface card (X1E, RJ45/SFP/SFP+)
ET1D2X12SSA0	12-port 10G BASE-X interface card (SA, SFP+)
ET1D2X16SSC0	16-port 10G BASE-X interface card (SC, SFP+)
ET1D2X48SEC0	48-port 10G BASE-X interface card (EC, SFP+)
40 GE optical interface cards	
ET1D2L02QSC0	2-port 40G BASE-X interface card (SC, QSFP+)
ET1D2L08QSC0	8-port 40G BASE-X interface card (SC, QSFP+)
Cluster service subcard	
EH1D2VS08000	8-port 10G cluster switching system service unit (SFP+)
Service processing cards	
EH1D2PS00P00	Open Service Platform (OSP) card**
ET1D2FW00S00	Firewall service card - 10G
ET1D2FW00S01	Firewall service card - 20G
ET1D2FW00S02	Firewall service card - 40G
ET1D2IPS0S00	IPS service card
ACU2	WLAN ACU2 wireless access controller card
Optical transceivers	
FE-SFP optical transceiver	
S-SFP-FE-LH40-SM1310	Optical transceiver, eSFP, FE, single-mode module (1,310 nm, 40 km, LC)
S-SFP-FE-LH80-SM1550	Optical transceiver, eSFP, FE, single-mode module (1,550 nm, 80 km, LC)
GE-SFP optical transceiver	
SFP-1000BaseT	Copper transceiver, SFP, GE, electrical interface module (100m, RJ45)
eSFP-GE-SX-MM850	Optical transceiver, eSFP, GE, multimode module (850 nm, 0.5 km, LC)
SFP-GE-LX-SM1310	Optical transceiver, SFP, GE, single-mode module (1,310 nm,10 km, LC)
S-SFP-GE-LH40-SM1310	Optical transceiver, eSFP, GE, single-mode module (1,310 nm, 40 km, LC)
S-SFP-GE-LH40-SM1550	Optical transceiver, eSFP, GE, single-mode module (1,550 nm, 40 km, LC)
S-SFP-GE-LH80-SM1550	Optical transceiver, eSFP, GE, single-mode module (1,550 nm, 80 km, LC)

S12700 basic configuration	
eSFP-GE-ZX100-SM1550	Optical transceiver, eSFP, GE, single-mode module (1,550 nm,100 km, LC)
10 GE-XFP Optical transceiver	
XFP-SX-MM850	Optical transceiver, XFP, 10G, multimode module (850 nm, 0.3 km, LC)
XFP-STM64-LX-SM1310	Optical transceiver, XFP, 10G, single-mode module (1,310 nm, 10 km, LC)
XFP-STM64-LH40-SM1550	Optical transceiver, XFP, 10G, single-mode module (1,550 nm, 40 km, LC)
XFP-STM64-SM1550-80 km	Optical transceiver, XFP, 10G, single-mode module (1,550 nm, 80 km, LC)
10 GE-SFP+ Optical transceiver	
OMXD30000	Optical transceiver, SFP+, 10G, multimode module (850 nm, 0.3 km, LC)
OSX010000	Optical transceiver, SFP+, 10G, single-mode module (1,310 nm,10 km, LC)
OSX040N01	Optical transceiver, SFP+, 10G, single-mode module (1,550 nm, 40 km, LC)
OSXD22N00	Optical transceiver, SFP+, 10G, single-mode module (1,310 nm, 0.22km, LC,LRM)
LE2MXSC80FF0	Optical transceiver, SFP+, 10G, single-mode module (1,550 nm, 80 km, LC) (only for 8-port 10G BASE interface cards)
SFP-10G-USR	Optical transceiver, SFP+, 10G, multimode module (850 nm, 0.1 km, LC)
SFP-10G-ZR	Optical transceiver, SFP+, 10G, single-mode module (1,550 nm, 80 km, LC)
SFP-10G-AOC3M	AOC optical transceiver, SFP+, 850 nm, 1G to 10G, 0.003 km
SFP-10G-AOC10M	AOC optical transceiver, SFP+, 850 nm, 1G to 10G, 0.01 km
SFP-10G-BXU1	10G Base, Bi-Directional (BIDI) optical transceiver, SFP, 10G, single-mode module (TX1270 nm/RX1330 nm, 10 km, LC)
SFP-10G-BXD1	10G Base, BIDI optical transceiver, SFP, 10G, single-mode module (TX1330 nm/RX1270 nm, 10 km, LC)
SFP-10G-ZCW1511	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,511 nm, 70 km, LC)
SFP-10G-ZCW1471	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,471 nm, 70 km, LC)
SFP-10G-ZCW1491	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,491 nm, 70 km, LC)
SFP-10G-ZCW1531	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,531 nm, 70 km, LC)
SFP-10G-ZCW1551	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,551 nm, 70 km, LC)
SFP-10G-ZCW1571	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,571 nm, 70 km, LC)
SFP-10G-ZCW1591	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,591 nm, 70 km, LC)

S12700 basic configuration	
SFP-10G-ZCW1611	Optical transceiver, SFP+, 10G, single-mode module (CWDM, 1,611 nm, 70 km, LC)
40 GE-QSFP optical transceivers	
QSFP-40G-SR4	Optical transceiver, Quad Small Form-Factor Pluggable (QSFP), 40G, multimode module (850 nm, 0.15 km, MPO) (connecting to one QSFP+ optical transceiver)
QSFP-40G-iSR4	Optical transceiver, QSFP, 40G, multimode module (850 nm, 0.15 km, MPO) (connecting to four SFP+ optical transceivers)
QSFP-40G-LR4	40G Base-LR4 optical transceiver, QSFP+, 40G, single-mode module (1,310 nm, 10 km, LC)
QSFP-40G-eiSR4	40G Base-SR4 Optical transceiver, QSFP+, 40G, multimode module (850 nm, 0.3 km, MPO) (connecting to four SFP+ optical transceivers)
BIDI-SFP optical transceivers	
SFP-FE-LX-SM1310-BIDI	Optical transceiver, eSFP, FE, BIDI single-mode module (TX1310/RX1550, 15 km, LC)
SFP-FE-LX-SM1550-BIDI	Optical transceiver, eSFP, FE, BIDI single-mode module (TX1550/RX1310, 15 km, LC)
SFP-GE-LX-SM1310-BIDI	Optical transceiver, eSFP, GE, BIDI single-mode module (TX1310/RX1490,10 km, LC)
SFP-GE-LX-SM1490-BIDI	Optical transceiver, eSFP, GE, BIDI single-mode module (TX1490/RX1310,10 km, LC)
LE2MGSC40ED0	Optical transceiver, SFP, GE, BIDI single-mode module (TX1490/RX1310, 40 km, LC)
LE2MGSC40DE0	Optical transceiver, SFP, GE, BIDI single-mode module (TX1310/RX1490, 40 km, LC)
SFP-GE-LX	1000Base-BIDI optical transceiver, SFP, GE, single-mode module (TX1490 nm/RX1310 nm,10 km, LX)
Power modules	
PAC-2200WF	2,200W AC power module F (black)
PDC-2200WF	2,200W DC power module F (black)
Software	
ET1SBSM25000	S12700 V200R005C00 software
Documentation	
ET1IV2R5C0C0	S12700 Series Agile Switches Product Documentation (Chinese)
ET1IV2R5C0E0	S12700 Series Agile Switches Product Documentation (English)

* The X1E series cards use ENP chips and provide native AC and BRAS functions.

** The OSP card supports CheckPoint IPS and F5 ADC load balancer, and can run Windows, SUSE, and VMware operating systems.

Application

In an enterprise campus network

S12700 series switches are deployed on the core layer of an enterprise campus network. Native ACs provided by the S12700 enable customers to build wireless networks without additional AC hardware, reducing network construction costs. The S12700 is the first core switch that provides T-bit AC capabilities, avoiding the performance bottleneck on independent ACs. The native T-bit AC capabilities help customers migrate their wireless networks to 802.11ac. The S12700 series realizes wired and wireless convergence and delivers consistent experience to wired and wireless users through uniform device, user, and service management.

In a college campus network

S12700 series switches are deployed on the core layer of a college campus network. The native BRAS on the S12700 reduces network construction costs by removing the need to purchase new BRAS hardware. Each S12700 switch supports 64,000 users, allowing a large number of concurrent access users. Its five-level H-QoS feature implements fine granular user and service management. The S12700 series realizes wired and wireless convergence and delivers consistent experience to wired and wireless users through uniform device, user, and service management.

In a bearer network for video conferencing, desktop cloud, and video surveillance applications

The 1.5 GB buffer prevents packet loss upon traffic bursts, delivering high-quality video streams. The S12700 series supports up to 1M MAC address entries and 3M FIB entries, which allow access from a large number of terminals and help evolution to IPv6 and the Internet of Things (IoT). Employing end-to-end hardware reliability technologies and iPCA technology, the S12700 series offers a highly reliable, high-quality, scalable video conferencing and surveillance solution.

On the core/aggregation layer of a MAN

S12700 series switches are used as core or aggregation switches on the Metropolitan Area Network (MAN) of a television broadcasting or education network. The 3M FIB entries provided are sufficient for large-scale routing on the MAN. CSS2 switch fabric hardware clustering technology, originating from clustering technology for high-end core routers, delivers carrier-class reliability on the MAN. Additionally, the S12700 series supports comprehensive L2/L3 MPLS VPN features, providing a highly reliable, secure, and scalable metropolitan bearer network solution.

In an enterprise data center

S12700 series switches are deployed on the core or aggregation layer of an enterprise data center network. The S12700 series has high-density line cards, such as 8 x 100 GE and 48 x 10 GE cards, meeting the requirements for large data throughput on data center core/aggregation nodes. Using CSS2 switch fabric hardware clustering technology, the S12700 series provides up to 1.92 Tbit/s cluster bandwidth and shortens the inter-chassis forwarding latency to 21 μs. This technology helps customers build a high performance, high reliability, and low latency data center network.

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S9700 Series Terabit Routing Switches

Product Overview

The S9700 series terabit routing switches (S9700 for short) are high-end switches designed for next-generation campus networks and data centers to provide service aggregation.

Based on Huawei Versatile Routing Platform (VRP), the S9700 provides high L2/L3 switching capabilities and integrates diversified services such as MPLS VPN, hardware IPV6, desktop cloud, video conferencing, wireless access. In addition, the S9700 also provides a variety of reliability technologies including in-service software upgrade, non-stop forwarding, hardware OAM/BFD, and ring network protection. These technologies improve customers' network efficiency and maximize the normal operation time, which reduce customers' total cost of ownership (TCO).

The S9700 is available in three models: S9703, S9706, and S9712.

S9712

S9706

S9703

Product Characteristics

Advanced Architecture to Ensure Industry-Leading Performance

- The S9700 is designed for a 100G platform and is capable of delivering up to 18.56Tbps to support high-density GE/10GE line-speed forwarding.
- The S9700 provides high performance line cards, such as 8*40GE and 40*10GE line cards.
- The S9700 supports a maximum of 96*40GE ports or 480*10GE ports, bringing enterprise campus networks and data centers into the era of the all-10GE core network.
- The S9700 supports the 100G Ethernet standard to meet future requirements from bandwidth-intensive applications (such as multimedia conferencing and data access), eliminating the trouble of frequent upgrading.

Innovative CSS Technology

- The S9700 switches support switch fabric clustering and service port clustering through cluster switching system (CSS) technology. CSS technology virtualizes multiple physical switches into one logical device that has higher reliability, switching efficiency, and flexibility and is easier to manage.
- High reliability: Through hot backup of routes, all control plane and data plane information is backed up and forwarded continuously at Layer 3, which significantly improves the reliability and performance of the device. Inter-chassis link aggregation can also be used to eliminate single-point failure and prevent service interruption.
- Flexibility: Service ports can be used as cluster ports so that cluster members can be connected through optical fibers. This expands the clustering distance substantially.
- Easy management: The member switches in a cluster are managed using the same IP address, which simplifies network device and topology management, improves operation efficiency, and reduces maintenance costs.

Carrier-class Reliability

- All the key components of the S9700 (including MPUs, power supply units, and fans) use a redundant design, and all modules are hot swappable to ensure stable network operation.
- The S9700 supports 3.3 ms hardware-based BFD for protocols such as static routing, RIP, OSPF, BGP, ISIS, VRRP, PIM, and MPLS. Hardware-based BFD greatly improves network reliability.
- The S9700 supports hardware-based Ethernet OAM, including comprehensive EEE802.3ah, 802.1ag, and ITU-Y. 1731 implementations. Hardware-based Ethernet OAM can collect accurate network parameters, such as transmission latency and jitter, to help customers monitor network operating status in real time and to realize quick detection, location, and switching when a network fault occurs.
- The in-service software upgrade (ISSU) function of the S9700 prevents interruption of key services during software upgrading. The S9700 supports graceful restart to realize nonstop forwarding and ensure reliable and high-speed operation of the entire network.

Powerful Service Processing Capability

- The S9700's multi-service routing and switching platform meets requirements for service bearing at the access layer, aggregation layer, and core layer of enterprise networks. The S9700 provides wireless access, voice, video, and data services, helping enterprises build an integrated full service network with high availability and low latency.
- The S9700 supports distributed Layer 2/Layer 3 MPLS VPN functions, MPLS, VPLS, HVPLS, and VLL. These functions allow enterprise users to connect to the enterprise network through VPNs.
- The S9700 supports many Layer 2/Layer 3 multicast protocols such as PIM SM, PIM DM, PIM SSM, MLD, and IGMP snooping, to support multi-terminal high-definition video surveillance and video conferencing services.
- The software platform provides various routing protocols and supports large routing tables for both SME networks and large-scale multinational company networks. Moreover, it supports IPv6, allowing an enterprise network to smoothly migrate to IPv6.

Wireless AC Modules, Meeting Requirements for Mobile Office

- The S9700 AC card supports radio frequency management. The AC allows APs to select their radio channels and power automatically. In an AP region, APs automatically adjust radio channels and power in the event of signal interference, enabling the receive signal strength indicator (RSSI) and signal-to-noise ratio (SNR) to be continuously updated. The system then can monitor the electromagnetic environment of every wireless user, improving network availability.
- The S9700 AC card supports various authentication methods for wireless users, including 802.1x MAC address authentication, portal certification, and WAPI authentication, to ensure access of different terminals and devices of different security levels.

Powerful Network Traffic Analysis

- The S9700 supports Netstream and V5/V8/V9 packet formats. The Netstream feature supports aggregation traffic template, real-time traffic collection, dynamic report generation and traffic attribute analysis, and traffic exception report. The S9700 sends traffic statistics logs to master and backup servers to avoid data loss. The S9700 can realize real-time network monitoring and the traffic analysis of the entire network. It also provides applications and analysis including fault pre-detection, effective fault rectification, fast problem handling, and security monitoring, to help customers optimize network structure and adjust service deployment.

Comprehensive Security Measures

- The S9700 has an integrated built-in firewall card and supports virtual firewalls and NAT multi-instance, allowing multiple VPN customers to share the same firewall. The application-layer packet filtering technology detects and filters application layer packets according to rules.
- The S9700 provides comprehensive NAC solutions for enterprise networks. It supports MAC address authentication, portal authentication, 802.1x authentication, and DHCP snooping-triggered authentication. These authentication methods ensure security of various access modes such as dumb terminal access, mobile access, and centralized IP address allocation.
- The S9700 is the industry leader in integrated security solutions. It uses a 2-level CPU protection mechanism and supports 1K CPU queues, and protects the CPU by separating the data plane and control plane. Additionally, the S9700 defends against DoS attacks and unauthorized access, and prevents control plane overloading.

Comprehensive IPv6 Solution

- The S9700 software and hardware platforms support IPv6 and the S9700 has been granted an IPv6 Network Access License and the IPv6 Ready Logo Phase 2 Certification by the Ministry of Industry and Information Technology.
- The S9700 supports various IPv6 unicast routing protocols (such as IPv6 static routing, RIPng, OSPFv3, IS-ISv6, and BGP4+) and multicast features (such as MLD v1/v, MLD snooping, PIM-SM/DMv6, and PIM-SSMv6), which provides customers with comprehensive IPv4/IPv6 solutions.
- The S9700 supports various IPv4-to-IPv6 technologies: IPv6 manual tunnels, 6-to-4 tunnel, ISATAP tunnel, GRE tunnel, and IPv4-compatible automatic tunnels. These technologies ensure smooth transition from an IPv4 network to an IPv6 network.

Innovative Energy Conservation Design

- The S9700 uses a rotating ventilation channel to improve heat dissipation efficiency. In addition, it uses a variable current chip to dynamically adjust the power according to traffic, reducing power consumption by 11%. Ports can go into a sleeping state when there is no traffic to reduce power consumption.
- The S9700 uses intelligent fan-speed adjustment technology. The fan module monitors and controls the temperature in each zone, and adjusts the fan speed of in each zone individually. This technology extends the service life of each fan and reduces power consumption.
- The S9700 supports IEEE 802.3az Energy Efficient Ethernet, provides a low-power idle mode for the PHY line card, and switches to a lower power state during low link utilization.

Product Specifications

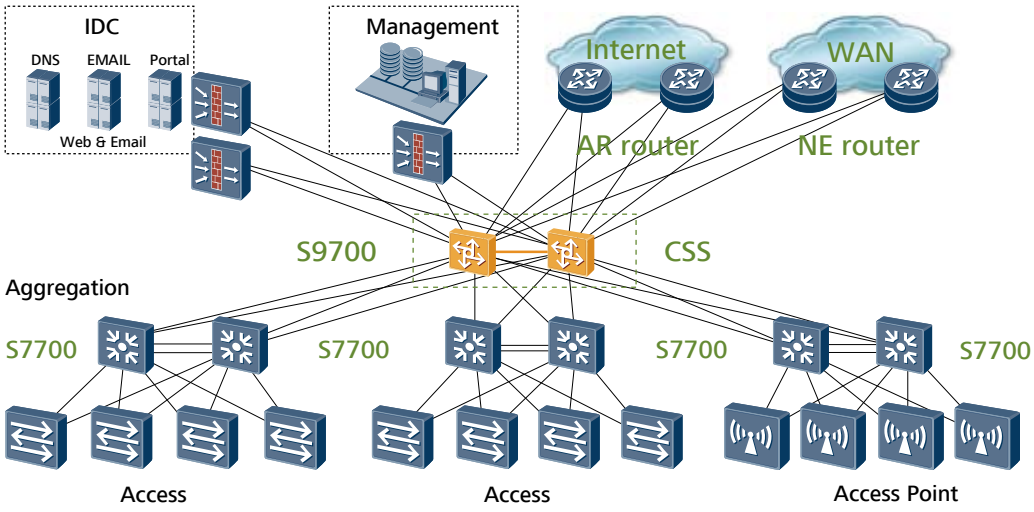
Item	S9703	S9706	S9712
Switching capacity	2.88T/5.76T	6.72T/14.72T	8.64T/18.56T
Forwarding performance	2160M	2880M/5040M	3840M/6480M
Service slots	3	6	12
VLAN	Supports adding access, trunk, and hybrid interfaces to VLANs		
	Supports the default VLAN		
	Supports VLAN switching		
	Supports QinQ and selective QinQ		
	Supports MAC address-based VLAN assignment		
MAC address	Supports automatic learning and aging of MAC addresses		
	Supports static, dynamic, and blackhole MAC address entries		
	Supports packet filtering based on source MAC addresses		
	Supports MAC address limiting based on ports and VLANs		
STP/ERPS	Supports STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s)		
	Supports BPDU protection, root protection, and loop protection		
	Supports BPDU tunnel		
	ERPS（G.8032）		
IP routing	Supports IPv4 routing protocols, such as RIP, OSPF, BGP, and IS-IS		
	Supports IPv6 dynamic routing protocols, such as, RIPng, OSPFv3, ISISv6, and BGP4+		

Item	S9703	S9706	S9712
Multicast	Supports IGMP v1/v2/v3, IGMPv1/v2/v3 snooping		
	Supports PIM-SM, PIM-DM, PIM-SSM		
	Supports MSDP, MBGP		
	Supports prompt leave		
	Supports multicast traffic control		
	Supports multicast querier		
	Supports suppression on multicast packets		
	Supports multicast CAC		
	Supports multicast ACL		
MPLS	Supports basic MPLS functions		
	Supports MPLS OAM		
	Supports MPLS TE		
	Supports MPLS VPN/VLL/VPLS		
CSS switch fabric clustering	CSS Switch Fabric Clustering (S9706 and S9712)		
Service port clustering	Service Port Clustering (S9706 and S9712)		
Reliability	Supports LACP and E-Trunk		
	Supports VRRP and BFD for VRRP		
	Supports BFD for BGP/IS-IS/OSPF/static route		
	Supports NSF, and GR for BGP/IS-IS/OSPF/LDP		
	Supports TE FRR and IP FRR		
	Supports Ethernet OAM (IEEE 802.3ah and 802.1ag)(Hardware level)		
	Supports ITU-Y.1731		
	Supports DLDP		
	Supports In-Service Software Upgrade (ISSU)		
QoS	Supports traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority		
	Supports actions of ACL, CAR, re-mark, and schedule		
	Supports queue scheduling algorithms, such as SP, WRR, DRR, SP+WRR, and SP+DRR		
	Supports congestion avoidance mechanisms, such as WRED and tail drop		
	Supports H-QoS		
	Supports traffic shaping		

Item	S9703	S9706	S9712
Configuration and maintenance	Supports console, telnet, and SSH terminals		
	Supports the network management protocols, such as SNMPv1/v2/v3		
	Supports file uploading and downloading using FTP and TFTP		
	Supports BootROM upgrade and remote upgrade		
	Supports hot patches		
	Supports user operation logs		
Security and management	Supports 802.1x authentication and Portal authentication		
	Supports NAC		
	Supports RADIUS and HWTACACS authentication for login users		
	Supports command line authority control based on user levels, preventing unauthorized users from using commands		
	Supports defense against DoS attacks, TCP SYN Flood attacks, UDP Flood attacks, broadcast storms, and heavy traffic attacks		
	Supports 1K CPU queues		
	Supports ping and traceroute functions based on ICMP packets		
	Supports remote network monitoring		
Value-added services	Supports Firewall		
	Supports NAT		
	Supports Netstream		
	Supports IPSec		
	Supports Load balancing		
	Supports Wireless AC		
	Supports IPS		
Energy saving	Supports IEEE 802.3az: Energy Efficient Ethernet (EEE)		
Dimensions (W x D x H)	442 mm × 476 mm × 175 mm	442 mm × 476 mm × 442 mm	442 mm × 476 mm × 664 mm
Chassis weight (empty)	< 15 kg	< 30 kg	< 45 kg
Operating voltage	DC: –38.4 V to –72 V AC: 90 V to 290V		
Power supply capability of the equipment	2200W	4400W	6600W

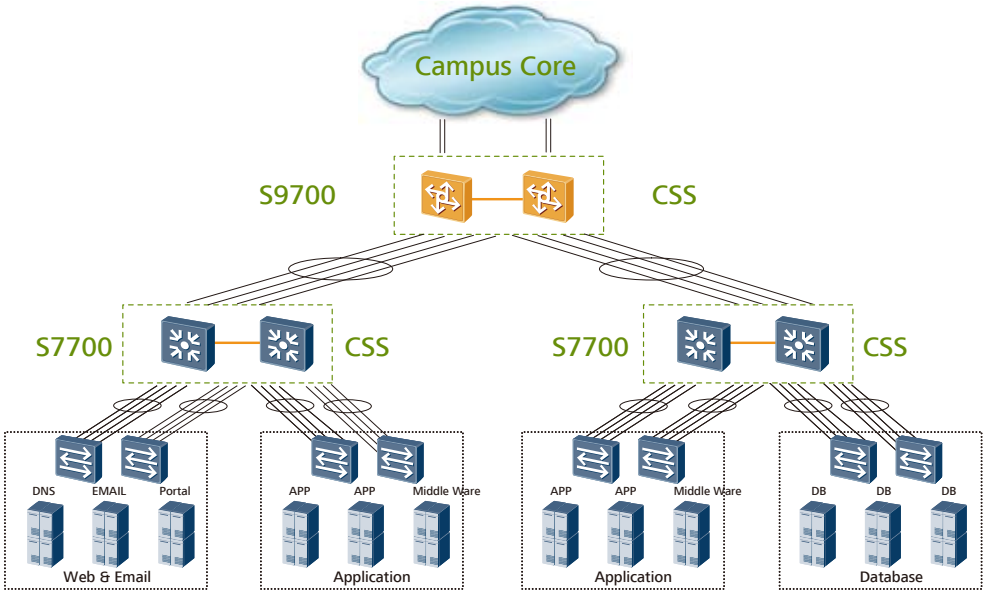
Application in Large-Scale Campus Networks

The S9700 can be used to build highly reliable, scalable, and manageable high performance enterprise campus networks. Its capability to switch IPv4/IPv6/MPLS services at line speeds enables it to provide high-density 10G throughput as a core or aggregation node on an enterprise campus network. The S9700 supports the AC module and can provide WLAN access while working as a core switch, reducing the network investment. It also supports hardware CPU queues to protect the enterprise core network against DDoS attacks and other security threats.



Applications in Large-Scale Data Centers

The S9700 functions as a high-density 10G core or aggregation node in large-scale data centers, helping enterprises build highly reliable, non-blocking, and virtualized data center networks. The S9700 employs various technologies to ensure uninterrupted services, including ISSU upgrades, IP FRR, hardware-level BFD, NSF, VRRP, E-Trunk. Using the CSS and integrated load balancing solutions, the S9700 improves the network efficiency and reduces network maintenance costs.



Order Information

Basic Configuration	
LE2BN66ED000	N66E DC Assembly Rack(Eight 60A Outputs，maximum 2200W per output，600X600X2200mm)
LE0BN66EAC	N66E AC Assembly Rack(Eight 10A Outputs ,maximum 1600W per output，600X600X2200mm)
LE2BN66EA000	N66E AC Assembly Rack(Four 16A Outputs，maximum 2500W per output，600X600X2200mm)
EH1BS9703E00	S9703 assembly chassis
EH1BS9706E00	S9706 assembly chassis
EH1BS9712E00	S9712 assembly chassis
EH1BS9703E01	S9703 Assembly Chassis-sustain FCC
EH1BS9706E01	S9706 Assembly Chassis-sustain FCC
EH1BS9712E01	S9712 Assembly Chassis-sustain FCC
EH1M00FBX000	Wide Voltage 74 Fan Box
Monitoring Unit(Sustain FCC)	
EH1D200CMU0	Centralized monitoring unit
MPU	
EH1D2MCUAC00	S9703 MCUA-clock(Sustain FCC)
EH1D2SRUDC00	S9706/S9712 SRUD-clock
EH1D2SRUDC01	S9706/S9712 SRUD-clock(Sustain FCC)
EH1D2SRUC000	S9706/S9712,Main Control Unit C,Option clock
EH1D2SRUF000	S9706/S9712, Main Control Unit F, Option clock
100M Ethernet Electrical Interface Card(Sustain FCC)	
EH1D2F48TEA0	48-port 100M Ethernet electrical interface card (EA, RJ45)
EH1D2F48TFA0	48-port 100M Ethernet electrical interface card (FA, RJ45)
EH1D2F48TEC0	48-port 100M Ethernet electrical interface card (EC, RJ45)

Basic Configuration	
100M Ethernet Optical Interface Card(Sustain FCC)	
EH1D2F48SEA0	48-port 100M Ethernet optical interface card (EA, SFP)
EH1D2F48SEC0	48-port 100M Ethernet optical interface card (EC, SFP)
100M/1000M Ethernet Electrical Interface Card(Sustain FCC)	
EH1D2T24XEA0	24-port 100M/1000M Ethernet electrical interface and 2-port 10GE Ethernet optical interface card (EA, RJ45/XFP)
EH1D2G24TFA0	24-port 100M/1000M Ethernet electrical interface card (FA, RJ45)
EH1D2G48TEA0	48-port 100M/1000M Ethernet electrical interface card (EA, RJ45)
EH1D2G48TFA0	48-port 100M/1000M Ethernet electrical interface card (FA, RJ45)
EH1D2G48TBC0	48-port 100M/1000M Ethernet electrical interface card (BC, RJ45)
EH1D2G48TEC0	48-port 100M/1000M Ethernet electrical interface card (EC, RJ45)
EH1D2G48TED0	48-port 100M/1000M Ethernet electrical interface card (ED, RJ45)
100M/1000M Ethernet Optical Interface Card(Sustain FCC)	
EH1D2G24SSA0	24-port 100M/1000M Ethernet optical interface card (SA, SFP)
EH1D2G24SEC0	24-port 100M/1000M Ethernet optical interface card (EC, SFP)
EH1D2G24SED0	24-port 100M/1000M Ethernet optical interface card (ED, SFP)
EH1D2S24CSA0	24-port 100M/1000M Ethernet optical interface and 8-port 100M/1000M combo electrical interface card (SA, SFP/RJ45)
EH1D2S24CEA0	24-port 100M/1000M Ethernet optical interface and 8-port 100M/1000M combo electrical interface card (EA, SFP/RJ45)
EH1D2S24XEA0	24-port 100M/1000M Ethernet optical interface and 2-port 10GE Ethernet optical interface card (EA, SFP/XFP)
EH1D2S24XEC0	24-port 100M/1000M Ethernet optical interface and 2-port 10G Ethernet optical interface card (EC, SFP/XFP)
EH1D2G48SEA0	48-port 100M/1000M Ethernet optical interface card (EA, SFP)
EH1D2G48SFA0	48-port 100M/1000M Ethernet optical interface card (FA, SFP)

Basic Configuration	
EH1D2G48SBC0	48-port 100M/1000M Ethernet optical interface card (BC, SFP)
EH1D2G48SEC0	48-port 100M/1000M Ethernet optical interface card (EC, SFP)
EH1D2G48SED0	48-port 100M/1000M Ethernet optical interface card (ED, SFP)
100M/1000M Ethernet Combo Interface Card(Sustain FCC)	
EH1D2T36SEA0	36-port 100 M/1000 M Ethernet electrical interface and 12-port 100 M/1000 M optical interface card (EA, RJ45/SFP)
10GE Optical Interface Card	
EH1D2X02XEA0	2-port 10GE optical interface card (EA, XFP)
EH1D2X02XEC0	2-port 10GE optical interface card (EC, XFP)
EH1D2X02XEC1	2-Port 10GBASE-X Interface Card(EC,XFP),FCC
EH1D2X04XEA0	4-port 10GE optical interface card (EA, XFP)
EH1D2X04XEC0	4-port 10GE optical interface card (EC, XFP)
EH1D2X04XEC1	4-Port 10GBASE-X Interface Card(EC,XFP),FCC
EH1D2X04XED0	4-port 10GE optical interface card (ED, XFP)
EH1D2X08SED4	8-port 10GE optical interface card (ED, SFP+)
EH1D2X08SED5	8-port 10GE optical interface card (ED, SFP+)(Sustain FCC)
EH1D2X12SSA0	12-port 10GE optical interface card (SA, SFP+)
EH1D2X16SFC0	16-port 10GE optical interface card (FC, SFP+)(Sustain FCC)
EH1D2X40SFC0	40-port 10GE optical interface card (FC, SFP+)(Sustain FCC)
40GE Optical Interface Card(Sustain FCC)	
EH1D2L02QFC0	2-port 40GBASE-X interface card(FC,QSFP+)
EH1D2L08QFC0	8-port 40GBASE-X interface card (FC, QSFP+)
Cluster Switching System Service Unit	
EH1D2VS08000	8-Port 10G Cluster Switching System Service Unit (SFP+)

Basic Configuration	
Service Processing Unit(Sustain FCC)	
LE0D0VAMPA00	Value-added service card
Optical Module	
FE-SFP Optical Module	
S-SFP-FE-LH40-SM1310	Optical module -eSFP-FE- single-mode modules (1310 nm, 40 km, LC)
S-SFP-FE-LH80-SM1550	Optical module -eSFP-FE- single-mode modules (1550 nm, 80 km, LC)
GE-SFP Optical Module	
SFP-1000BaseT	Electrical module-SFP-GE- electrical interface modules (100 m, RJ45)
eSFP-GE-SX-MM850	Optical module -eSFP-GE- multi-mode modules (850 nm, 0.5 km, LC)
SFP-GE-LX-SM1310	Optical module -SFP-GE- single-mode modules (1310 nm, 10 km, LC)
S-SFP-GE-LH40-SM1310	Optical module -eSFP-GE- single-mode modules (1310 nm, 40 km, LC)
S-SFP-GE-LH40-SM1550	Optical module -eSFP-GE- single-mode modules (1550 nm, 40 km, LC)
S-SFP-GE-LH80-SM1550	Optical module -eSFP-GE- single-mode modules (1550 nm, 80 km, LC)
eSFP-GE-ZX100-SM1550	Optical module -ESFP-GE- single-mode modules (1550 nm, 100 km, LC)
10GE-XFP Optical Module	
XFP-SX-MM850	Optical module -XFP-10G- multi-mode modules (850 nm, 0.3 km, LC)
XFP-STM64-LX-SM1310	Optical module -XFP-10G- single-mode modules (1310 nm, 10 km, LC)
XFP-STM64-LH40-SM1550	Optical module -XFP-10G- single-mode modules (1550 nm, 40 km, LC)
XFP-STM64-SM1550-80km	Optical module -XFP-10G- single-mode modules (1550 nm, 80 km, LC)
10GE-SFP+ Optical Module	
OMXD30000	Optical module, SFP+, 10G, single-mode module (850 nm, 0.3 km, LC)
OSX010000	Optical module, SFP+, 10G, dingle-mode module (1310nm, 10 km, LC)
OSX040N01	Optical module, SFP+, 10G, single-mode module (1550 nm, 40 km, LC)

Basic Configuration	
OSXD22N00	Optical module, SFP+, 10 G, multi-mode module (1310 nm, 0.22 km, LC, LRM)
LE2MXSC80FF0	Optical module, SFP+, 10G, single-mode module (1550 nm, 80 km, LC) (Dedicated for 8-port 10GE card)
SFP-10G-USR	Optical Transceiver,SFP+,10G,Multi-mode Module(850nm,0.1km,LC)
SFP-10G-ZR	Optical Transceiver,SFP+,10G,Single-mode Module(1550nm,80km,LC)
SFP-10G-AOC3M	AOC Optical Transceiver,SFP+,850nm,1G~10G,0.003km
SFP-10G-AOC10M	AOC Optical Transceiver,SFP+,850nm,1G~10G,0.01km
SFP-10G-BXU1	10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1270nm/RX1330nm,10km,LC)
SFP-10G-BXD1	10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1330nm/RX1270nm,10km,LC)
40GE-QSFP Optical Module	
QSFP-40G-SR4	Optical transceiver, QSFP, 40G, muti-mode (850nm, 0.15km ,MPO) (Connect to QSFP)
QSFP-40G-iSR4	Optical transceiver, QSFP, 40G, muti-mode (850nm, 0.15km ,MPO) (Connect to four SFP+)
QSFP-40G-LR4	40GBase-LR4 Optical Transceiver,QSFP+,40GE,Single-mode Module(1310nm,10km,LC)
BIDI-SFP Optical Module	
SFP-FE-LX-SM1310-BIDI	Optical module -eSFP-FE-BIDI single-mode modules (TX1310/ RX1550, 15 km, LC)
SFP-FE-LX-SM1550-BIDI	Optical module -eSFP-FE-BIDI single-mode modules (TX1550/ RX1310, 15 km, LC)
SFP-GE-LX-SM1310-BIDI	Optical module -eSFP-GE-BIDI single-mode modules (TX1310/ RX1490, 10 km, LC)
SFP-GE-LX-SM1490-BIDI	Optical module -eSFP-GE-BIDI single-mode modules (TX1490/ RX1310, 10 km, LC)
LE2MGSC40DE0	Optical module -SFP-GE-BIDI single-mode modules (TX1310/ RX1490, 40 km, LC)

Basic Configuration	
LE2MGSC40ED0	Optical module -SFP-GE-BIDI single-mode modules (TX1490/ RX1310, 40 km, LC)
Power Supply Unit	
W2PSA0800	800W AC Power Module(black)
IN6W18L10A	AC Power Distribution Unit(Eight 800W Outputs，include power cable)
W2PSA2200	2200W AC Power Module(black)
IM1W24APD	AC Power Distribution Unit(Four 2200W Outputs，include power cable)
W2PSD2200	2200W DC Power Module(black)
EH1M00PDBS01	DC Power Distribution Unit(Eight 2200W Outputs，include power cable)
Software	
EH1SMS219700	S9700 system software, V200R001
EH1SMS229700	S9700 system software, V200R002
EH1SBSM23000	S9700 system software, V200R003
EH1SMPLS0000	MPLS license
EH1SNQA00000	NQA license
EH1SIPV60000	IPv6 license
EH1SWLAN64AP	AP resource license-64 APs for WLAN access controller
EH1SWLAN128AP	AP resource license-128 APs for WLAN access controller
Documentation	
EH1I000DOC00	S9700 routing switches product documentation

*: The value-added service card support the firewall/NAT, IPSec, load balancing, NetStream, and wireless AC functions.
**: The card has the 200 ms caching capability.

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S7700 Series Smart Routing Switches

Product Overview

The S7700 series switches (S7700 for short) are high-end smart routing switches designed for next-generation enterprise networks. The S7700 design is based on Huawei's intelligent multi-layer switching technology to provide intelligent service optimization methods, such as MPLS VPN, traffic analysis, comprehensive QoS policies, controllable multicast, load balancing, and security, in addition to high-performance Layer 2 to Layer 4 switching services. The S7700 also features superb scalability and reliability.

The S7700 can function either as an aggregation or core node on a campus network or in a data center to provide integrated wireless access. The S7700 also offers voice, video, and data services, helping enterprises build an integrated cost-effective end-to-end network.

Product Appearance

The S7700 series is available in three models: S7703, S7706, and S7712. The switching capacity and port density of all three models is expandable. The S7700 is based on a new hardware platform, which adopts a left-to-rear ventilation channel to achieve better energy efficiency. Key components work in redundancy mode to minimize risks of system breakdown and service interruption. Using innovative energy-saving chips, the S7700 provides an industry-leading solution for a sustainable energy-saving network.

S7703

S7706

S7712

Product Features

Powerful service processing capabilities

- Huawei's advanced switching architecture permits rapid bandwidth expansion. The highly expansible backplane enables ports to be upgraded to a rate of 40 Gbit/s or 100 Gbit/s, and is compatible with the currently used cards, helping enterprises maximize their ROI.
- Each 7700 supports 480 10GE ports. The high density of 10GE ports brings enterprise campus networks and data centers into the era of the all-10GE core network.
- The S7700's multi-service routing and switching platform meets requirements for service bearing at the access layer, aggregation layer, and core layer of enterprise networks. The S7700 provides wireless access along with voice, video, and data services, helping enterprises build integrated full-service networks with high availability and low latency.
- The S7700 supports distributed Layer 2/Layer 3 MPLS VPN functions, including MPLS, VPLS, HVPLS, and VLL, implementing VPN access for enterprise users.
- The S7700 supports various Layer 2 and Layer 3 multicast protocols such as PIM SM, PIM DM, PIM SSM, MLD, and IGMP snooping. It can provide enterprises with multi-terminal high definition video surveillance and video conferencing services.

Carrier-class reliability and visual fault diagnosis

- Huawei's high reliability design ensures that the S7700 is 99.999% reliable. The S7700 provides redundant backup for key components, including MPUs, power supply units, and fans, all of which are hot swappable.
- The S7700 innovatively implements the CSS function through switch fabrics, and packets are only switched once when they are forwarded between chassis. This addresses the problem of low switching efficiency caused by multiple switching processes during inter-chassis forwarding in clusters established using line cards. The cluster provides the industry's highest cluster bandwidth 256 Gbit/s, In addition, inter-chassis link aggregation can be used to improve link use efficiency and prevent single-point failures.
- The S7700 can use service ports as cluster ports, so that cluster members can be connected through optical fibers. This substantially expands the clustering distance.
- The S7700 has a dedicated fault detection subcard that provides hardware-based OAM function conforming to IEEE 802.3ah, 802.1ag, and ITU-Y.1731. Hardware-based OAM implements 3.3 ms fault detection and can check session connectivity of all terminals in real time when a network fault occurs. The S7700 can also work with an NMS. The NMS provides a graphical fault diagnosis interface and traverses all network elements and links automatically to help users detect and locate faults quickly.
- The S7700 implements seamless switchover between the master and slave MPUs and supports graceful restart to ensure nonstop forwarding. The in-service software upgrade (ISSU) function of the S7700 prevents interruption of key services during software upgrading.

Enhanced QoS mechanism, improving the voice and video experience

- The S7700's QoS control mechanisms classify traffic based on information from the link layer to the application layer. With advanced queue scheduling and congestion control algorithms, the S7700 performs accurate multi-level scheduling for data flows, satisfying enterprises' QoS requirements for a variety of services and user terminals.

- The S7700 supports hardware-based low delay queues for multicast packets so that the video service can be processed with high priority and low delay. This feature guarantees the high quality of key services in an enterprise, such as video conference and surveillance.
- The S7700 uses innovative priority scheduling algorithms to optimize the QoS queue scheduling mechanism for voice and video services. The improved scheduling mechanism shortens the delay of the VoIP service and eliminates the pixelation effect in the video service, improving user experience.

High-performance IPv6 service processing, resulting in a smooth transition from IPv4 to IPv6

- Both the hardware platform and software platform of the S7700 support IPv6. The S7700 has earned the IPv6 Ready Phase 2 (Gold) designation.
- The S7700 supports IPv4/IPv6 dual stack, various tunneling technologies, IPv6 static routing, RIPng, OSPFv3, BGP+, IS-ISv6, and IPv6 multicast. These features meet the demand for IPv6 networking and combined IPv4 and IPv6 networking.

Superb traffic analysis capability, resulting in real-time network performance monitoring

- The S7700 supports NetStream for the real-time collection and analysis of network traffic statistics.
- The S7700 supports the V5, V8, and V9 Netstream formats and provides aggregation traffic templates to reduce the burden on the network collector system. In addition, the S7700 supports real-time traffic collection, dynamic report generation, traffic attribute analysis, and traffic exception trap.
- NetStream monitors network traffic in real time and analyzes the device's throughput, providing data for network structure optimization and capacity expansion.

Comprehensive security mechanisms, protecting enterprises from internal and external security threats

- The S7700 comes equipped with an integrated firewall card and supports virtual firewalls and NAT multi-instance, allowing multiple VPN customers to share the same firewall. Its application-layer packet filtering technology detects and filters application layer packets according to preset rules.
- The S7700 provides comprehensive NAC solutions for enterprise networks. It supports MAC address authentication, Portal authentication, 802.1x authentication, and DHCP snooping-triggered authentication. These authentication methods ensure the security of various access modes, such as dumb terminal access, mobile access, and centralized IP address allocation.
- The S7700 is the industry leader in integrated security solutions. It supports 1K CPU queues and uses a 2-level CPU protection mechanism, separating the data plane from the control plane. Additionally, the S7700 defends against DoS attacks, prevents unauthorized access, and prevents control plane overloading.

Wireless AC boards, meeting mobile office requirements

- The S7700 can use an access controller (AC) board to provide radio frequency management functions. The AC board allows access points (APs) to automatically select their radio channels and power. In an AP region, APs automatically adjust radio channels and power in the event of signal interference, enabling the receive signal strength indicator (RSSI) and signal-to-noise ratio (SNR) to be continuously updated. The system can then monitor the electromagnetic environment of every wireless user to improve network availability.

- The S7700's AC board supports multiple authentication methods, including 802.1x authentication, MAC address authentication, Portal authentication, and WAPI authentication. These authentication methods meet the requirements of users who use different types of STAs and require different security levels.
- The S7700's AC board supports Layer 2 roaming, allowing STAs to rapidly switch between APs. The S7700 supports 1+1 and N+1 cold backup between ACs and load balancing among ACs, improving network reliability.

Innovative energy-saving chips, allowing for intelligent power consumption control

- The S7700 uses innovative energy-saving chips, which can dynamically adjust power on all ports based on traffic volume. An idle port enters a sleep mode to reduce power consumption.
- The S7700 supports Power over Ethernet (PoE) and uses different energy management modes according to the powered device (PD) type, ensuring flexible energy management.
- The S7700 supports IEEE 802.3az Energy Efficient Ethernet and provides the low power idle mode for the PHY line card. If the link utilization is low, the S7700 switches to a lower speed or power PHY to reduce power consumption.

Product Specifications

Item	S7703	S7706	S7712
Switching capacity	1.92 Tbps	3.84 Tbps/5.12 Tbps	3.84Tbps/5.12 Tbps
Forwarding performance	576 Mpps/1440 Mpps	1152 Mpps/2880 Mpps	1344 Mpps/3360 Mpps
Service Slot	3	6	12
VLAN	Three types of interfaces: access, trunk, and hybrid		
	Default VLAN		
	VLAN switching		
	QinQ and selective QinQ		
	MAC address-based VLAN assignment		
MAC address	MAC address learning and aging		
	Static, dynamic, and blackhole MAC address entries		
	Packet filtering based on source MAC addresses		
	Limit on the number of MAC addresses learned on ports and VLANs		
Ring Protection	STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s)		
	SEP		
	BPDU protection, root protection, and loop protection		
	BPDU tunnel		
	ERPS（G.8032）		
IP routing	IPv4 routing protocols, such as RIPv1/v2, OSPF, BGP, and IS-IS		
	IPv6 dynamic routing protocols, such as RIPng, OSPFv3, ISISv6, and BGP4+		

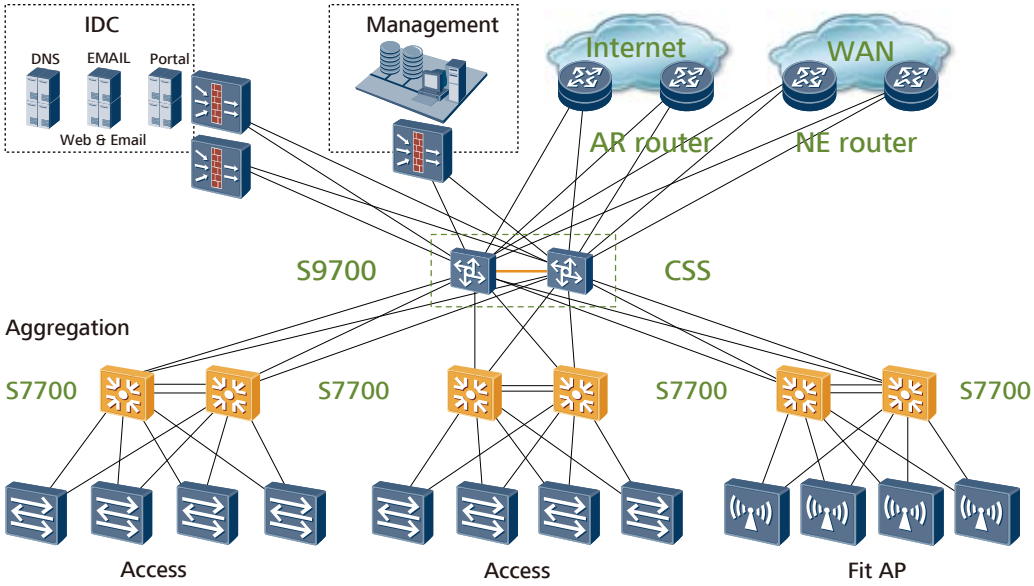
Item	S7703	S7706	S7712
Multicast	IGMPv1/v2/v3 and IGMP v1/v2/v3 snooping		
	PIM-DM, PIM-SM, and PIM-SSM		
	MSDP and MBGP		
	Fast leave		
	Multicast traffic control		
	Multicast querier		
	Multicast packet suppression		
	Multicast CAC		
	Multicast ACL		
MPLS	Basic MPLS functions		
	MPLS OAM		
	MPLS-TE		
	MPLS VPN/VLL/VPLS		
CSS switch fabric clustering	CSS Switch Fabric Clustering (S7706 and S7712)		
Service port clustering	Service Port Clustering (S7706 and S7712)		
Reliability	LACP and E-Trunk between devices		
	VRRP and BFD for VRRP		
	BFD for BGP/IS-IS/OSPF/static route		
	NSF and GR for BGP/IS-IS/OSPF/LDP		
	TE FRR and IP FRR		
	Ethernet OAM (IEEE 802.3ah and 802.1ag)		
	ITU-Y.1731		
	DLDP		
	ISSU		
QoS	Traffic classification based on Layer 2 protocol packet header, Layer 3 protocol information, Layer 4 protocol information, and 802.1p priority		
	ACL, CAR, re-mark, and scheduling		
	Queue scheduling algorithms including SP, WRR, DRR, SP+WRR, and SP+DRR		
	Congestion avoidance mechanisms, such as WRED and tail drop		
	Traffic shaping		

Item	S7703	S7706	S7712
Configuration and maintenance	Easy Operation		
	Console and SSH terminals		
	Network management protocols, such as SNMPv1/v2/v3		
	File uploading and downloading using FTP and TFTP		
	BootROM upgrade and remote upgrade		
	Hot patches		
	User operation logs		
Security and management	802.1x authentication and portal authentication		
	NAC		
	RADIUS and HWTACACS authentication		
	Different user levels for commands, preventing unauthorized users from using certain commands		
	Defense against DoS attacks, TCP SYN Flood attacks, UDP Flood attacks, broadcast storms, and heavy traffic attacks		
	1K CPU queues		
	Ping and traceroute		
	RMON		
Value-added service	Firewall		
	NAT		
	Netstream		
	IPSec		
	Load balancing		
	AC		
	IPS		
Energy conservation	IEEE 802.3az: Energy Efficient Ethernet (EEE)		
Dimensions (W x D x H)	442 mm x 476 mm x 175 mm	442 mm x 476 mm x 442 mm	442 mm x 476 mm x 664 mm
Chassis weight (empty)	< 15 kg	<30 kg	< 45 kg
Working voltage	DC: –38.4 V to –72 V AC: 90 V to 290 V		
Maximum power consumption of the entire equipment	≤800 W	≤1600 W	≤3000 W
Maximum PoE power	2200 W	8800 W	8800 W

Applications

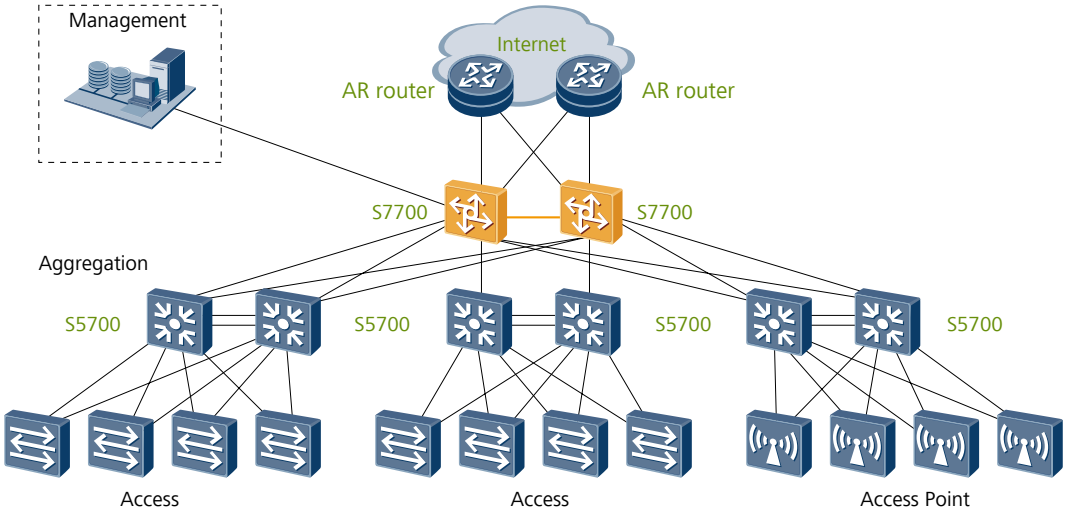
Large-scale Campus Networks

The S7700 can be used as an aggregation switch on a large-scale campus network, helping to build a highly reliable, scalable, and manageable enterprise network. With hardware-based CPU queue scheduling and firewall modules, the S7700 enhances security at the aggregation layer and protects the enterprise's core network from DDoS attacks and other security threats.



Small - and Medium-sized Campus Networks

The S7700 can work at the core layer of small- and medium-sized campus networks. It provides a cost-effective, reliable, and easy-to-deploy network solution for small- and medium-sized enterprises.



Product List

Basic Configuration	
LE0BN66EDC	N66E DC Assembly Rack(Four 40A outputs ,maximum 1600W per output，600X600X2200mm)
LE0BN66EAC	N66E AC Assembly Rack(Eight 10A Outputs ,maximum 1600W per output，600X600X2200mm)
LE2BN66EA000	N66E AC Assembly Rack(Four 16A Outputs，maximum 2500W per output，600X600X2200mm)
ES0B00770300	S7703 Assembly Chassis
ES0B00770600	S7706 Assembly Chassis
ES0B00771200	S7712 Assembly Chassis
ES1BS7703S01	S7703 Assembly Chassis-sustain FCC
ES1BS7706S01	S7706 Assembly Chassis-sustain FCC
ES1BS7712S01	S7712 Assembly Chassis-sustain FCC
ES0B017706P0	S7706 POE Assembly Chassis
ES0B017712P0	S7712 POE Assembly Chassis
ES1BS7706SP1	S7706 POE Assembly Chassis-sustain FCC
ES1BS7712SP1	S7712 POE Assembly Chassis-sustain FCC
LE0M00FBXB00	Wide Voltage 68 Fan Box
ES1M00FBX001	Enhancement Wide Voltage 68 Fan Box
Monitoring Board	
LE0DCMUA0000	Centralized Monitoring Board
Main Control Unit	
ES0D00MCUA00	S7703 Main Control Unit A
ES0D00SRUA00	S7706/S7712 Main Control Unit A
ES0D00SRUB00	S7706/S7712 Main Control Unit B, Clock
ES1D2SRUD000	S7706/S7712 Main Control Unit D, Clock

SRU Service Card	
ES0D00FSUA00	Enhanced Flexible Service Unit
LE0D0VSTSA00	Cluster Switching System Service Unit
10/100BASE-T Interface Card	
ES0D0F48TA00	48-Port 10/100BASE-T Interface Card (EA, RJ45)
ES0DF48TFA00	48-Port 10/100BASE-T Interface Card (FA, RJ45)
ES0D0F48TC00	48-Port 10/100BASE-T Interface Card (EC, RJ45)
10/100/1000BASE-T Interface Card	
ES0DG24TFA00	24-Port 10/100/1000BASE-T Interface Card (FA, RJ45)
ES0D0G48TA00	48-Port 10/100/1000BASE-T Interface Card (EA, RJ45)
ES0DG48TFA00	48-Port 10/100/1000BASE-T Interface Card (FA, RJ45)
ES0D0G48TC00	48-Port 10/100/1000BASE-T Interface Card (EC, RJ45)
ES1D2G48TED0	48-Port 10/100/1000BASE-T Interface Card(ED,RJ45)
ES1D2G48TBC0	48-Port 10/100/1000BASE-T Interface Card(BC,RJ45)
ES0D0T24XA00	24-Port 10/100/1000BASE-T and 2-Port 10GBASE-X Interface Card (EA,RJ45/XFP)
100/1000BASE-X Interface Card	
ES0D0G24SA00	24-Port 100/1000BASE-X Interface Card (SA, SFP)
ES0D0G24SC00	24-Port 100/1000BASE-X Interface Card (EC, SFP)
ES0D0G24CA00	24-Port 100/1000BASE-X and 8-Port 10/100/1000BASE-T Combo Interface Card (SA, SFP/RJ45)
ES0D0S24XA00	24-Port 100/1000BASE-X and 2-Port 10GBASE-X Interface Card (EA, SFP/XFP)
ES1D2G24SED0	24-Port 100/1000BASE-X Interface Card(ED,SFP)
ES0D0G48SA00	48-Port 100/1000BASE-X Interface Card (EA, SFP)
ES0D0G48SC00	48-Port 100/1000BASE-X Interface Card (EC, SFP)
ES1D2G48SFA0	48-Port 100/1000BASE-X Interface Card (FA, SFP)

ES1D2G48SED0	48-Port 100/1000BASE-X Interface Card (ED, SFP)
ES1D2G48SBC0	48-Port 100/1000BASE-X Interface Card(BC,SFP)**
100/1000BASE-X Interface Card	
ES0DG48CEAT0	36-Port 10/100/1000BASE-T and 12-Port 100/1000BASE-X Interface Card (EA, RJ45/SFP)
ES1D2S24XEC0	24-Port 100/1000BASE-X and 2-Port 10GBASE-X Interface Card(EC,SFP/XFP)
10GBASE-X Interface Card	
ES0D0X2UXA00	2-Port 10GBASE-X Interface Card (EA, XFP)
ES0D0X2UXC00	2-Port 10GBASE-X Interface Card (EC, XFP)
ES1D2X02XEC1	2-Port 10GBASE-X Interface Card(EC,XFP),FCC
ES0D0X4UXA00	4-Port 10GBASE-X Interface Card (EA, XFP)
ES0D0X4UXC00	4-Port 10GBASE-X Interface Card (EC, XFP)
ES1D2X04XEC1	4-Port 10GBASE-X Interface Card(EC,XFP),FCC
ES1D2X04XED0	4-Port 10GBASE-X Interface Card (ED, XFP)
ES1D2X08SED4	8-Port 10GBASE-X Interface Card(ED,SFP+)
ES1D2X08SED5	8-Port 10GBASE-X Interface Card(ED,SFP+),FCC
ES0DX12XSA00	12-Port 10GBASE-X Interface Card (SA, SFP+)
ES1D2X16SFC0	16-Port 10GBASE-X Interface Card (FC, SFP+)
ES1D2X40SFC0	40-Port 10GBASE-X Interface Card (FC, SFP+)
40GE BASE-X interface card	
ES1D2L02QFC0	2-port 40GBASE-X interface card(FC,QSFP+)
POE Interface Card	
ES0D0G48VA00	48-Port 10/100/1000BASE-T POE Interface Card
Service Processing Unit	
LE0D0VAMPA00	Value-added Service Unit*

Optical transceiver	
FE-SFP optical transceiver	
SFP-FE-SX-MM1310	Optical Transceiver,SFP,100M/155M,Multi-mode Module(1310nm,2km,LC)
eSFP-FE-LX-SM1310	Optical Transceiver,eSFP,100M/155M,Single-mode Module(1310nm,15km,LC)
S-SFP-FE-LH40-SM1310	Optical Transceiver-eSFP-FE-Single-mode Module (1310nm,40km,LC)
S-SFP-FE-LH80-SM1550	Optical Transceiver-eSFP-FE-Single-mode Module (1550nm,80km,LC)
GE-SFP module	
SFP-1000BaseT	Electrical transceiver-SFP-GE-Electrical Interface Module (100m,RJ45)
eSFP-GE-SX-MM850	Optical Transceiver-ESFP-GE-Multi-mode Module (850nm,0.5km,LC)
SFP-GE-LX-SM1310	Optical Transceiver-SFP-GE-Single-mode Module (1310nm,10km,LC)
S-SFP-GE-LH40-SM1310	Optical Transceiver-eSFP-GE-Single-mode Module (1310nm,40km,LC)
S-SFP-GE-LH40-SM1550	Optical Transceiver-eSFP-GE-Single-mode Module (1550nm,40km,LC)
S-SFP-GE-LH80-SM1550	Optical Transceiver-eSFP-GE-Single-mode Module (1550nm,80km,LC)
eSFP-GE-ZX100-SM1550	Optical Transceiver-ESFP-GE-Single-mode Module (1550nm,100km,LC)
10GE-XFP optical transceiver	
XFP-SX-MM850	Optical Transceiver-XFP-10G-Multi-mode Module (850nm,0.3km,LC)
XFP-STM64-LX-SM1310	Optical Transceiver-XFP-10G-Single-mode Module (1310nm,10km,LC)
XFP-STM64-LH40-SM1550	Optical Transceiver-XFP-10G-Single-mode Module (1550nm,40km,LC)
XFP-STM64-SM1550-80km	Optical Transceiver-XFP-10G-Single-mode Module (1550nm,80km,LC)
10GE-SFP+ optical transceiver	
OMXD30000	Optical Transceiver-SFP+-10G-Multi-mode Module (850nm,0.3km,LC)
OSX010000	Optical Transceiver-SFP+-10G-Single-mode Module (1310nm,10km,LC)
OSX040N01	Optical Transceiver-SFP+-10G-Single-mode Module (1550nm,40km,LC)
LE2MXSC80FF0	Optical Transceiver,SFP+,10G,Single-mode Module(1550nm,80km,LC)

OSXD22N00	Optical module, SFP+, 10 G, dingle-mode module (1310 nm, 0.22 km, LC, LRM)
SFP-10G-USR	Optical Transceiver,SFP+,10G,Multi-mode Module(850nm,0.1km,LC)
SFP-10G-ZR	Optical Transceiver,SFP+,10G,Single-mode Module(1550nm,80km,LC)
SFP-10G-AOC3M	AOC Optical Transceiver,SFP+,850nm,1G~10G,0.003km
SFP-10G-AOC10M	AOC Optical Transceiver,SFP+,850nm,1G~10G,0.01km
SFP-10G-BXU1	10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1270nm/RX1330nm,10km,LC)
SFP-10G-BXD1	10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1330nm/RX1270nm,10km,LC)
40GE-QSFP+ optical transceiver	
QSFP-40G-SR4	40GBase-SR4 Optical Transceiver,QSFP+,40G,Muti-mode (850nm, 0.15km ,MPO)
QSFP-40G-iSR4	40GBase-SR4 Optical Transceiver,QSFP+,40G,Muti-mode (850nm, 0.15km ,MPO)(Connect to four SFP+ Optical Transceiver)
QSFP-40G-LR4	40GBase-LR4 Optical Transceiver,QSFP+,40GE,Single-mode Module(1310nm,10km,LC)
BIDI-SFP optical transceiver	
SFP-FE-LX-SM1310-BIDI	Optical Transceiver-eSFP-FE-BIDI Single-mode Module (TX1310/ RX1550,15km,LC)
SFP-FE-LX-SM1550-BIDI	Optical Transceiver-eSFP-FE-BIDI Single-mode Module (TX1550/ RX1310,15km,LC)
SFP-GE-LX-SM1310-BIDI	Optical Transceiver-eSFP-GE-BIDI Single-mode Module (TX1310/ RX1490,10km,LC)
SFP-GE-LX-SM1490-BIDI	Optical Transceiver-eSFP-GE-BIDI Single-mode Module (TX1490/ RX1310,10km,LC)
LE2MGSC40ED0	Optical Transceiver,eSFP,GE,BIDI Single-mode Module(TX1490/ RX1310,40km,LC)
LE2MGSC40DE0	Optical Transceiver,eSFP,GE,BIDI Single-mode Module(TX1310/ RX1490,40km,LC)
Power module	
LE0MPSD16	1600W DC Power Module(gray)

LE0MPSA08	800W AC Power Module(gray)
W0PSA2200	2200W AC Power Module(gray)
LE0W01DPDB	DC Power Distribution Unit（Four 40A outputs ,maximum 1600W per output，include power cable）
IN6W18L10A	AC Power Distribution Unit（Eight 10A Outputs , maximum 1600W per output，include power cable）
IM1W24APD	AC Power Distribution Unit（Four 16A Outputs，maximum 2500W per output，include power cable）
Software	
ES0SMS217700	Quidway S7700 Basic SW, V200R001
ES0SMS227700	Quidway S7700 Basic SW, V200R002
ES1SBSM23000	Quidway S7700 Basic SW, V200R003
ES0SMPLS7700	MPLS Function License
ES0SNQAF7700	NQA Function License
ES0SIPV67700	IPV6 Function License
ES1SWLAN64AP	WLAN Access Controller AP Resource License-64AP
ES0SWLAN7700	WLAN Access Controller AP Resource License-128AP
Documentation	
ES0I000DOC00	S7700 Smart Routing Switch Documentation

*indicates a value-added board that supports the firewall/NAT, IPSec, Netstream, wireless AC and load balancing functions.

**: The BC series card has the 200 ms caching capability.

For more information, visit http://enterprise.huawei.com or contact the Huawei local sales office.

S6700 Series 10G Switches

Product Overview

The S6700 series switches (S6700s) are next-generation 10G box switches. The S6700 can function as an access switch in an Internet data center (IDC) or a core switch on a campus network.

The S6700 has industry-leading performance and provides up to 24 or 48 line-speed 10GE ports. It can be used in a data center to provide 10 Gbit/s access to servers or function as a core switch on a campus network to provide 10 Gbit/s traffic aggregation. In addition, the S6700 provides a wide variety of services, comprehensive security policies, and various QoS features to help customers build scalable, manageable, reliable, and secure data centers. The S6700 is available in two models: S6700-48-EI and S6700-24-EI.

Product Appearance

S6700-48-EI

- Forty-eight GE SFP or 10 GE SFP+ ports
- Double swappable AC/DC power supplies
- USB port
- Forwarding performance: 715 Mpps

S6700-24-EI

- Twenty-four GE SFP or 10 GE SFP+ ports
- Double swappable AC/DC power supplies
- USB port
- Forwarding performance: 358 Mpps

Product Features

Large-capacity, high-density, 10 Gbit/s access

- To provide sufficient bandwidth for users, many servers, particularly those in data centers, use 10G network adapters. The S6700 can be used in data centers to provide high forwarding performance and 10GE ports. The S6700 has the high density of all 10GE ports and the large switching capacity. Each S6700 provides a maximum of 48 line-speed 10GE ports.
- S6700 ports support 1GE and 10GE access and can identify optical module types, maximizing the return on investment and allowing users to flexibly deploy services.
- The S6700 has a large buffering capacity and uses an advanced buffer scheduling mechanism to ensure non-block transmission when data center traffic volume is high.

Comprehensive security policies

- The S6700 provides multiple security measures to defend against Denial of Service (DoS) attacks, as well as attacks against networks or users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, and DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.
- The S6700 supports DHCP snooping, which discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents hackers from using ARP packets to initiate attacks on campus networks. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.
- The S6700 supports strict ARP learning, which prevents ARP spoofing attacks that exhaust ARP entries. The S6700 also provides an IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing. URPF, provided by the S6700, authenticates packets by checking the packet transmission path in reverse, which can protect the network against source address spoofing attacks.
- The S6700 supports centralized MAC address authentication and 802.1x authentication. The S6700 authenticates users based on statically or dynamically bound user information such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be dynamically applied to users.
- The S6700 can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes the packet flooding that occurs when users' MAC addresses cannot be found in the MAC address table.

Higher reliability mechanism

- The S6700 supports redundant power supplies. You can choose a single power supply or use two power supplies to ensure device reliability. With two fans, the S6700 has a longer MTBF time than its counterpart switches.
- The S6700 supports MSTP multi-process that enhances the existing STP, RSTP, and MSTP implementation. This function increases the number of MSTPs supported on a network. It also supports enhanced Ethernet reliability technologies such as Smart Link and RRPP, which implement millisecond-level protection switchover and ensure network reliability. Smart Link and RRPP both support multi-instance to implement load balancing among links, optimizing bandwidth usage.

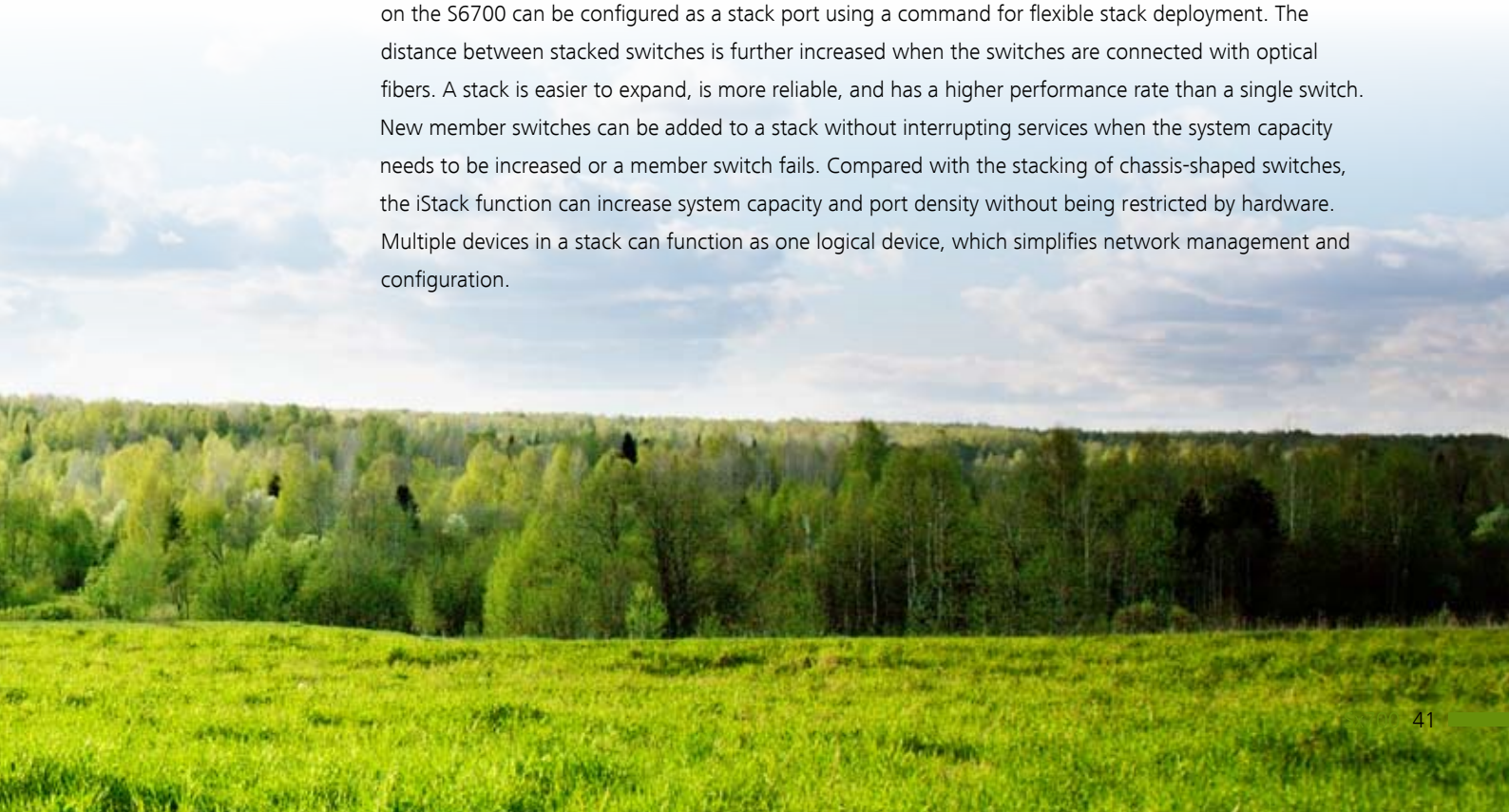
- The S6700 supports the enhanced trunk (E-Trunk) feature. When a CE is dual-homed to two S6700s (PEs), E-Trunk protects the links between the CE and PEs and implements backup between the PEs. E-trunk enhances link reliability between devices.
- The S6700 supports the Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer on an Ethernet network. SEP can be used on open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover (within 50 ms), ensuring the non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.
- The S6700 supports Ethernet Ring Protection Switching (ERPS), also referred to as G.8032. As the latest ring network protocol, ERPS was developed based on traditional Ethernet MAC and bridging functions and uses mature Ethernet OAM function and a ring automatic protection switching (R-APS) mechanism to implement millisecond-level protection switching. ERPS supports various services and allows flexible networking, helping customers build a network with lower OPEX and CAPEX.
- The S6700 supports VRRP. Two S6700s can form a VRRP group to ensure nonstop reliable communication. Multiple equal-cost routes to upstream devices can be configured on the S6700 to provide route redundancy. When an active route is unreachable, traffic is switched to a backup route.

Enhanced QoS control mechanism

- The S6700 implements complex traffic classification based on packet information, such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. ACLs can be applied to inbound or outbound directions on an interface. The S6700 supports a flow-based two-rate three-color CAR. Each port supports eight priority queues, multiple queue scheduling algorithms, such as WRR, DRR, SP, WRR+SP, and DRR+SP, and WRED, a congestion avoidance algorithm. All of these features ensure high-quality voice, video, and data services.

High scalability

- The S6700 supports the iStack function, which allows switches that are far apart to form a stack. A port on the S6700 can be configured as a stack port using a command for flexible stack deployment. The distance between stacked switches is further increased when the switches are connected with optical fibers. A stack is easier to expand, is more reliable, and has a higher performance rate than a single switch. New member switches can be added to a stack without interrupting services when the system capacity needs to be increased or a member switch fails. Compared with the stacking of chassis-shaped switches, the iStack function can increase system capacity and port density without being restricted by hardware. Multiple devices in a stack can function as one logical device, which simplifies network management and configuration.



Convenient management

- The S6700 supports automatic configuration, plug-and-play, deployment using a USB flash drive, and batch remote upgrades. These capabilities simplify device management and maintenance and reduce maintenance costs.
- The S6700 supports SNMP v1/v2/v3 and provides flexible methods for managing devices. Users can manage the S6700 using the CLI and Web NMS. The NQA function assists users with network planning and upgrades. In addition, the S6700 supports NTP, SSH v2, HWTACACS, RMON, log hosts, and port-based traffic statistics.
- The S6700 supports GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to reduce network administrator workloads and ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.
- The S6700 supports Multiplex VLAN (MUX VLAN). MUX VLAN isolates Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN, but cannot communicate with each other. MUX VLAN is typically used on an enterprise intranet to isolate user interfaces from each other while still allowing them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups, but allows these devices to communicate with the default gateway.
- The S6700 supports BFD, which provides millisecond-level fault detection for protocols, such as OSPF, IS-IS, VRRP, and PIM, to improve network reliability. Complying with IEEE 802.3ah and 802.1ag, the S6700 supports point-to-point Ethernet fault management and can detect faults in the last mile of an Ethernet link to users. Ethernet OAM improves Ethernet network management and maintenance capabilities and ensures a stable network.

Various IPv6 features

- The S6700 supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S6700 hardware supports IPv4/IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. The S6700 can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.
- The S6700 supports various IPv6 routing protocols, including RIPng and OSPFv3. The S6700 uses the IPv6 Neighbor Discovery Protocol (NDP) to manage packets exchanged between neighbors. It also provides a path MTU (PMTU) discovery mechanism to select a proper MTU on the path from the source to the destination, optimizing network resource utilization and obtaining the maximum throughput.

Product Specifications

Item	S6700-24-EI	S6700-48-EI
Port	24* GE SFP/10 GE SFP+ ports	48* GE SFP/10 GE SFP+ ports
MAC address table	128 K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses	

Item	S6700-24-EI	S6700-48-EI
VLAN	4 K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping QinQ and selective QinQ	
IPv4 routing	Static routing, RIPv1, RIPv2, ECMP, and URPF OSPF, IS-IS, and BGP VRRP Policy-based routing Routing policy	
IPv6 routing	Static route RIPng OSPFv3 BGP4+	
IPv6 features	Neighbor Discovery (ND) PMTU IPv6 ping, IPv6 tracert, and IPv6 Telnet 6to4 tunnel, ISATAP tunnel, and manually configured tunnel ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping	
multicast	Static Layer 2 multicast MAC address MAC-based multicast forwarding IGMP snooping and IGMP fast leave Multicast VLAN MLD snooping IGMP proxy Controllable multicast Port-based multicast traffic statistics IGMP v1/v2/v3 PIM-SM, PIM-DM, and PIM-SSM MSDP	
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports	

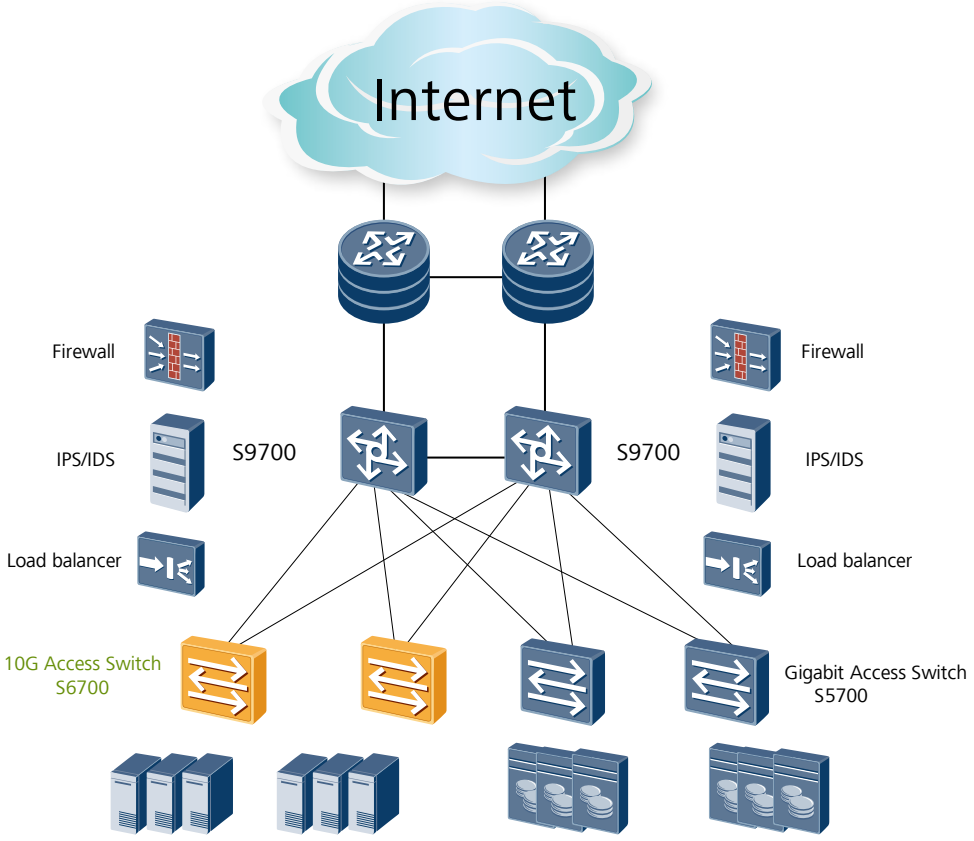
Item	S6700-24-EI	S6700-48-EI
Reliability	STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032) BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM E-Trunk	
Security	DoS attack defense, ARP attack defense, and ICMP attack defense 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication and TACACS authentication SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist	
Management and maintenance	iStack (using service ports as stack ports) MAC Forced Forwarding (MFF) Virtual cable test Ethernet OAM (IEEE 802.3ah and 802.1ag) SNMP v1/v2/v3 RMON Web NMS System logs and alarms of different levels GVRP MUX VLAN sFlow	
Operating environment	Operating temperature: 0°C–45°C Relative humidity: 5%–95% (non-condensing)	
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: –48 V to –60 V, DC Maximum voltage range: –36 V to –72 V, DC	
Dimensions (W x D x H)	442 mm x 420 mm x 43.6 mm	
Power consumption	153W	240W

Applications

Data Centers

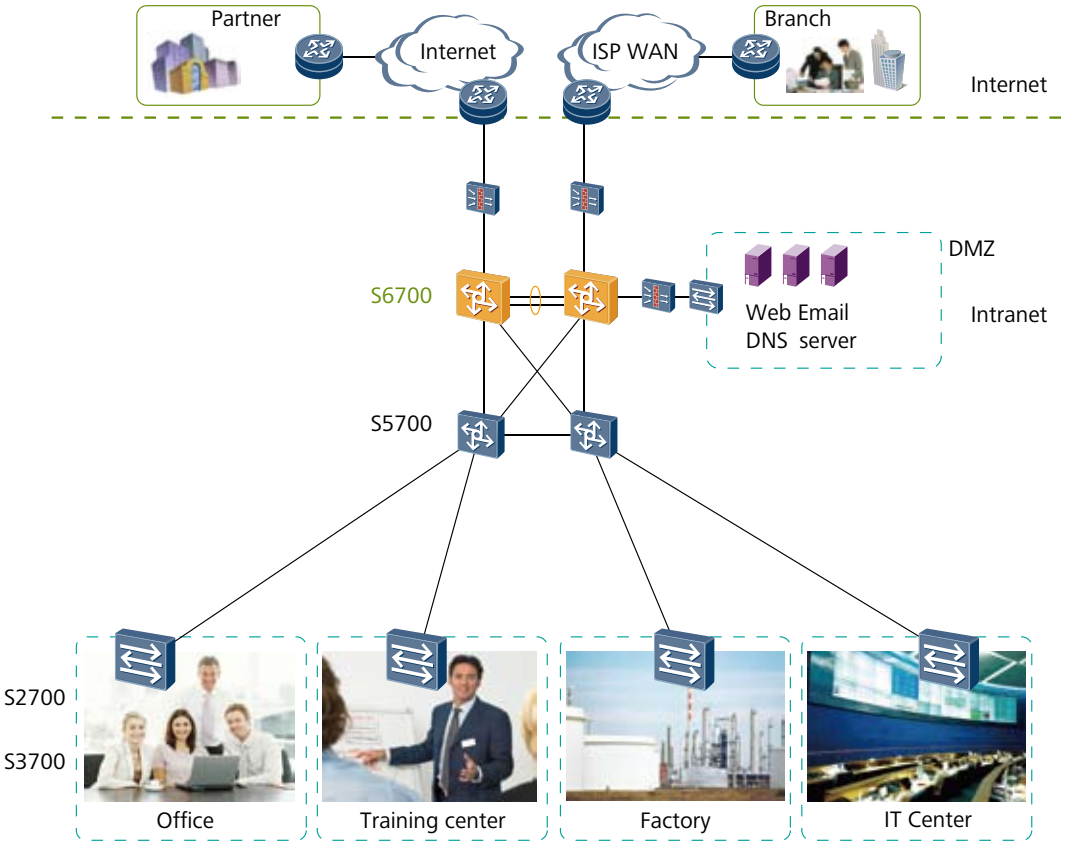
The S6700 can be used in Huawei's sustainable data center solution, which offers four major advantages: evolution, availability, pooling, and visualization.

As shown in the following figure, the S9700 Terabit routing switches function as core switches in a data center and use firewall and load balancer boards to ensure security and load balancing. The S6700 functions as an access switch and provides high-density 10GE ports to connect to 10G servers.



Campus Networks

The S6700 can function as a core switch on a campus network and provide high-density line-speed 10GE ports, rich service features, and comprehensive security mechanisms. This makes the S6700 a cost-effective option.



Product List

Product Description
S6700-24-EI(24 10 Gig SFP+,without power module)
S6700-48-EI(48 10 Gig SFP+,without power module)
500W AC Power Module
500W DC Power Module

For more information, visit http://enterprise.huawei.com or contact the Huawei local sales office.

S5700-HI Series Gigabit Enterprise Switches

Product Overview

The S5700-HI series (hereafter referred to as S5700-HI) are advanced gigabit Ethernet switches developed by Huawei, providing flexible gigabit access and 10G/40G uplink ports. Based on next-generation, high-performance hardware and Huawei Versatile Routing Platform (VRP), the S5700-HI provides excellent NetStream function, flexible Ethernet networking, comprehensive VPN tunneling technologies, diversified security mechanisms, mature IPv6 features, and are easy to manage and maintain. All these features make the S5700-HI the best choice as an access switch on large and medium-sized campus networks or data centers and aggregation switch on small campus networks.
Note: S5700-HI mentioned in this document refers to the whole S5700-HI series including S5710-HI, and descriptions about S5710-HI are unique features of S5710-HI.

Product Appearance

S5700-28C-HI

- 24 10/100/1000Base-T ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double swappable AC/DC power supplies
- Forwarding performance: 96 Mpps
- Switching Capacity: 212Gbps

S5700-28C-HI-24S

- 24 100/1000Base-X ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double swappable AC/DC power supplies
- Forwarding performance: 96 Mpps
- Switching Capacity: 212Gbps

S5710-108C-PWR-HI

front

back

- 48 10/100/1000BASE-T ports and 8 10GE SFP+ ports
- Three slots on the front panel: support 16x1000Base-X SFP and 16x10/100/1000Base-T subcards
- One slot at the real panel: supports 4x40GE QSFP+ and 4x10GE SFP+ subcards
- Double swappable AC power supplies
- Forwarding performance: 504 Mpps
- Switching Capacity: 1024Gbps

Product Features and highlights

Various Combination of Ports

- The S5710-HI has four subcard slots that can accommodate various extended subcards to provide high-density 10GE/40GE uplink ports. With its eight fixed 10GE SFP+ ports, the S5710-HI can have different subcards installed to provide flexible combination of ports, including 48*GE+8*10GE, 96*GE+8*10GE, 96*GE+12*10GE, and 96*GE+8*10GE+4*40GE. In addition, the S5710-HI provides both optical and electrical ports for flexible access and supports PoE+. The flexible port combinations meet different bandwidth upgrading requirements and protect customers' investment.

Comprehensive VPN Technologies

- The S5700-HI allows users in different VPNs to connect to the same switch and isolates users through multi-instance routing. The S5710-HI supports Multiprotocol Label Switching (MPLS) QoS, MPLS traffic engineering (TE), virtual leased line (VLL), virtual private LAN service (VPLS), and Layer 3 virtual private network (L3VPN). They can provide high-quality private line access services for enterprises and are cost-effective case-shaped MPLS switches.

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the S5700-HI supports Huawei-developed Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

- The S5700-HI supports Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One S5700-HI switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices. In addition, the S5700-HI provides multiple connection fault detection mechanisms, including Ethernet OAM (IEEE 802.3ah/802.1ag /ITU Y.1731) and Bidirectional Forwarding Detection (BFD). The S5700-HI (except S5710-HI)provides hardware-based 3.3 ms Ethernet OAM and 10 ms BFD.

Diversified Security Control

- The S5700-HI supports MAC address authentication and 802.1X authentication and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.

- The S5700-HI provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and

change of the DHCP CHADDR value. You can specify DHCP snooping trusted and untrusted ports to ensure that users connect only to the authorized DHCP server.

- The S5700-HI supports strict ARP learning. This feature prevents ARP spoofing attackers from exhausting ARP entries so that users can connect to the Internet normally.

Easy Operation

- The S5700 supports EasyOperation, a solution that provides auto configuration, plug-and-play, USB-based deployment, and batch remote upgrade. The EasyOperation solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduces costs of operation and maintenance.
- The S5700 can be managed and maintained using Simple Network Management Protocol (SNMP) V1, V2, and V3, command line interface (CLI), web-based network management system, or Secure Shell (SSH) V2.0. Additionally, it supports remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis that help in network consolidation and reconstruction.
- The S5700-HI can use the General VLAN Registration Protocol (GVRP) to implement dynamic distribution, registration, and propagation of VLAN attributes. GVRP reduces manual configuration workload and ensures correct configuration. Besides, the S5700-HI supports the MUX VLAN function, which involves a principal VLAN and multiple subordinate VLANs. Subordinate VLANs are classified into group VLANs and separate VLANs. Ports in the principal VLAN can communicate with ports in subordinate VLANs. Ports in a subordinate group VLAN can communicate with each other, whereas ports in a subordinate separate VLAN can communicate only with ports in the principal VLAN.

Mature IPv6 Technologies

- The S5700-HI uses the mature, stable Versatile Routing Platform (VRP) and supports IPv4/IPv6 dual stacks, IPv6 routing protocols (RIPng, OSPFv3, BGP4+, and IS-IS for IPv6), and IPv6 over IPv4 tunnels including manual, 6-to-4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels. With these IPv6 features, the S5710-HI can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping realize IPv4-to-IPv6 transition.

Excellent Network Traffic Analysis

- The S5700-HI provides the NetStream function and can function as a NetStream data exporter. It periodically collects data traffic statistics, encapsulates the statistics in standard V5, V8, or V9 packets, and

sends the packets to the NetStream data collector according to NetStream configuration. The collected statistics are then processed to dynamically generate reports, analyze traffic attributes, and generate alarms on abnormal traffic. The NetStream function helps you optimize network structure and adjust resource deployment in a timely manner.

- The S5700-HI supports the sFlow function. It uses a method defined in the sFlow standard to sample traffic passing through it and sends sampled traffic to the collector in real time. The collected traffic statistics are used to generate statistical reports, helping enterprises maintain their networks.

Product Specifications

Item	S5700-28C-HI	S5700-28C-HI-24S	S5710-108C-PWR-HI
Fixed ports	24*10/100/1000Base-T	24*100/1000Base-X	48*10/100/1000BASE-T, 8*10GE SFP+
Extended slots	1 extended slot: Optional subcard 1: 2*10GE SFP+ Optional subcard 2: 4*10GE SFP+ Optional subcard 3: 4*1000BASE-X		3 front extended slots: Optional subcard 1: 16x10/100/1000BASE-T; Optional subcard 2: 16*1000BASE-X; 1 rear extended slot: Optional subcard 1: 4*10GE SFP+ (no GE auto adaption) Optional subcard 2: 4*40GE QSFP+
MAC address table	IEEE 802.1d compliance 32K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses		IEEE 802.1d compliance 456K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses
VLAN	4K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping		
Reliability	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032) BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection		

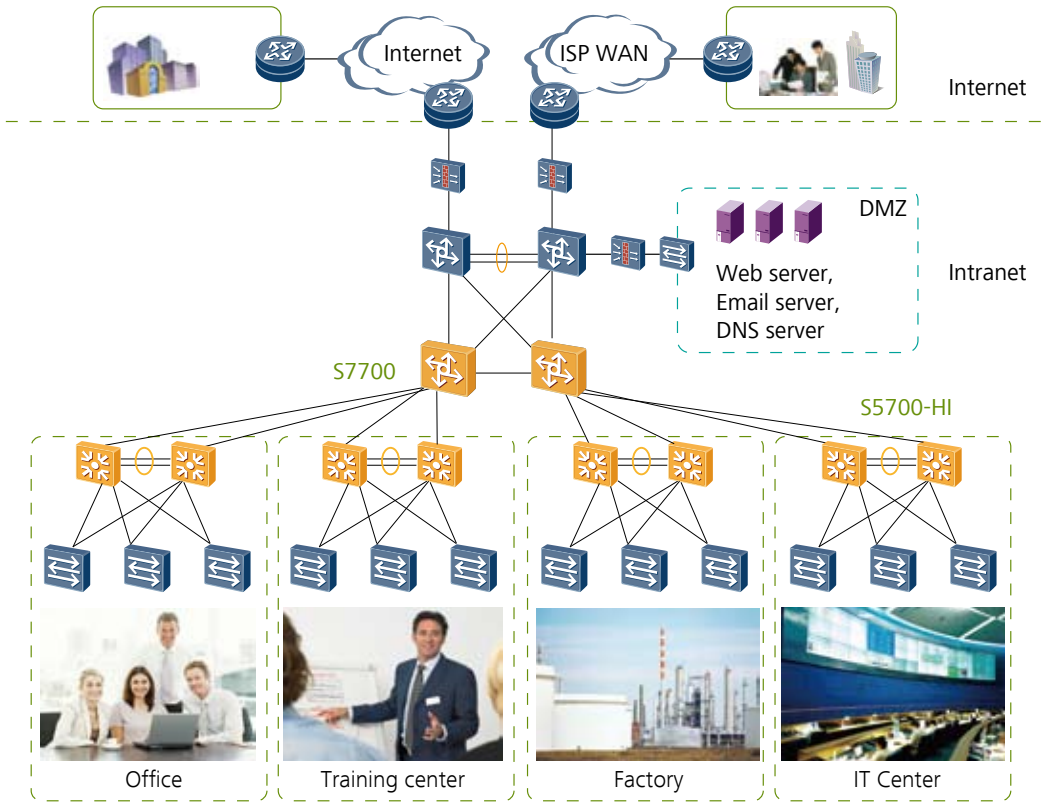
Item	S5700-28C-HI	S5700-28C-HI-24S	S5710-108C-PWR-HI
MPLS features	MPLS L3VPN MPLS L2VPN MPLS-TE MPLS QoS		
VPLS	Martini VPLS		
IP routing	Static routing, RIPv1, RIPv2, OSPF, IS-IS, BGP, and ECMP		
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracert 6to4 tunnel, ISATAP tunnel, and manually configured tunnel ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping		
multicast	IGMP v1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM		
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms WRED Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports		
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist		

Item	S5700-28C-HI	S5700-28C-HI-24S	S5710-108C-PWR-HI
OAM	Hardware OAM: EFM OAM CFM OAM Y.1731 performance test (hardware-level delay and jitter detection) BFD		Software OAM: EFM OAM CFM OAM Y.1731 performance test BFD
Management and maintenance	iStack (not supported by S5710-HI) MAC Forced Forwarding (MFF) Virtual cable test SNMP v1/v2/v3 RMON Web NMS System logs and alarms of different levels GVRP MUX VLAN 802.3az EEE sFlow NetStream Dying Gasp (only supported by the S5710-HI & S5700-HI)		
Operating environment	Operating temperature: 0°C–50°C Relative humidity: 5%–95% (non-condensing)		
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: –48 V to –60 V, DC Maximum voltage range: –36 V to –72 V, DC		
Dimensions (W x D x H, mm)	442x220 x43.6		442x470.0x87.2
Power consumption	< 76 W	< 80 W	< 1680 W (PD Power:1440W)

Applications

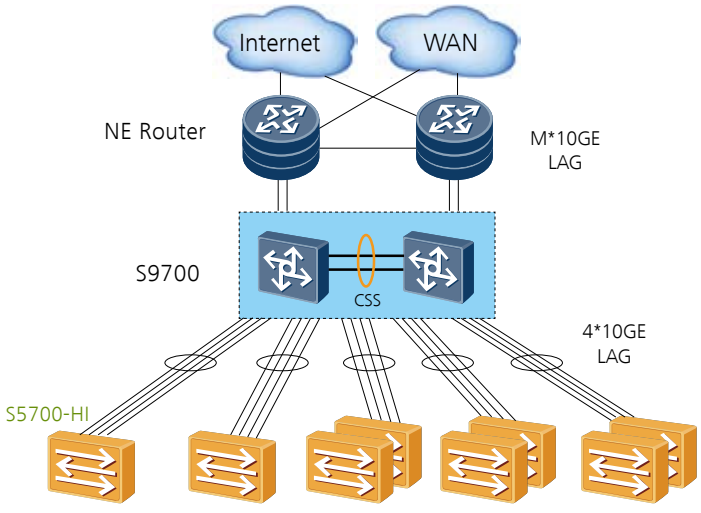
On Large-sized Enterprise Networks

The S5700-HI can function as an access device on a large-sized enterprise network or an aggregation device on a small-sized or medium-sized campus network. It supports link aggregation and dual-homing to improve network reliability.



In Data Centers

The S5700-HI can be used in a data center. It connects to gigabit servers and aggregates traffic from the servers to uplink devices through trunk links. If multiple servers are available, an S5700 stack can be used to facilitate network maintenance and improve network reliability.



Product List

Product Description
S5700-28C-HI-24S(24 Gig SFP,with 1 interface slot,without power module)
S5700-28C-HI(24 Ethernet 10/100/1000 ports,with 1 interface slot,without power module)
S5710-108C-PWR-HI(48 Ethernet 10/100/1000 PoE+ ports,8 10 Gig SFP+,with 4 interface slots,without power module)
2 10 Gig SFP+ interface card(used in S5700HI series)
4 10 Gig SFP+ interface card(used in S5700HI series)
4 Gig SFP interface card(used in S5700HI series)
16 Gig SFP Interface Card(used in S5710HI series)
16 Ethernet 10/100/1000 ports Interface Card(used in S5710HI series)
4 40 Gig QSFP+ Interface Card(used in S5710HI series)
4 10 Gig SFP+ Interface Card(used in S5710HI series)
170W DC Power Module(used in S5700HI series)
170W AC Power Module(used in S5700HI series)
350W AC Power Module(used in S5710HI series)
1150W AC PoE Power Module

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S5700-EI Series Gigabit Enterprise Switches

Product Overview

The S5700-EI series gigabit enterprise switches (S5700-EI) are next-generation energy-saving switches developed by Huawei to meet the demand for high-bandwidth access and Ethernet multi-service aggregation. Based on the cutting-edge hardware and Huawei Versatile Routing Platform (VRP) software, the S5700-EI provides a large switching capacity and high-density GE ports to implement 10 Gbit/s upstream transmissions. The S5700-EI is for use in various enterprise network scenarios. For example, it can function as an access or aggregation switch on a campus network, a gigabit access switch in an Internet data center (IDC), or a desktop switch to provide 1000 Mbit/s access for terminals. The S5700-EI is easy to install and maintain, reducing workloads for network planning, construction, and maintenance. The S5700-EI uses advanced reliability, security, and energy conservation technologies, helping enterprise customers build a next generation IT network.

Note: S5700-EI mentioned in this document refers to the whole S5700-EI series including S5710-EI, and descriptions about S5710-EI are unique features of S5710-EI.

Product Appearance

S5700-28C-EI

- 24 Ethernet 10/100/1000 ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable power supplies
- Forwarding performance: 96 Mpps
- Switching Capacity: 144Gbps

S5700-28C-EI-24S

- 24 Gig SFP ,4 of which are dual-purpose 10/100/1000 or SFP ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable power supplies
- Forwarding performance: 96 Mpps
- Switching Capacity: 144Gbps

S5700-28C-PWR-EI

- 24 Ethernet 10/100/1000 ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable AC power supplies
- PoE+
- Forwarding performance: 96 Mpps
- Switching Capacity: 144Gbps

S5700-52C-EI

- 48 10/100/1000Base-T ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable power supplies
- Forwarding performance: 132 Mpps
- Switching Capacity: 288Gbps

S5700-52C-PWR-EI

- 48 10/100/1000Base-T ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable AC power supplies
- PoE+
- Forwarding performance: 132 Mpps
- Switching Capacity: 288Gbps

S5710-28C-EI

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+ ports
- Subcards supported: 2x10GE SFP+, 8x10/100/1000BASE-T, and 8×1000Base-X subcard
- Double hot swappable power supplies
- Forwarding performance: 156Mpps
- Switching Capacity: 208Gbps

S5710-28C-PWR-EI-AC

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+ ports
- Subcards supported: 2x10GE SFP+, 8x10/100/1000BASE-T, and 8×1000Base-X subcard
- Double hot swappable AC power supplies, including a 580W AC power
- PoE+
- Forwarding performance: 156Mpps
- Switching Capacity: 208Gbps

S5710-52C-EI

- 48 10/100/1000 Base-T ports and 4 10GE SFP+ ports
- Subcards supported: 2x10GE SFP+, 8x10/100/1000BASE-T, and 8×1000Base-X subcard
- Double hot swappable power supplies
- Forwarding performance: 192Mpps
- Switching Capacity: 416Gbps

S5710-52C-PWR-EI-AC
S5710-52C-PWR-EI

- 48 10/100/1000 Base-T ports and 4 10GE SFP+ ports
- Subcards supported: 2x10GE SFP+, 8x10/100/1000BASE-T, and 8×1000Base-X subcard
- Double hot swappable AC power supplies(A 580W AC power is included in S5710-52C-PWR-EI-AC model while no power in S5710-52C-PWR-EI)
- PoE+
- Forwarding performance: 192Mpps
- Switching Capacity: 416Gbps

Product Features and highlights

Powerful support for services

- The S5700-EI supports IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, and IGMP proxy. It supports line-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV services and other multicast services.
- The S5700-EI provides the Multi-VPN-Instance CE (MCE) function to isolate users in different VLANs on a device, ensuring data security and reducing costs.
- The S5710-EI supports multiple MPLS & VPN features, including Label Distribution Protocol (LDP) or Resource Reservation Protocol for Traffic Engineering (RSVP-TE), MPLS TE, VLL, VPLS, and MPLS L3VPN.

Comprehensive reliability mechanisms

- Besides STP, RSTP, and MSTP, the S5700-EI supports enhanced Ethernet reliability technologies such as Smart Link and RRPP (Rapid Ring Protection Protocol), which implement millisecond-level protection switchover and ensure network reliability. It also provides Smart Link multi-instance and RRPP multi-instance to implement load balancing among links, optimizing bandwidth usage.

- The S5700-EI supports enhanced trunk (E-Trunk) that enables a CE to be dual-homed to two PEs (S5700s). E-Trunk greatly enhances link reliability between devices and implements link aggregation between devices. This improves reliability of access devices.
- The S5700-EI supports the Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer on an Ethernet network. SEP can be used on open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover (within 50 ms), ensuring non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.
- The S5700-EI supports Ethernet Ring Protection Switching (ERPS), also referred to as G.8032. As the latest ring network protocol, ERPS was developed based on traditional Ethernet MAC and bridging functions and uses mature Ethernet OAM function and a ring automatic protection switching (R-APS) mechanism to implement millisecond-level protection switching. ERPS supports various services and allows flexible networking, helping customers build a network with lower OPEX and CAPEX.
- The S5700-EI supports redundant power supplies, and can use an AC power supply and a DC power simultaneously. Users can choose a single power supply or use two power supplies to ensure device reliability.
- The S5700-EI supports VRRP, and can set up VRRP groups with other Layer 3 switches. VRRP provides redundant routes to ensure stable and reliable communication. Multiple equal-cost routes to an uplink device can be configured on the S5700-EI to provide route redundancy. When an active route is unreachable, traffic is switched to a backup route.
- The S5700-EI supports Bidirectional Fast Detection (BFD) and provides millisecond-level detection for protocols such as OSPF, IS-IS, VRRP, and PIM to improve network reliability. The S5700-EI complies with IEEE 802.3ah and 802.1ag. IEEE 802.3ah defines the mechanism for detecting faults on direct links over the Ethernet in the first mile, and 802.1ag defines the mechanism for end-to-end service fault detection. The S5700-EI supports Y.1731. Besides fast end-to-end service fault detection, the S5700-EI can use the performance measurement tools defined in Y.1731 to monitor network performance, providing accurate data about network quality.

Well-designed QoS policies and security mechanisms

- The S5700-EI implements complex traffic classification based on packet information such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. ACLs can be applied to inbound or outbound direction on an interface. The S5700-EI supports a flow-based two-rate three-color CAR. Each port supports eight priority queues and multiple queue scheduling algorithms such as WRR, DRR, SP, WRR+SP, and DRR+SP. All of these ensure the quality of voice, video, and data services.
- The S5700-EI provides multiple security measures to defend against Denial of Service (DoS) attacks, and attacks against networks or users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.
- The S5700-EI supports DHCP snooping, which discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents man-in-the-middle attacks to campus networks that hackers initiate by using ARP packets. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.

- The S5700-EI supports strict ARP learning, which prevents ARP spoofing attacks that will exhaust ARP entries. It also provides IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing.
- The S5700-EI supports centralized MAC address authentication, 802.1x authentication, and NAC. It authenticates users based on statically or dynamically bound user information such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be applied to users dynamically.
- The S5700-EI can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes packet flooding that occurs when MAC addresses of users cannot be found in the MAC address table.

Fine-grained traffic management

- The S5710-EI supports NetStream. The NetStream module supports V5, V8, and V9 packet formats and provides various traffic analysis functions, such as real-time traffic sampling, dynamic report generation, traffic attribute analysis, and traffic exception report. The Netstream module enables administrators to monitor network status in real time and provides applications and analysis functions including potential fault detection, effective fault rectification, fast problem handling, and security monitoring, to help customers optimize network structure and adjust resource deployment.
- The S5700-EI supports the Sampled Flow (sFlow) function, which uses a sampling mechanism to obtain statistics about traffic forwarded on a network and sends the statistics to the Collector in real time. The Collector analyzes traffic statistics to help customers manage network traffic efficiently. The S5700-EI integrates the sFlow Agent module and uses hardware for traffic monitoring. Unlike traffic monitoring through port mirroring, sFlow does not degrade network performance during traffic monitoring.

Easy deployment and maintenance free

- The S5700-EI supports automatic configuration, plug-and-play, and batch remote upgrade. These capabilities simplify device management and maintenance and reduce maintenance costs. The S5700-EI supports SNMP v1/v2/v3 and provides flexible methods for managing devices. Users can manage the S5700-EI using the CLI and Web NMS. The NQA function helps users with network planning and upgrades. In addition, the S5700-EI supports NTP, SSH v2, HWTACACS+, RMON, log hosts, and port-based traffic statistics.
- The S5700-EI supports the GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to reduce manual configuration workloads of network administrators and to ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.
- The S5700-EI supports MUX VLAN. MUX VLAN isolates Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN but cannot communicate with each other. MUX VLAN is usually used on an enterprise intranet to isolate user interfaces from each other but allow them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups but allows the devices to communicate with the default gateway.

PoE function

- The S5700-EI PWR can use PoE power supplies with different power levels to provide -48V DC power for powered devices (PDs) such as IP Phones, WLAN APs, and Bluetooth APs. In its role as power sourcing equipment (PSE), the S5700-EI PWR complies with IEEE 802.3af and 802.3at (PoE+) and can work with PDs that are incompatible with 802.3af or 802.3at. Each port provides a maximum of 30 W power, complying with IEEE 802.3at. The PoE+ function increases the maximum power of each port and implements intelligent power management for high-power consumption applications. This facilitates the use of PDs. PoE ports can work in power-saving mode. The S5700-EI PWR provides improved PoE solutions. Users can configure whether and when a PoE port supplies power.

High scalability

- The S5700-EI supports intelligent stacking (iStack). Multiple S5700-EI switches can be connected with stack cables to set up a stack, which functions as a virtual switch. A stack consists of a master switch, a backup switch, and several slave switches. The backup switch takes over services when the master switch fails, reducing service interruption time. Stacks support intelligent upgrade so that users do not need to change the software version of a switch when adding it to a stack. The iStack function allows users to connect multiple switches with stack cables to expand system capacity. These switches can be managed using a single IP address, which greatly reduces the costs of system expansion, operation, and maintenance. Compared with traditional networking technologies, iStack has advantages in scalability, reliability, and system architecture.

Various IPv6 features

- The S5700-EI supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S5700-EI hardware supports IPv4/IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. The S5700-EI can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.

Product Specifications

Item	S5700-28C-EI/ S5700-28C-PWR-EI	S5700-28C-EI-24S	S5700-52C-EI/ S5700-52C-PWR-E	S5710-28C-EI S5710-28C-PWR-EI-AC	S5710-52C-EI S5710-52C-PWR-EI S5710-52C-PWR-EI-AC
1000M port	24*10/100/1000 Base-T	24*100/1000 Base-X, 4 of which are dual-purpose 10/100/1000 or SFP	48*10/100/ 1000Base-T	24*10/100/1000 Base-T, 4 of which are dual-purpose 10/100/1000 or SFP, 4*10GE SFP +	48*10/100/1000 Base-T, 4*10GE SFP +
Extended slot	S5700C Provide two extended slots, one for an uplink subcard and the other for a stack card. S5710C Provide two extended slots for uplink subcards.				
MAC address table	IEEE 802.1d compliance 32K MAC MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses				

Item	S5700-28C-EI/ S5700-28C-PWR-EI	S5700-28C-EI-24S	S5700-52C-EI/ S5700-52C-PWR-E	S5710-28C-EI S5710-28C-PWR-EI-AC	S5710-52C-EI S5710-52C-PWR-EI S5710-52C-PWR-EI-AC
VLAN	4K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping				
Reliability	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS (G.8032) BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection E-Trunk				
IP routing	Static routing, OSPF, OSPF v3, IS-IS, IS-ISv6, BGP, BGP 4+, and ECMP				
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracert, and IPv6 Telnet ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping IPv4 and IPv6 dual stack 6to4 tunnel, ISATAP tunnel, and manually configured tunnel				
multicast	IGMP v1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM MSDP				
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms WRED (supported by the S5710-EI) Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports				

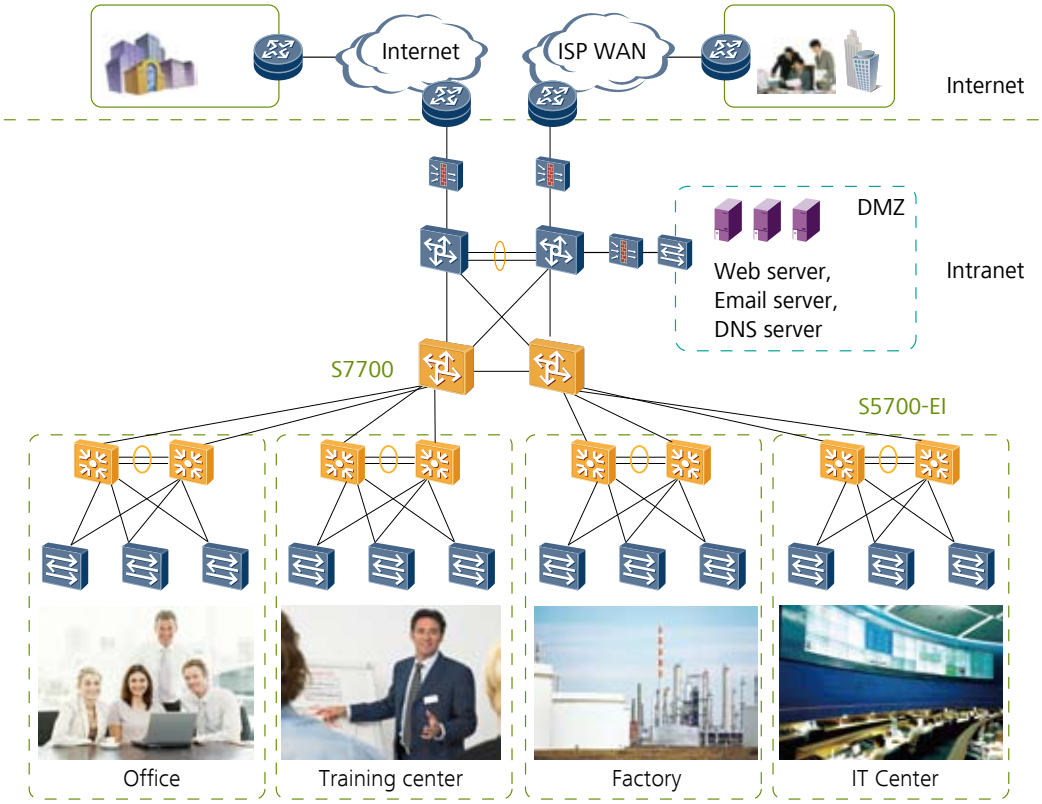
Item	S5700-28C-EI/ S5700-28C-PWR-EI	S5700-28C-EI-24S	S5700-52C-EI/ S5700-52C-PWR-E	S5710-28C-EI S5710-28C-PWR-EI-AC	S5710-52C-EI S5710-52C-PWR-EI S5710-52C-PWR-EI-AC
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist				
Management and maintenance	iStack MAC Forced Forwarding (MFF) Virtual cable test SNMP v1/v2/v3 RMON Web NMS System logs and alarms of different levels GVRP MUX VLAN NetStream (supported by S5710-EI) sFlow				
Operating environment	Operating temperature: 0°C–50°C Relative humidity: 5%–95% (non-condensing)				
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: –48 V to –60 V, DC Maximum voltage range: –36 V to –72 V, DC Note: PoE-support switches do not use DC power supplies.				
Dimensions (W x D x H)	442 mm x 420 mm x 43.6 mm				
Power consumption	Non-PoE: < 60 W PoE: < 842W (PoE power: 740W)	< 63 W	Non-PoE: < 88 W PoE: < 930 W (PoE power: 740 W)	Non-PoE:<100W PoE: <942W	Non-PoE:<165W PoE:< 1043W with two 580W AC supplies(PoE power: 740 W), or <1625W with two 1150W AC supplies(PoE power: 1440 W)

*:The S5700 switches of the EI series are collectively called S5700-EI. S5710-EI is a sub-series switches of S5700-EI .

Applications

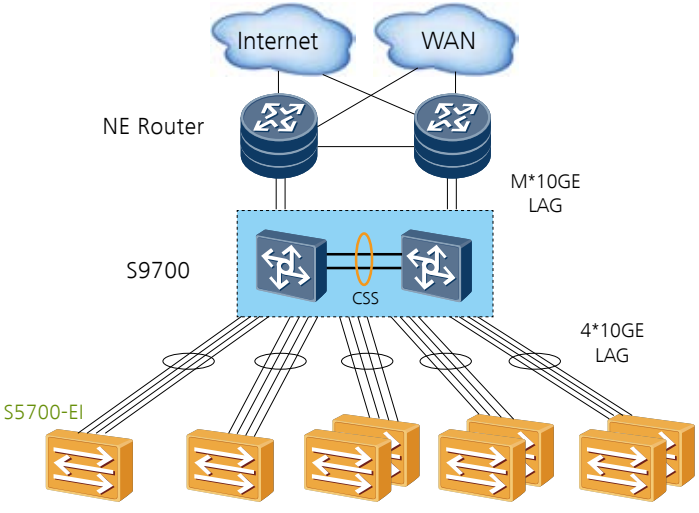
On Large-sized Enterprise Networks

The S5700-EI can function as an access device on a large-sized enterprise network or an aggregation device on a small-sized or medium-sized campus network. It supports link aggregation and dual-homing to improve network reliability.



In Data Centers

The S5700-EI can be used in a data center. It connects to gigabit servers and aggregates traffic from the servers to uplink devices through trunk links. If multiple servers are available, an S5700-EI stack can be used to facilitate network maintenance and improve network reliability.



Product List

Product Description
S5700-28C-EI-24S(24 Gig SFP ,4 of which are dual-purpose 10/100/1000 or SFP,with 1 interface slot,without power module)
S5700-28C-EI(24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,with 1 interface slot,without power module)
S5710-28C-EI(24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+,without power module)
S5700-28C-PWR-EI(24 Ethernet 10/100/1000 PoE+ ports,with 1 interface slot,without power module)
S5710-28C-PWR-EI-AC(24 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+,with 580W AC power)
S5710-52C-EI(48 Ethernet 10/100/1000 ports,4 10 Gig SFP+,with 2 interface slots,without power module)
S5700-52C-EI(48 Ethernet 10/100/1000 ports,with 1 interface slot,without power module)
S5700-52C-PWR-EI(48 Ethernet 10/100/1000 PoE+ ports,with 1 interface slot,without power module)
S5710-52C-PWR-EI-AC(48 Ethernet 10/100/1000 PoE+ ports,4 10 Gig SFP+,with 2 interface slots,with 580W AC power supply)
S5710-52C-PWR-EI(48 Ethernet 10/100/1000 PoE+ ports,4 10 Gig SFP+,with 2 interface slots,without power module)
8 Gig SFP interface card(used in S5710EI series)
8 Ethernet 10/100/1000 ports interface card(used in S5710EI series)
4 Gig SFP interface card(including 4 Gig SFP optical interface card and extend channel card)(used in S5700EI series)
2 10 Gig SFP+ interface card(used in S5710EI series)
2 10 Gig SFP+ interface card(used in S5700SI and S5700EI series)
4 10 Gig SFP+ optical interface card(including 4 10 Gig SFP+ interface card and extend channel card)(used in S5700SI and S5700EI series)
Ethernet Stack Interface Card(Including stack card,100cm stack cable)
Ethernet Stack Interface Card(Including stack card,300cm stack cable)
150W AC Power Module
150W DC Power Module
250W AC PoE Power Module
500W AC PoE Power Module
580W AC PoE Power Module
1150W AC PoE Power Module

For more information, visit http://enterprise.huawei.com or contact the Huawei local sales office.

S5700-SI Series Gigabit Enterprise Switches

Product Overview

The S5700-SI series are gigabit Layer 3 Ethernet switches based on new generation of high-performance hardware and Huawei Versatile Routing Platform (VRP). It provides a large capacity, high-density GE interfaces, and10GE uplink interfaces. With extensive service features and IPv6 forwarding capabilities, the S5700-SI is applicable to various scenarios. For example, it can be used as an access or aggregation switch on campus networks or an access switch in data centers. The S5700-SI integrates many advanced technologies in terms of reliability, security, and energy saving. It employs simple and convenient means of installation and maintenance to reduce customers' OAM cost and help enterprise customers build a next-generation IT network.

Product Appearance

S5700-24TP-SI-AC

S5700-24TP-SI-DC

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP ports
- Two models: AC model and DC model
- Forwarding performance: 36 Mpps
- Switching Capacity: 144Gbps

S5700-24TP-PWR-SI

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP ports
- Double hot swappable AC power supplies
- PoE+
- Forwarding performance: 36 Mpps
- Switching Capacity: 144Gbps

S5700-26X-SI-12S-AC

- Twelve 10/100/1000BASE-T ports，12 100/1000Base-X ports，two 10GE SFP+ ports（10GE/GE auto-sensing)
- One AC power module，external RPS
- Forwarding performance: 66Mpps
- Switching Capacity: 144Gbps

S5700-48TP-SI-AC

S5700-48TP-SI-DC

- 48 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP ports
- Two models: AC model and DC model
- Forwarding performance: 72 Mpps
- Switching Capacity: 288Gbps

S5700-48TP-PWR-SI

- 48 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP ports
- AC power supply
- PoE+
- Forwarding performance: 72 Mpps
- Switching Capacity: 288Gbps

S5700-28C-SI

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable power supplies
- Forwarding performance: 96 Mpps
- Switching Capacity: 144Gbps

S5700-28C-PWR-SI

- 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable AC power supplies
- PoE+
- Forwarding performance: 96 Mpps
- Switching Capacity: 144Gbps

S5700-52C-SI

- 48 10/100/1000Base-T ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable power supplies
- Forwarding performance: 132 Mpps
- Switching Capacity: 288Gbps

S5700-52C-PWR-SI

- 48 10/100/1000Base-T ports
- Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard
- Double hot swappable AC power supplies
- PoE+
- Forwarding performance: 132 Mpps
- Switching Capacity: 288Gbps

Product Features and highlights

Powerful support for services

- The S5700-SI supports IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, and IGMP proxy. The S5700-SI supports wire-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV and other multicast services.

Comprehensive reliability mechanisms

- Besides STP, RSTP, and MSTP, the S5700-SI supports enhanced Ethernet reliability technologies such as Smart Link and RRPP (Rapid Ring Protection Protocol), which implement millisecond-level protection switchover and ensure network reliability. It also provides Smart Link multi-instance and RRPP multi-instance to implement load balancing among links, optimizing bandwidth usage.

- The S5700-SI supports the Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer on an Ethernet network. SEP can be used on open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover (within 50 ms), ensuring non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.
- The S5700-SI supports Ethernet Ring Protection Switching (ERPS), also referred to as G.8032. As the latest ring network protocol, ERPS was developed based on traditional Ethernet MAC and bridging functions and uses mature Ethernet OAM function and a ring automatic protection switching (R-APS) mechanism to implement millisecond-level protection switching. ERPS supports various services and allows flexible networking, helping customers build a network with lower OPEX and CAPEX.

Well-designed QoS policies and security mechanisms

- The S5700-SI implements complex traffic classification based on packet information such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. ACLs can be applied to inbound or outbound direction on an interface. The S5700-SI supports a flow-based two-rate three-color CAR. Each port supports eight priority queues and multiple queue scheduling algorithms such as WRR, DRR, SP, WRR+SP, and DRR+SP. All of these ensure the quality of voice, video, and data services.
- The S5700-SI provides multiple security measures to defend against Denial of Service (DoS) attacks, and attacks against networks or users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.
- The S5700-SI supports DHCP snooping, which discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents man-in-the-middle attacks to campus networks that hackers initiate by using ARP packets. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.
- The S5700-SI supports strict ARP learning, which prevents ARP spoofing attacks that will exhaust ARP entries. It also provides IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing.
- The S5700-SI supports centralized MAC address authentication, 802.1x authentication, and NAC. It authenticates users based on statically or dynamically bound user information such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be applied to users dynamically.
- The S5700-SI can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes packet flooding that occurs when MAC addresses of users cannot be found in the MAC address table.

Easy deployment and maintenance free

- The S5700-SI supports automatic configuration, plug-and-play, deployment using a USB flash drive, and batch remote upgrade. These capabilities simplify device management and maintenance and reduce

maintenance costs. The S5700 supports SNMP v1/v2/v3 and provides flexible methods for managing devices. Users can manage the S5700 using the CLI and Web NMS. The NQA function helps users with network planning and upgrades. In addition, the S5700 supports NTP, SSH v2, HWTACACS+, RMON, log hosts, and port-based traffic statistics.

- The S5700-SI supports GVRP（GARP VLAN Registration Protocol）, which dynamically distributes, registers, and propagates VLAN attributes to reduce manual configuration workloads of network administrators and to ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.
- The S5700-SI supports MUX VLAN. MUX VLAN isolates Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN but cannot communicate with each other. MUX VLAN is usually used on an enterprise intranet to isolate user interfaces from each other but allow them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups but allows the devices to communicate with the default gateway.

PoE function

- The S5700-SI PWR can use PoE power supplies with different power levels to provide -48V DC power for powered devices (PDs) such as IP Phones, WLAN APs, and Bluetooth APs. In its role as power sourcing equipment (PSE), the S5700-SI PWR complies with IEEE 802.3af and 802.3at (PoE+) and can work with PDs that are incompatible with 802.3af or 802.3at. Each port provides a maximum of 30 W power, complying with IEEE 802.3at. The PoE+ function increases the maximum power of each port and implements intelligent power management for high-power consumption applications. This facilitates the use of PDs. PoE ports can work in power-saving mode. The S5700-SI PWR provides improved PoE solutions. Users can configure whether and when a PoE port supplies power.

High scalability

- The S5700-SI supports intelligent stacking (iStack). Multiple S5700-SI can be connected with stack cables to set up a stack, which functions as a virtual switch. A stack consists of a master switch, a backup switch, and several slave switches. The backup switch takes over services when the master switch fails, reducing service interruption time. Stacks support intelligent upgrade so that users do not need to change the software version of a switch when adding it to a stack. The iStack function allows users to connect multiple switches with stack cables to expand system capacity. These switches can be managed using a single IP address, which greatly reduces the costs of system expansion, operation, and maintenance. Compared with traditional networking technologies, iStack has advantages in scalability, reliability, and system architecture.

Various IPv6 features

- The S5700-SI supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S5700-SI hardware supports IPv4/IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. The S5700 can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.

Product Specifications

Item	S5700-24TP-SI**/ S5700-24TP-PWR-SI	S5700-28C-SI/ S5700-28C-PWR-SI	S5700-26X-SI-12S-AC	S5700-48TP-SI/ S5700-48TP-PWR-SI	S5700-52C-SI/ S5700-52C-PWR-SI
Fixed port	24*10/100/1000Base-T ports, 4 of which are dual-purpose 10/100/1000 or SFP		12*10/100/1000 ASE-T, 12*100/1000 Base-X, 2*10 GE SFP+	48*10/100/1000Base-T ports, 4 of which are dual-purpose 10/100/1000 or SFP	48*10/100/1000 Base-T
Extended slot	The S5700TP provides an extended slot for a stack card The S5700-28C and S5700-52C provide two extended slots, one for an uplink subcard and the other for for a stack card.				
MAC address table	IEEE 802.1d compliance 16K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses				
VLAN	4 K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping				
Reliability	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032) STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection				
IP routing	Static routing, RIPv1, RIPv2, and ECMP				
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracert, and IPv6 Telnet ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping 6to4 tunnel, ISATAP tunnel, and manually configured tunnel				
multicast	IGMP v1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics				

Item	S5700-24TP-SI**/ S5700-24TP-PWR-SI	S5700-28C-SI/ S5700-28C-PWR-SI	S5700-26X-SI-12S-AC	S5700-48TP-SI/ S5700-48TP-PWR-SI	S5700-52C-SI/ S5700-52C-PWR-SI
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports				
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist				
Management and maintenance	Stacking (not supported by S5700-26X-SI-12S-AC) MAC Forced Forwarding (MFF) Virtual cable test SNMP v1/v2/v3 RMON Web NMS System logs and alarms of different levels GVRP MUX VLAN				
Operating environment	Operating temperature: 0°C–50°C Relative humidity: 5%–95% (non-condensing)				
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: –48 V to –60 V, DC Maximum voltage range: –36 V to –72 V, DC Note: PoE-support switches do not use DC power supplies.				
Dimensions (W x D x H)	S5700-24TP-SI: 442 mm x 220 mm x 43.6 mm S5700-26X-SI-12S-AC: 442 mm x310 mm x43.6mm Others: 442 mm x 420 mm x 43.6 mm				

Item	S5700-24TP-SI**/ S5700-24TP-PWR-SI	S5700-28C-SI/ S5700-28C-PWR-SI	S5700-26X-SI-12S-AC	S5700-48TP-SI/ S5700-48TP-PWR-SI	S5700-52C-SI/ S5700-52C-PWR-SI
Power consumption	Non-PoE: < 40 W PoE: < 455 W (PoE power: 370 W)	Non-PoE: <56W PoE: <836W (PoE power:740W)	<42.3W	Non-PoE: < 64 W PoE: < 907 W (PoE power: 740 W)	Non-PoE: <78W PoE: <917W (PoE power:740W)

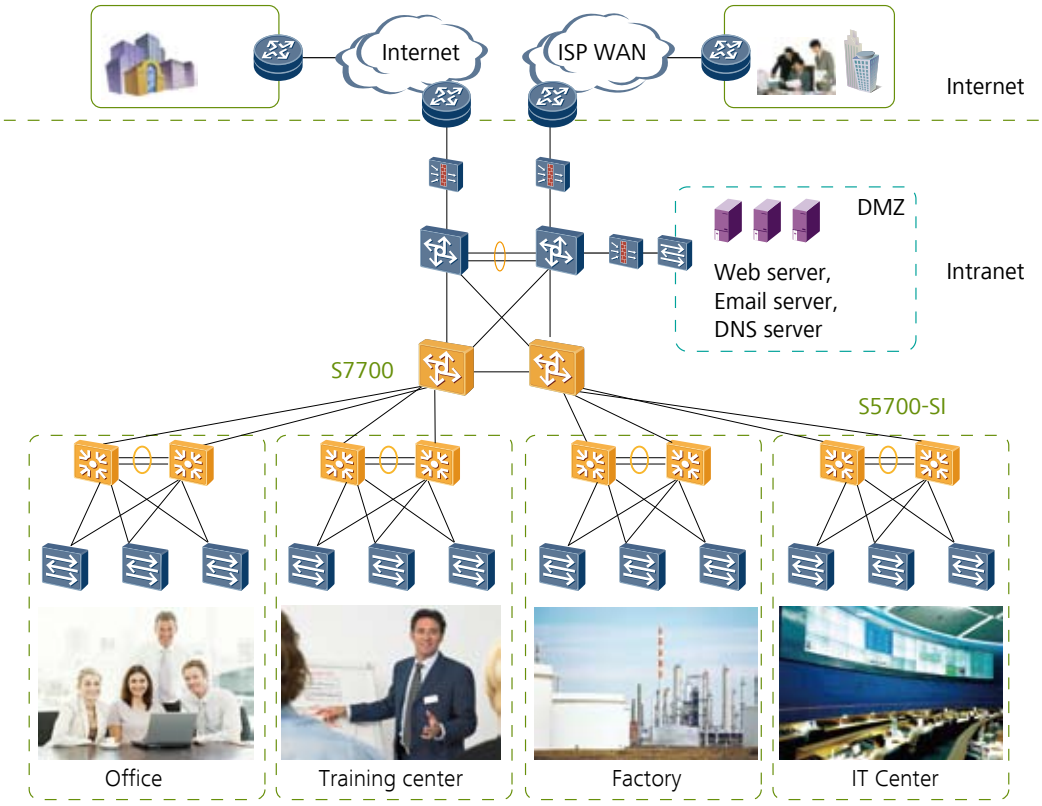
*:The S5700 switches of the SI series are collectively called S5700-SI.

**:S5700-24TP-SI is short for S5700-24TP-SI-AC and S5700-24TP-SI-DC. As product versions are irrelevant to the power supply mode, the product names mentioned in product specifications do not contain AC or DC. This rule also applies to other product models.

Applications

On Large-sized Enterprise Networks

The S5700-SI can function as an access device on a large-sized or medium-sized enterprise network or an aggregation device on a small-sized campus network. It supports link aggregation and dual-homing to improve network reliability.



Product List

Product Description
S5700-24TP-PWR-SI(24 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,without power module)
S5700-24TP-SI-AC(24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,AC 110/220V)
S5700-24TP-SI-DC(24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,DC -48V)
S5700-28C-SI（24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,with 1 interface slot,without power module)
S5700-28C-PWR-SI(24 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,with 1 interface slot,with 500W AC power)
S5700-48TP-SI-AC(48 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,AC 110/220V)
S5700-48TP-SI-DC(48 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,DC -48V)
S5700-48TP-PWR-SI(48 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,without power module)
S5700-52C-SI(48 Ethernet 10/100/1000 ports,with 1 interface slot,without power module)
S5700-52C-PWR-SI(48 Ethernet 10/100/1000 PoE+ ports,with 1 interface slot,with 500W AC power supply)
S5700-26X-SI-12S-AC(12 Ethernet 10/100/1000 ports,12 Gig SFP,2 10 Gig SFP+,AC 110/220V)
4 Gig SFP interface card(including 4 Gig SFP optical interface card and extend channel card)(used in S5700SI series)
2 10 Gig SFP+ interface card(used in S5700SI and S5700EI series)
2-Port 10GE RJ45 Copper Interface Card（50 meters distance supported）
4 10 Gig SFP+ optical interface card(including 4 10 Gig SFP+ interface card and extend channel card)(used in S5700SI and S5700EI series)
Ethernet Stack Interface Card(Including Stack Card,100cm Stack Cable)
Ethernet Stack Interface Card(Including stack card,300cm stack cable)
150W AC Power Module
150W DC Power Module
250W AC PoE Power Module
500W AC PoE Power Module
RPS1800

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S5700-LI Series Gigabit Enterprise Switches

Product Overview

The S5700-LI is a next-generation energy-saving gigabit Ethernet switch that provides flexible GE access ports and 10GE uplink ports. Building on next-generation, high-performance hardware and the Huawei Versatile Routing Platform (VRP), the S5700-LI supports Advanced Hibernation Management (AHM), intelligent stack (iStack), flexible Ethernet networking, and diversified security control. It provides customers with a green, easy-to-manage, easy-to-expand, and cost-effective gigabit to the desktop solution. In addition, Huawei customizes specialized models to meet customer requirements to suit special scenarios.

Huawei S5700-LI-BAT series battery LAN switches (S5700-LI-BAT for short) are the industry's first switch series to support built-in batteries and provide visualized battery status management. The S5700-LI-BAT can ensure uninterrupted services in environments facing frequent power failures at the access layer. Access switches are usually distributed; therefore, it is costly and space-consuming to deploy high-performance USPs for the access switches. Low-end UPSs or external lead-acid batteries can provide power redundancy at lower costs, but have low reliability and security, short lifespan, and also occupy significant space. Huawei battery LAN switches solve this problem. The use of internal batteries ensures stable operation of the access layer in the event of power failures.

CSFP switches support downlink CSFP ports, and each downlink CSFP port provides 2 Gbit/s bandwidth bidirectionally. CSFP switches apply to scenarios where users increase continuously and demand higher bandwidth, and scenarios where deploying fibers is costly and difficult and construction timeframes are long. The switches with front power sockets can be installed in the 300 mm deep cabinet.

The S5701-LI series with front power sockets can be installed in the 300 mm deep cabinet. They can be maintained through the front panel, saving space in small equipment rooms.

Product Appearance

S5700-10P-LI-AC

- 8 10/100/1000Base-T Ethernet ports, 2 GE SFP ports
- AC power supply
- Forwarding performance: 15 Mpps

S5700-10P-PWR-LI-AC

- 8 10/100/1000Base-T Ethernet ports, 2 GE SFP ports
- AC power supply
- PoE+
- Forwarding performance: 15 Mpps

S5700-28P-LI-AC

S5700-28P-LI-DC

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- Two models: AC model and DC model, supporting RPS (redundant power supply)
- Forwarding performance: 42 Mpps

S5700-28X-LI-AC

S5700-28X-LI-DC

- 24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports (10GE/GE auto-sensing)
- Two models: AC model and DC model, supporting RPS (redundant power supply)
- Forwarding performance: 96 Mpps

S5700-28X-LI-24S-AC

S5700-28X-LI-24S-DC

- 24 GE SFP ports, four Combo 10/100/1000Base-T Ethernet ports, four 10GE SFP+ ports (10GE/GE auto-sensing)
- Two models: AC model and DC model, supporting RPS(redundant power supply)
- Forwarding performance: 96 Mpps

S5700-28P-PWR-LI-AC

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- Ac power supply, supporting RPS (redundant power supply)
- PoE+
- Forwarding performance: 42 Mpps

S5700-28X-PWR-LI-AC

- 24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports (10GE/GE auto-sensing)
- Ac power supply, supporting RPS (redundant power supply)
- PoE+
- Forwarding performance: 96 Mpps

S5700-52P-LI-AC

S5700-52P-LI-DC

- 48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- Two models: AC model and DC model, supporting RPS (redundant power supply)
- Forwarding performance:78 Mpps

S5700-52X-LI-AC

S5700-52X-LI-DC

- 48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports (10GE/GE auto-sensing)
- Two models: AC model and DC model, supporting RPS(redundant power supply)
- Forwarding performance:132 Mpps

S5700-52X-PWR-LI-AC

- 48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports (10GE/GE auto-sensing)
- Ac power supply, supporting RPS
- PoE+
- Forwarding performance:132 Mpps

S5700-52P-PWR-LI-AC

- 48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- Ac power supply, supporting RPS (redundant power supply)
- PoE+
- Forwarding performance: 78 Mpps

S5700-28P-LI-BAT

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- AC power supply
- One battery slot for an internal 4AH/8AH lithium battery or external lead-acid battery used in the event of a mains power failure or a 150 W AC or DC power module used as the redundant power source
- Forwarding performance: 42 Mpps

S5700-28P-LI-4AH

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- AC power supply
- One battery slot for a pluggable 4AH lithium battery, 8AH lithium battery or external lead-acid battery used in the event of a mains power failure, or a 150 W AC or DC power module used as the redundant power source
- Forwarding performance: 42 Mpps

S5700-28P-LI-24S-BAT

- 28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports
- AC power supply
- One battery slot for an internal 4AH/8AH lithium battery or external lead-acid battery used in the event of a mains power failure or a 150 W AC or DC power module used as the redundant power source
- Forwarding performance: 42 Mpps

S5700-28P-LI-24S-4AH

- 28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports
- AC power supply
- One battery slot for a pluggable 4AH lithium battery, 8AH lithium battery or external lead-acid battery used in the event of a mains power failure, or a 150 W AC or DC power module used as the redundant power source
- AC power supply
- Forwarding performance: 42 Mpps

S5700-52X-LI-48CS-AC

- 48 GE CSFP ports or 24 GE SFP ports, four Combo 10/100/1000Base-T Ethernet ports, four 10GE SFP+ ports
- AC power supply, front power sockets, front access
- Forwarding performance: 132 Mpps

S5701-28X-LI-AC

- 24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports
- AC power supply, front power sockets, front access
- Forwarding performance: 96 Mpps

S5701-28X-LI-24S-AC

- 24 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports
- AC power supply, front power sockets, front access
- Forwarding performance: 96 Mpps

Product Features and Highlights

Innovative Energy Saving Design

- The S5700-LI series smart energy-saving switches reduce power consumption without degrading system performance or user experience. The S5700-LI series uses innovative energy-saving technologies including energy efficient Ethernet (EEE), port power detection, dynamic CPU frequency adjustment, and device sleep mode. These technologies help reduce power consumption by adjusting power depending on the Up/Down states of links, presence/absence of optical modules, shutdown and undo shutdown operations on ports, and peak and off-peak hours. The S5700-LI series is the industry's first switch series that supports device sleep mode, and provides three energy saving modes to adapt to different usage scenarios: standard, basic, and deep modes.

Flexible Ethernet networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the S5700-LI supports Huawei-developed Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- The S5700-LI supports Smartlink, which implements backup of uplinks. One S5700-LI switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.
- The S5700-LI supports Ethernet OAM (IEEE 802.3ah/802.1ag) to fast-detect link faults.

Diversified security control

- The S5700-LI supports MAC address authentication and 802.1x authentication and implements dynamic policy delivery (VLAN, QoS, and ACL) to users.
- The S5700-LI provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-

targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.

- The S5700-LI collects and maintains information about access users, such as IP addresses, MAC addresses, IP address leases, VLAN IDs, and interface numbers in a DHCP snooping binding table. In this way, IP addresses and access interfaces of DHCP users can be tracked. You can specify DHCP snooping trusted and untrusted ports to ensure that users connect only to the authorized DHCP server.
- The S5700-LI supports strict ARP learning. This feature prevents ARP spoofing attackers from exhausting ARP entries so that users can connect to the Internet normally.

Easy operation and maintenance

- The S5700-LI supports Huawei EasyOperation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch configuration, and batch remote upgrade. The EasyOperation solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduces costs of operation and maintenance. The S5700-LI can be managed and maintained using Simple Network Management Protocol (SNMP) V1, V2, and V3, command line interface (CLI), web-based network management system, or Secure Shell (SSH) V2.0. Additionally, it supports remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis that helps with network consolidation and reconstruction.
- The S5700-LI can use the General VLAN Registration Protocol (GVRP) to implement dynamic distribution, registration, and propagation of VLAN attributes. GVRP reduces manual configuration workload and ensures correct configuration. Additionally, the S5700-LI supports MUX VLAN, which involves a principal VLAN and multiple subordinate VLANs. Subordinate VLANs are classified into group VLANs and separate VLANs. Ports in the principal VLAN can communicate with ports in subordinate VLANs. Ports in a subordinate group VLAN can communicate with each other, whereas ports in a subordinate separate VLAN can communicate only with ports in the principal VLAN.

iStack

- The S5700-LI supports intelligent stack (iStack). This technology combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability. iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack. iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack.

Excellent network traffic analysis

- The S5700-LI supports the sFlow function. It uses a method defined in the sFlow standard to sample traffic passing through it and sends sampled traffic to the collector in real time. The collected traffic statistics are used to generate statistical reports, helping enterprises maintain their networks.

Innovative built-in battery

- The S5700-LI-BAT is the industry's first switch model that supports internal lithium batteries as a backup power supply. It ensures uninterrupted services in situations where power failures frequently occur at the access layer. The S5700-LI-BAT has the following advantages:
  - In the event of a mains power failure the battery can power the switch, so services will not be interrupted.

– Compared with switches using external power supply units, the S5700-LI-BAT occupies less space and is easier to install.

– Intelligent power management, long standby time

– Battery LAN switches on the entire network can be managed centrally using a web system, facilitating network operation and maintenance. As the battery lifetime is predictable, you do not need to replace batteries periodically, reducing hardware costs.

– The internal battery provides alarm and voltage/current protection functions as well as overtemperature protection, which enhance reliability.

CSFP providing high-density access and increased bandwidth

- CSFP switches support downlink CSFP ports. Each downlink CSFP port equipped with a CSFP GE optical module and one pair of fibers can provide 2 Gbit/s bandwidth bidirectionally, which is two times the bandwidth of standard SFP optical modules. The 24 downlink CSFP ports can provide 48 Gbit/s bandwidth bidirectionally, implementing high-density access (equal to access of 48 standard SFP ports) and saving the cost of deploying fibers and adding optical modules.

Easy O&M with front panel

- The models with front power sockets can be installed in a 300 mm deep cabinet, and can be maintained through the front panel. This simplifies operation and maintenance. The cabinets can be placed against the wall or back to back, and is well-suited for shallow cabinets and limited equipment room space.

Product Specifications

Item	S5700-10P-LI-AC S5700-10P-PWR-LI-AC	S5700-28P-LI S5700-28P-PWR-LI S5700-28X-LI S5700-28X-PWR-LI-AC S5700-28X-LI-24S S5701-28X-LI-AC S5701-28X-LI-24S-AC	S5700-52P-LI S5700-52P-PWR-LI S5700-52X-LI* S5700-52X-PWR-LI-AC	S5700-28P-LI-BAT S5700-28P-LI-4AH S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH	S5700-52X-LI-48CS-AC
Fixed ports	S5700-10P-LI-AC/S5700-10P-PWR-LI-AC: 8 10/100/1000Base-T Ethernet ports, 2 GE SFP ports S5700-28P-LI*/S5700-28P-PWR-LI/ S5700-28P-LI-BAT/S5700-28P-LI-4AH: 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports S5700-52P-LI*/S5700-52P-PWR-LI: 48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports S5700-28X-LI*/S5700-28X-PWR-LI-AC/ S5701-28X-LI-AC: 24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports S5700-52X-LI*/S5700-52X-PWR-LI-AC: 48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports S5700-28X-LI-24S/ S5701-28X-LI-24S-AC: 24 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH: 28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports S5700-52X-LI-48CS-AC: 48 GE CSFP ports or 24 GE SFP ports, four Combo 10/100/1000Base-T Ethernet ports, four 10GE SFP+ ports				

Item	S5700-10P-LI-AC S5700-10P-PWR-LI-AC	S5700-28P-LI S5700-28P-PWR-LI S5700-28X-LI S5700-28X-PWR-LI-AC S5700-28X-LI-24S S5701-28X-LI-AC S5701-28X-LI-24S-AC	S5700-52P-LI S5700-52P-PWR-LI S5700-52X-LI* S5700-52X-PWR-LI-AC	S5700-28P-LI-BAT S5700-28P-LI-4AH S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH	S5700-52X-LI-48CS-AC
MAC address table	16K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses Interface-based MAC learning limiting				
LAN features	4K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and interfaces 1:1 and N:1 VLAN mapping				
Reliability	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover SEP ERPS (G.8032) STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection				
IP routing	Static route				
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracert, and IPv6 Telnet ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, and protocol type MLDv1/v2 snooping				
Multicast	IGMPv1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Interface-based multicast traffic statistics				
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Interface-based traffic policing and two-rate and three-color CAR Eight queues on each interface WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on interfaces				

Item	S5700-10P-LI-AC S5700-10P-PWR-LI-AC	S5700-28P-LI S5700-28P-PWR-LI S5700-28X-LI S5700-28X-PWR-LI-AC S5700-28X-LI-24S S5701-28X-LI-AC S5701-28X-LI-24S-AC	S5700-52P-LI S5700-52P-PWR-LI S5700-52X-LI* S5700-52X-PWR-LI-AC	S5700-28P-LI-BAT S5700-28P-LI-4AH S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH	S5700-52X-LI-48CS-AC
Security	Hierarchical user management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface number, and VLAN ID Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses IEEE 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH V2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist				
Surge protection	Service interface: 6 kV				
Management and maintenance	iStack (excluding S5700-10P-LI-AC, S5700-10P-PWR-LI-AC, and battery LAN switches) MFF Virtual Cable Test (VCT) Remote configuration and maintenance using Telnet SNMPv1/v2/v3 RMON eSight and web-based NMS HTTPS System logs and multi-level alarms GVRP MUX VLAN 802.3az EEE Dying Gasp (excluding battery LAN switches) Device hibernation mode (excluding PWR serials switches, battery LAN switches,S5700-28X-LI-24S, S5701-28X-LI-24S-AC and S5700-52X-LI-48CS-AC)				
Operating environment	Long-term operating temperature: 0°C to 50°C Relative humidity: 5% to 95% (non-condensing)			Long-term operating temperature: 0°C to 45°C Relative humidity: 5% to 95% (non-condensing)	
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 to 264 V AC, 47/63 Hz DC: Rated voltage range: –48 V to –60 V, DC Maximum voltage range: –36 V to –72 V, DC Note: Models supporting PoE do not use DC power supplies.				

Item	S5700-10P-LI-AC S5700-10P-PWR-LI-AC	S5700-28P-LI S5700-28P-PWR-LI S5700-28X-LI S5700-28X-PWR-LI-AC S5700-28X-LI-24S S5701-28X-LI-AC S5701-28X-LI-24S-AC	S5700-52P-LI S5700-52P-PWR-LI S5700-52X-LI* S5700-52X-PWR-LI-AC	S5700-28P-LI-BAT S5700-28P-LI-4AH S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH	S5700-52X-LI-48CS-AC
Power socket position	S5700-10P-LI-AC/S5700-10P-PWR-LI-AC/ S5700-28P-LI*/S5700-28P-PWR-LI/S5700-28X-LI /S5700-28X-PWR-LI-AC/S5700-28X-LI-24S /S5700-52P-LI/S5700-52P-PWR-LI/S5700-52X-LI*/S5700-52X-PWR-LI-AC/S5700-28P-LI-BAT/S5700-28P-LI-4AH /S5700-28P-LI-24S-BAT / S5700-28P-LI-24S-4AH: rear power sockets S5701-28X-LI-24S-AC /S5701-28X-LI-AC/S5700-52X-LI-48CS-AC: front power sockets				
Battery	One slot for lithium battery or lead-acid battery charger module (supported by battery LAN switches) Note				
Battery type	Internal BAT-4AHA and BAT-8AHA lithium batteries and external lead-acid batteries connected to the lead-acid battery charger module in the battery slot (supported by battery LAN switches)				
Battery management	Web-based management system used to check the battery status and manage the battery (supported by battery LAN switches)				
Dimensions (width x depth x height, mm)	S5700-10P-LI-AC: 250 x 180 x 43.6 S5700-10P-PWR-LI-AC: 320 x 220 x 43.6 S5700-28P-LI/S5700-28X-LI-AC/S5700-28X-LI-DC/S5700-28X-LI-24S-AC/S5700-28X-LI-24S-DC/S5701-28X-LI-AC/S5701-28X-LI-24S-AC/S5700-52X-LI-48CS-AC: 442 x 220 x 43.6 S5700-28P-PWR-LI/S5700-52P-LI/S5700-52P-PWR-LI/S5700-28X-PWR-LI-AC/S5700-52X-LI-AC/S5700-52X-LI-DC/S5700-52X-PWR-LI-AC/S5700-28P-LI-BAT/S5700-28P-LI-4AH/ S5700-28P-LI-24S-BAT/S5700-28P-LI-24S-4AH: 442 x 310 x 43.6				
Power consumption	Non-PoE module < 11.5 W; PoE module < 142.4 W (PoE: 124 W)	S5700-28P-LI < 24 W; S5700-28P-PWR-LI < 436.5 W (PoE: 370 W); S5700-28X-LI-AC/S5700-28X-LI-DC < 42 W; S5700-28X-PWR-LI-AC < 448.8 W(PoE: 370 W); S5700-28X-LI-24S-AC/ S5700-28X-LI-24S-DC < 54 W; S5701-28X-LI-AC < 39.5 W; S5701-28X-LI-24S-AC < 60 W	S5700-52P-LI < 48.4 W; S5700-52P-PWR-LI < 464.5 W (PoE: 370 W) S5700-52X-LI-AC/S5700-52X-LI-DC < 61 W; S5700-52X-PWR-LI-AC < 479.3 W(PoE: 370 W);	S5700-28P-LI-BAT/ S5700-28P-LI-4AH < 23 W; S5700-28P-LI-24S-BAT/S5700-28P-LI-24S-4AH < 34.1 W	S5700-52X-LI-48CS-AC < 79.9 W

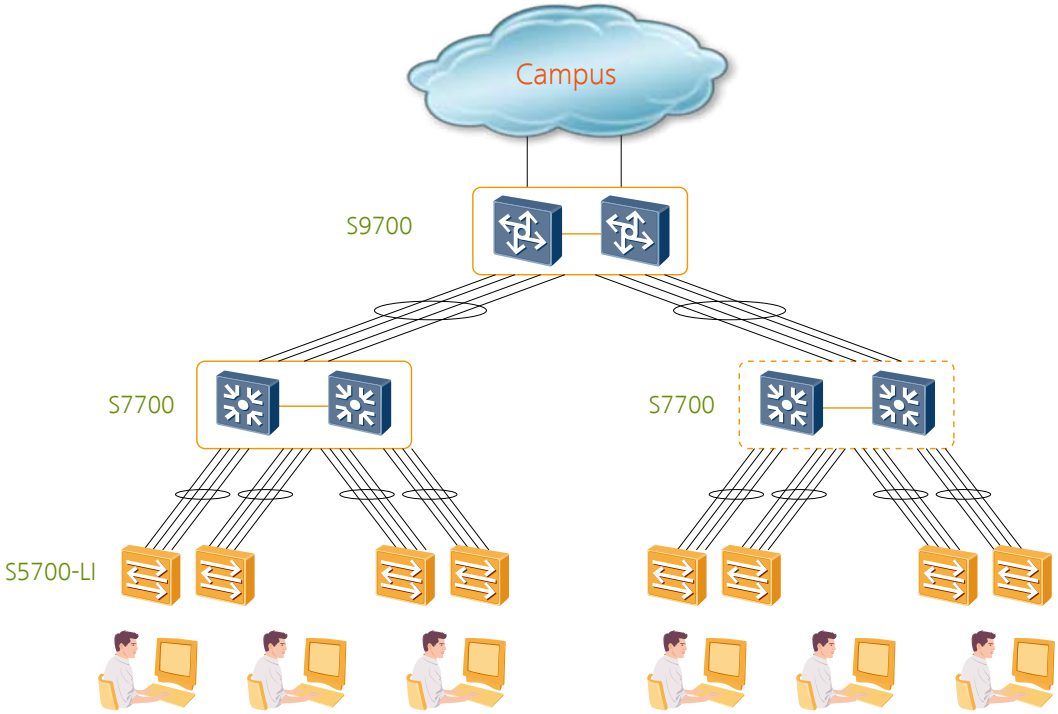
S5700-28P-LI is short for S5700-28P-LI-AC and S5700-28P-LI-DC. As product versions are irrelevant to the power supply mode, the product names mentioned in product specifications do not contain AC or DC. This rule also applies to other product models.

Note

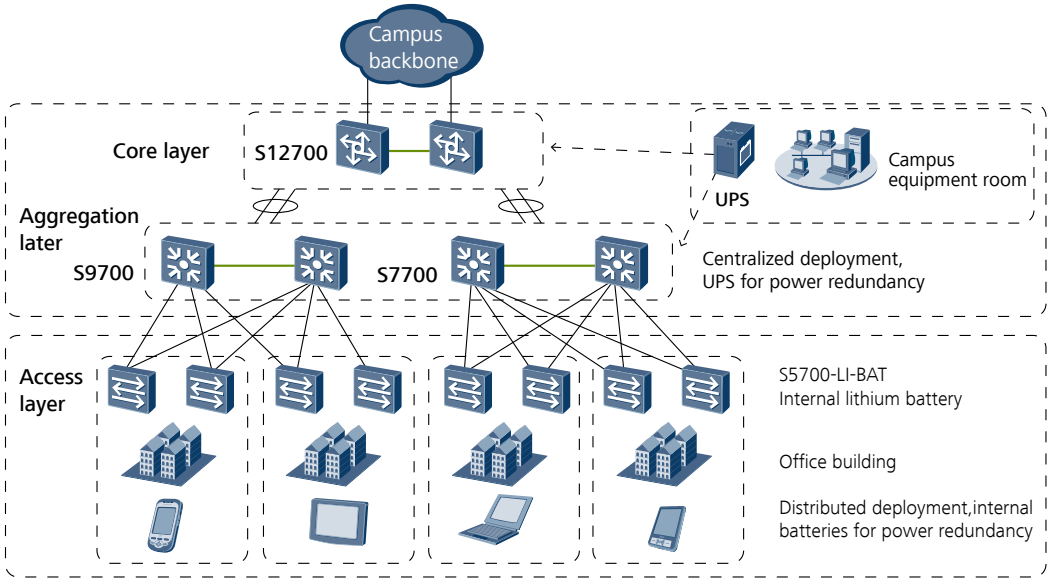
For details about specifications of battery LAN switches, see Huawei S5700-LI-BAT Battery LAN Switch Datasheet.

Applications

The S5700-L provides 1000M desktop access functions, such as PoE, voice VLAN, and NAC, over a high-performance network.



The S5700-LI-BAT uses an internal lithium battery as the backup power supply. When a main power failure occurs, the lithium battery begins powering the switch. When the main power supply recovers, the switch automatically charges the lithium battery. The use of internal batteries ensures high reliability at the access layer in the case of frequent mains power failures.



Product List

Product Description
S5700-10P-LI-AC (8 10/100/1000Base-T Ethernet ports, 2 GE SFP ports, AC power supply)
S5700-28P-LI-AC (24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, AC power supply)
S5700-28P-LI-DC (24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, DC power supply)
S5700-28X-LI-AC (24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, AC power supply)
S5700-28X-LI-DC (24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, DC power supply)
S5700-52P-LI-AC (48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, AC power supply)
S5700-52P-LI-DC (48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, DC power supply)
S5700-52X-LI-AC (48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, AC power supply)
S5700-52X-LI-DC (48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, DC power supply)
S5700-10P-PWR-LI-AC (8 10/100/1000Base-T Ethernet ports, 2 GE SFP ports, PoE+, AC power supply)
S5700-28P-PWR-LI-AC (24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, PoE+, AC power supply)
S5700-28X-PWR-LI-AC (24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, PoE+, AC power supply)
S5700-52P-PWR-LI-AC (48 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, PoE+, AC power supply)
S5700-52X-PWR-LI-AC (48 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, PoE+, AC power supply)
S5700-28X-LI-24S-AC (24 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, AC power supply)
S5700-28X-LI-24S-DC (24 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, DC power supply)
S5700-28P-LI-BAT (24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, 1 battery slot, AC power supply)
S5700-28P-LI-4AH (24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, 1 4AH lithium battery, AC power supply)
S5700-28P-LI-24S-BAT (28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 1battery slot, AC power supply)
S5700-28P-LI-24S-4AH (28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports, 1 4AH lithium battery, AC power supply)
S5700-52X-LI-48CS-AC (48 GE CSFP ports or 24 GE SFP ports, four Combo 10/100/1000Base-T Ethernet ports, four 10GE SFP+ ports, AC power supply, front power sockets, front access)
S5701-28X-LI-AC (24 10/100/1000Base-T Ethernet ports, 4 10GE SFP+ ports, AC power supply, front power sockets, front access)
S5701-28X-LI-24S-AC (24 GE SFP ports, four Combo 10/100/1000Base-T Ethernet ports, four 10GE SFP+ ports, AC power supply, front power sockets, front access)

Product Description
100/1000BASE-BIDI CSFP single-fiber bidirectional optical module-CSFP-GE/FE-single-mode optical module (Tx1490/Rx1310 nm, 10 km, LC)
RPS1800
BAT-4AHA (chargeable lithium battery)
BAT-8AHA (chargeable lithium battery)
PBB-12AHA (12AH lead-acid battery charger module)
CBTS3400 (temperature sensor, used for temperature compensation when the lead-acid battery is charged)
150 W AC power module (optional for battery LAN switches, used as the redundancy for the internal power module)
150 W DC power module (optional for battery LAN switches, used as the redundancy for the internal power module)

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S5700S-LI Series Gigabit Enterprise Switches

Product Overview

The S5700S-LI series gigabit enterprise switches (S5700S-LI for short) are next-generation energy-saving switches developed by Huawei to meet the demand for high-bandwidth access and Ethernet multi-service aggregation. Based on the cutting-edge hardware and Huawei Versatile Routing Platform (VRP) software, the S5700S-LI provides a large switching capacity and high-density GE ports. The S5700S-LI is for use in various enterprise network scenarios. For example, it can function as an access or aggregation switch on a campus network, a gigabit access switch in an Internet data center (IDC), or a desktop switch to provide 1000 Mbit/s access for terminals. The S5700S-LI is easy to install and maintain, reducing workloads for network planning, construction, and maintenance. The S5700S-LI uses advanced reliability, security, and energy conservation technologies, helping enterprise customers build a next generation IT network.

Product Appearance

S5700S-28P-LI-AC

- Twenty-four 10/100/1000 Base-T ports and four 1000Base-X ports
- AC power supply, supporting RPS
- Forwarding performance: 42Mpps
- Switching Capacity: 128Gbps

S5700S-52P-LI-AC

- Forty-eight 10/100/1000 Base-T ports and four 1000Base-X ports
- AC power supply, supporting RPS
- Forwarding performance: 78Mpps
- Switching Capacity: 256Gbps

Product Features and highlights

Innovative Energy Saving Design

- The S5700S-LI offer customers extensive selection of energy-saving with standard mode, basic mode and advanced mode that accommodates most needs. By matching port link down/up, optical-module in-place/out of place, port shut down/undo shutdown, idle period, busy period to increase the proportion of the dynamic energy-saving to reduce the power consumption. The S5700S-LI series reduces energy consumption without compromising system performance, ensuring good user experience. The S5700-LI adopts multiple cutting-edge energy-saving designs, including Energy Efficient Ethernet (EEE), port energy detection, dynamic CPU frequency adjustment, and device sleeping.

Comprehensive reliability mechanisms

- Besides STP, RSTP, and MSTP, the S5700S-LI supports enhanced Ethernet reliability technologies such as Smart Link and RRPP (Rapid Ring Protection Protocol), which implement millisecond-level protection switchover and ensure network reliability. It also provides Smart Link multi-instance and RRPP multi-instance to implement load balancing among links, optimizing bandwidth usage.

- The S5700S-LI supports the Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer on an Ethernet network. SEP can be used on open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover (within 50 ms), ensuring non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.
- Complying with IEEE 802.3ah and 802.1ag, the S5700S-LI supports point-to-point Ethernet fault management and can detect faults in the last mile of an Ethernet link to users.

Well-designed QoS policies and security mechanisms

- The S5700S-LI implements complex traffic classification based on packet information such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. ACLs can be applied to inbound or outbound direction on an interface. The S5700S-LI supports a flow-based two-rate three-color CAR. Each port supports eight priority queues and multiple queue scheduling algorithms such as WRR, DRR, PQ, WRR+PQ, and DRR+PQ. All of these ensure the quality of voice, video, and data services.
- The S5700S-LI provides multiple security measures to defend against Denial of Service (DoS) attacks, and attacks against networks or users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.
- The S5700S-LI supports DHCP snooping, which discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents man-in-the-middle attacks to campus networks that hackers initiate by using ARP packets. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.
- The S5700S-LI supports strict ARP learning, which prevents ARP spoofing attacks that will exhaust ARP entries. It also provides IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing.
- The S5700S-LI supports centralized MAC address authentication, 802.1x authentication, and NAC. It authenticates users based on statically or dynamically bound user information such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be applied to users dynamically.
- The S5700S-LI can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes packet flooding that occurs when MAC addresses of users cannot be found in the MAC address table.

Easy deployment and maintenance free

- The S5700S-LI supports automatic configuration, plug-and-play, and batch remote upgrade. These capabilities simplify device management and maintenance and reduce maintenance costs. The S5700S-LI supports SNMP v1/v2/v3 and provides flexible methods for managing devices. Users can manage the S5700S-LI using the CLI and Web NMS. The NQA function helps users with network planning and upgrades. In addition, the S5700SLI supports NTP, SSH v2, HWTACACS+, RMON, log hosts, and port-based traffic statistics.
- The S5700S-LI supports GVRP（GARP VLAN Registration Protocol）, which dynamically distributes, registers, and propagates VLAN attributes to reduce manual configuration workloads of network administrators and to ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.
- The S5700S-LI supports MUX VLAN. MUX VLAN isolates Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN but cannot communicate with each other. MUX VLAN is usually used on an enterprise intranet to isolate user interfaces from each other but allow them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups but allows the devices to communicate with the default gateway.

Fine-grained traffic management

- The S5700S-LI supports the Sampled Flow (sFlow) function, which uses a sampling mechanism to obtain statistics about traffic forwarded on a network and sends the statistics to the Collector in real time. The Collector analyzes traffic statistics to help customers manage network traffic efficiently.

Product Specifications

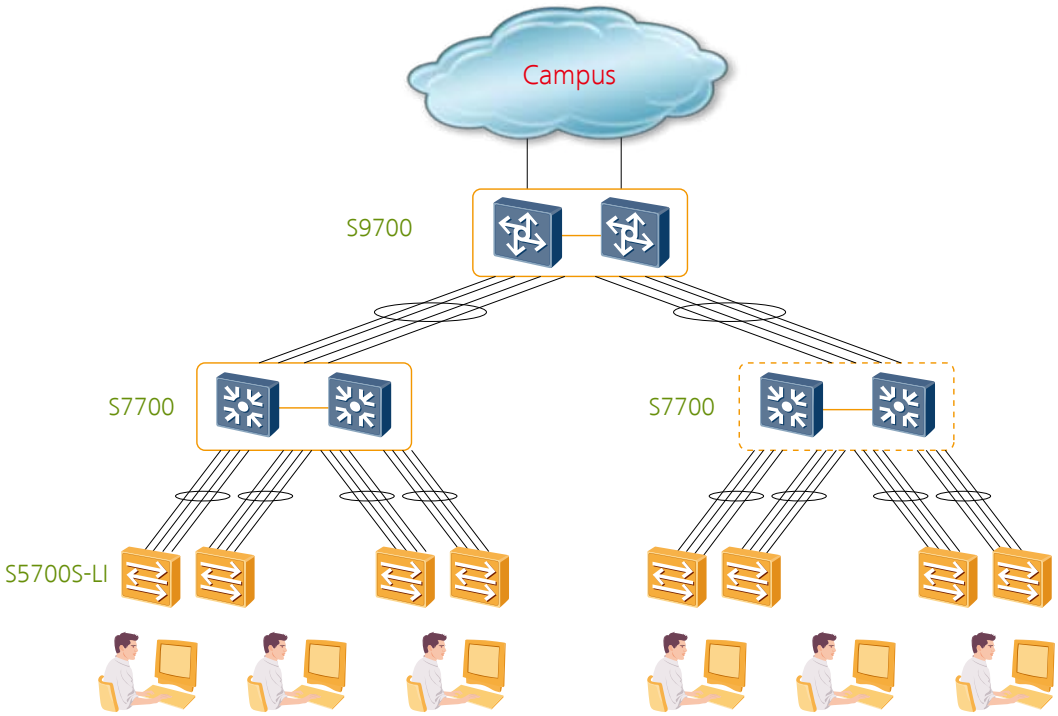
Item	S5700S-28P-LI-AC	S5700S-52P-LI-AC
1000M port	24*10/100/1000Base-T, 4*1000 Base-X	48*10/100/1000Base-T, 4*1000 Base-X
MAC address table	IEEE 802.1d compliance 8K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses	
VLAN	4K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports QinQ, Selective QinQ 1:1 and N:1 VLAN Mapping GVRP	
Reliability	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover Smart Ethernet Protection (SEP) STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection	
IP routing	Static routing	

Item	S5700S-28P-LI-AC	S5700S-52P-LI-AC
IPv6 features	IPv6 host Static IPv6 routes Path MTU (PMTU) IPv6 ping, IPv6 tracert IPv4 and IPv6 dual stack ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type	
multicast	IGMP v1/v2/v3 snooping and IGMP fast leave MLD v1/v2 snooping Multicast VLAN Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics	
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, PQ, WRR+PQ, and DRR+PQ queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports	
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist	
Surge protection	6 KV surge protection capability on service ports	
Management and maintenance	MAC Forced Forwarding (MFF) Virtual cable test Ethernet OAM (IEEE 802.3ah and 802.1ag) SNMP v1/v2/v3 RMON Web NMS NTP System logs and alarms of different levels DLDP MUX VLAN EEE 802.3az(Energy Efficient Ethernet) sFlow	
Operating environment	Operating temperature: 0°C–50°C Relative humidity: 5%–95% (non-condensing)	

Item	S5700S-28P-LI-AC	S5700S-52P-LI-AC
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz	
Dimensions (W x D x H)	442 mm x 220 mm x 43.6 mm	442 mm x 310 mm x 43.6 mm
Power consumption	< 25W	< 52W

Applications

1000 Mbit/s Access Rate for Terminals



Product List

Product Description
S5700S-28P-LI-AC(24 Ethernet 10/100/1000 ports,4 Gig SFP,AC 110/220V)
S5700S-52P-LI-AC(48 Ethernet 10/100/1000 ports,4 Gig SFP,AC 110/220V)
RPS1800

For more information, visit http:// enterprise.huawei.com or contact the Huawei local sales office.

S5700-LI-BAT Switch Brochure

Product Overview

Huawei S5700-LI-BAT series battery LAN switches (S5700-LI-BAT for short) are the industry's first switch series to support internal batteries, and can ensure uninterrupted services in an environment with frequent mains power failures.

The S5700-LI-BAT has the following advantages:

- The switch can be powered by the battery in case of a mains power failure, so the services will not be interrupted.
- Compared with switches using external power supply units, the S5700-LI-BAT occupies less space and is easier to install.
- The battery has a long power supply time and can be managed in an intelligent way.
- Battery LAN switches on the entire network can be managed centrally using a web system, facilitating network operation and maintenance. As the battery life time is predictable, you do not need to replace all batteries periodically, reducing hardware costs.
- The internal battery provides multiple alarm and voltage/current protection functions as well as overtemperature protection, which enhance reliability.

Product Models

The following table lists the S5700-LI-BAT models.

S5700-28P-LI-BAT

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- AC power supply
- One battery slot available for an internal 4AH/8AH lithium battery or external lead-acid battery
- Forwarding performance: 42 Mpps

S5700-28P-LI-4AH

- 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports
- AC power supply
- One battery slot with a pluggable 4AH lithium battery installed
- Forwarding performance: 42 Mpps

S5700-28P-LI-24S-BAT

- 28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports
- AC power supply
- One battery slot available for an internal 4AH/8AH lithium battery or external lead-acid battery
- Forwarding performance: 42 Mpps

S5700-28P-LI-24S-4AH

- 28 GE SFP ports, 4 Combo 10/100/1000Base-T Ethernet ports
- AC power supply
- One battery slot with a pluggable 4AH lithium battery installed
- Forwarding performance: 42 Mpps

Product Features

Innovative internal battery design: high integration, space-saving, easy installation

- Employing internal battery management technology, the S5700-LI-BAT provides a battery slot, in which a lithium battery can be installed as a backup power supply. This unique internal battery design implements power redundancy without any external power supply. The highly integrated lithium battery helps saving space, and can be easily installed and replaced without affecting running services.

Intelligent power management, long power supply time

- Based on intelligent power management technology and advanced energy-saving technology, a lithium battery provides a power supply time of as long as 11 hours.

Visualized, unified battery management, predictable life time, lower cost

- Batteries of all battery LAN switches on the entire network can be managed on a web system, and faulty batteries can be easily identified, facilitating battery management and maintenance. The advanced battery management algorithm guarantees an over 4 years of battery life time. The battery life time is predictable, and an alarm will be reported when the battery power supply time is shorter than the power supply time required by the live network. Then you can replace the battery before the life time ends to ensure normal operation of services. This eliminates the need for batch replacement of batteries on the entire network. Compared with external lead-acid batteries, internal lithium batteries can save more than 50% of cost. Additionally, each lithium battery has an indicator on the panel to show the battery status, helping you maintain the battery efficiently.

High reliability

- The lithium battery provides protection against charge overvoltage, charge overcurrent, discharge overcurrent, undervoltage, and short-circuit conditions. It can also report alarms in the case of charge overvoltage, charge overcurrent, discharge covercurrent, undervoltage, battery failure, and insufficient power supply time. Besides, the battery enters the overtemperature protection state when the temperature exceeds its operating temperature range, preventing battery damages caused by high temperature. These protection and alarm functions ensure a high reliability of the battery.

Product Specifications

Model / Item	S5700-28P-LI-BAT S5700-28P-LI-4AH	S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH
Fixed port	**S5700-28P-LI-BAT/S5700-28P-LI-4AH:** 24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports **S5700-28P-LI-24S-BAT/S5700-28P-LI-24S-4AH:** 28 GE SFP ports, 4 GE Combo 10/100/1000Base-T Ethernet ports	
MAC address table	Supports 16K MAC addresses, automatic MAC address learning and aging, and MAC address limiting on interfaces	
LAN	Supports 4K VLANs, Guest VLAN, and Voice VLAN	
Reliability	Supports RRPP, SmartLink, SEP, and ERPS (G.8032); supports STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
IP routing	Static routes	
IPv6	Supports ND, PMTU, and MLD v1/v2 snooping (Multicast Listener Discovery snooping)	
Multicast	Supports IGMP v1/v2/v3 Snooping and fast leave, intra-VLAN multicast forwarding and multi-VLAN multicast replication, port binding and multicast load balancing, controllable multicast, and port-based multicast traffic statistics collection.	
QoS/ACL	Supports 8 queues per port, packet redirection, and interface rate limiting.	

Item \ Model	S5700-28P-LI-BAT S5700-28P-LI-4AH	S5700-28P-LI-24S-BAT S5700-28P-LI-24S-4AH
Security	Supports level-based user management and password protection; prevents DoS, ARP, and ICMP attacks. Supports IEEE 802.1x authentication and CPU protection.	
Surge protection	Service port: 6 kV	
Management and operation	Supports automatic configuration, SNMPv1/v2/v3, eSight, and web network management system; Supports Virtual Cable Test (VCT) and 802.3az EEE.	
Environment	Long-term operating temperature: 0°C-45°C Relative humidity: 5%-95% (noncondensing)	
Input voltage	AC: Rated voltage range: 100-240V AC; 50/60Hz Maximum voltage range: 90-264V AC; 47/63Hz	
Battery slot	One slot for lithium battery or lead-acid battery charger module	
Battery type	Supports internal BAT-4AHA and BAT-8AHA lithium batteries and external lead-acid batteries (connected to the lead-acid battery charger module in the battery slot).	
Battery management	Displays and manages battery status through the web network management system	
Battery protection	Protects the batteries that are charing against overtemperature when operating temperature is lower than -5°Cor higher than 55°C; protects the batteries that are discharging agains over temperature when operating temperature is lower than -10°C or higher than 65°C; provides protection against charge overvoltage, charge overcurrent, discharge overcurrent, undervoltage, and short-circuit.	
Battery alarm	Provides alarms for charge overvoltage, charge overcurrent, discharge overcurrent, undervoltage, battery faults, and battery insufficient power supply time.	
Dimensions mm (WxDxH)	442*310*43.6	
Power consumption	S5700-28P-LI-BAT/S5700-28P-LI-4AH<23W S5700-28P-LI-24S-BAT/S5700-28P-LI-24S-4AH<34.1W	

Lithium Battery Specifications

Item \ Model	BAT-4AHA	BAT-8AHA
Power redundancy	The batteries are installed in the switches to provide power redundancy. When the external power supply system fails, the batteries power the switches to ensure uninterrupted services.	
Typical power supply time Note 1	S5700-28P-LI-BAT: 4.1 hours S5700-28P-LI-24S-BAT: 2.1 hours	S5700-28P-LI-BAT: 8.2 hours S5700-28P-LI-24S-BAT: 4.2 hours
Hot swapping	Support	
Life time Note 2	> 4 years	
Dimensions mm (W*D*H)	100*205*40	
Weight	0.8 kg	

Item \ Model	BAT-4AHA	BAT-8AHA
Maximum discharge power	50W; typical value: 40 W	80W; typical value: 45 W
Charge environment temperature	0°C to 45°C	
Discharge environment temperature	-5°C to +50°C	
Storage temperature	-20°C to +60°C Recommended: 20°C to 30°C	
Relative humidity	5%RH to 95%RH, noncondensing	
Operating altitude	0 m to 5000 m	
Max storage time	6 months (< 40°C). When the maximum storage time expires, the battery needs to be charged.	

Note 1:

1. The maximum power supply time is tested when 70% ports are Up, each port carries 10% traffic load, and EEE is enabled on electrical ports.
2. Power supply time of BAT-4AHA with minimum power consumption: S5700-28P-LI-BAT > 5.6 hours, S5700-28P-LI-24S-BAT > 4.1 hours. Power supply time of BAT-8AHA with minimum power consumption: S5700-28P-LI-BAT > 11.2 hours, S5700-28P-LI-24S-BAT > 8.3 hours.
3. The power supply time will be reduced when a battery is used for a long time.

Note 2:

The life time is tested when the ambient temperature is between 20°C and 30°C, and the battery discharge capacity exceeds 50% no more than 2 times each day.

Precautions

The following are the requirements for battery use, replacement, storage and transportation.

Use and Replacement:

- Turn off a lithium battery: When a switch has a lithium battery installed, the lithium battery can supply power to the switch if the power supply is turned off. To power off the switch, turn off the lithium battery after turning off the power supply.
- Each lithium battery and lead-acid battery has a specific service life. Before the service life of a battery expires, replace the battery to ensure normal operation of the switch.
- For a lithium battery, if the time of consuming 90% electric quantity is shorter than the power supply time alarm threshold, the battery cannot meet power supply requirements. The switch generates an alarm so that customers can replace the battery timely.
- Before replacing a battery, ensure that the switch is not powered by this battery. Otherwise, services on the switch will be interrupted by a power failure when the battery is removed.

Storage:

- The maximum storage time of a fully charged lithium battery is 6 months (< 40°C). When the maximum storage time expires, the battery must be charged.
- The storage environment must be free from acidic, alkaline, or other corrosive gases.
- The storage temperature for lithium batteries must be in the range of -20°C to +60°C, and the recommended range is 20°C to 30°C.
- Keep the batteries away from direct sunlight and more than 2 m from heat sources.
- Do not place a battery upside down and avoid collision or stress on the battery.

Transportation:

- Batteries must be securely packaged during transportation.
- The packages must be protected against rain, snow, and crashes during transportation.

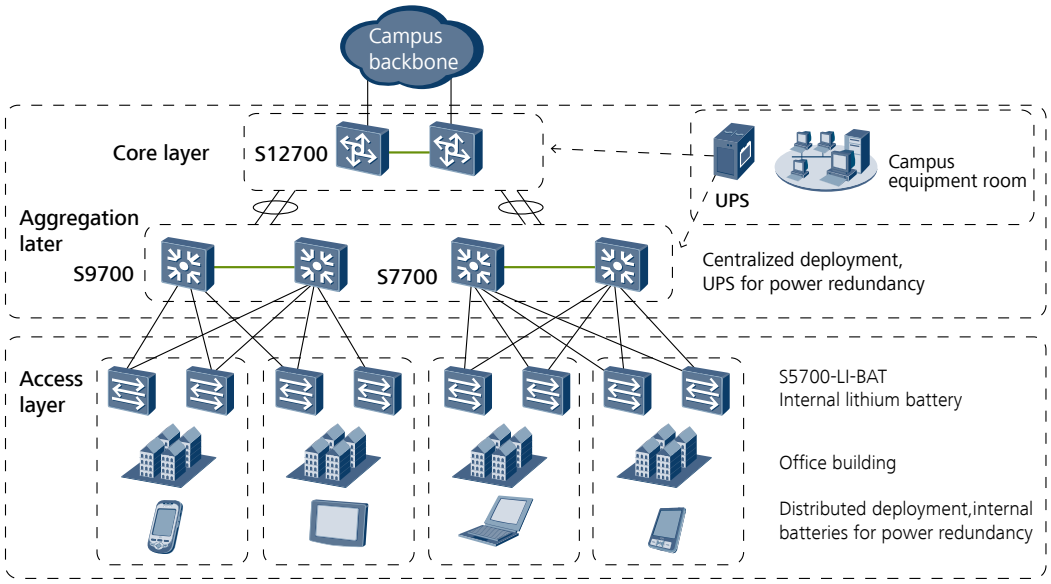
Note: When the battery life time ends, do not toss the battery together with household garbage. Dispose the old batteries according to the local laws and regulations.

Application Scenario

If the mains power grid in an area is unstable, a network will experience frequent power failures. Generally, the core and aggregation layers of a campus network are deployed in an equipment room. Uninterruptible power supplies (UPSs) can be deployed in the equipment room to provide power redundancy for the switches and servers. User terminals like laptops, mobile phones, and tablets have batteries and can work in a power failure situation.

However, power redundancy for access switches is a challenge. Access switches are usually distributed on different buildings and floors; therefore, it is costly and space-consuming to deploy high-quality USPs for the access switches. Low-end UPSs or external lead-acid batteries can provide power redundancy at lower costs, but they have low reliability and security, short life time, and also occupy much space.

Huawei battery LAN switches solve this problem. Battery LAN switches use an internal lithium battery as the backup power supply. When a mains power failure occurs, the lithium battery automatically starts to power the switch. When the mains power supply recovers, the mains power supply automatically charges the lithium battery on the switch. The use of internal batteries ensures stable operation of the access layer upon power failures.



Ordering Information

Ordering information of S5700-LI-BAT:

Model	Description	Remarks
S5700-28P-LI-BAT	24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, 1 battery slot, AC power supply	
S5700-28P-LI-4AH	24 10/100/1000Base-T Ethernet ports, 4 GE SFP ports, 1 internal 4AH lithium battery, AC power supply	S5700-28P-LI-BAT has an internal 4AH lithium battery bundle.
S5700-28P-LI-24S-BAT	28 GE SFP ports, 4 GE Combo 10/100/1000Base-T Ethernet ports, 1 battery slot, AC power supply	
S5700-28P-LI-24S-4AH	28 GE SFP ports, 4 GE Combo 10/100/1000Base-T Ethernet ports, 1 internal 4AH lithium battery, AC power supply	S5700-28P-LI-24S-BAT has an internal 4AH lithium battery bundle.
BAT-4AHA	4AH (chargeable lithium battery)	
BAT-8AHA	8AH (chargeable lithium battery)	
PBB-12AHA	12AH internal charging module for lead-acid battery charger module	Installed in the battery slot, and used together with an external lead-acid battery (separately purchased).
CBTS3400	Battery temperature sensor	Used for temperature compensation when the lead-acid battery is charged.
ES0W2PSA0150	150W AC power module	If the battery LAN switch does not use the battery as the backup for the mains power supply, this AC power module can be installed in the battery slot for power redundancy.
ES0W2PSD0150	150W DC power module	If the battery LAN switch does not use the battery as the backup for the mains power supply, this DC power module can be installed in the battery slot for power redundancy.

For more information, visit http://enterprise.huawei.com or contact the local Huawei sales office.

S3700 Series Enterprise Switches

Product Overview

The S3700 series enterprise switches (S3700s) are next-generation energy-saving Layer 3 switches. The S3700 utilizes cutting-edge hardware and Huawei Versatile Routing Platform (VRP) software to provide high-performance access and aggregation to an enterprise campus network. The S3700 is easy to install and maintain. With its flexible VLAN deployment, PoE capabilities, comprehensive routing functions, and capability to migrate to an IPv6 network, the S3700 helps enterprise customers build next-generation IT networks. In addition, the S3700 uses advanced reliability technologies such as stacking, VRRP, and RRPP, enhancing network reliability and diversity.

The S3700 is a box device that is 1 U high. It is available in a standard version (SI), an enhanced version (EI). The SI version provides Layer 2 functions and basic Layer 3 functions. The EI version supports complex routing protocols and provides more functions than the SI version offers.

Produce Appearance

S3700-28TP-SI-AC

S3700-28TP-EI-AC

S3700-28TP-SI-DC

S3700-28TP-EI-DC

- Twenty-four 10/100Base-TX ports, two 1000Base-X SFP ports, and two gigabit combo ports (10/100/1000Base-T or 100/1000Base-X)
- Two models: AC model and DC model
- Forwarding performance: 9.6 Mpps

S3700-28TP-EI-MC-AC

- Twenty-four 10/100Base-TX ports, two 1000Base-X SFP ports, two monitor ports, and two gigabit combo ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- Forwarding performance: 9.6 Mpps

S3700-28TP-PWR-SI

S3700-28TP-PWR-EI

- Twenty-four 10/100Base-TX ports, two 1000Base-X SFP ports, and two gigabit combo ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- PoE+
- Forwarding performance: 9.6 Mpps

S3700-28TP-EI-24S-AC

- Twenty-four 100Base-FX SFP ports, two 1000Base-X SFP ports, and two gigabit combo ports (10/100/1000Base-T or 100/1000Base-X)
- AC power supply
- Forwarding performance: 9.6 Mpps

S3700-52P-SI-AC

S3700-52P-EI-AC

- Forty-eight 10/100Base-TX ports, two 100/1000Base-X SFP ports, and two 1000Base-X SFP ports
- AC and DC power supply for the EI version; AC power supply for the SI version
- Forwarding performance: 13.2 Mpps

S3700-52P-PWR-SI

S3700-52P-PWR-EI

- Forty-eight 10/100Base-TX ports, two 100/1000Base-X SFP ports, and two 1000Base-X SFP ports
- AC power supply
- PoE+
- Forwarding performance: 13.2 Mpps

S3700-52P-EI-48S-AC

- Forty-eight 100Base-FX SFP ports, two 100/1000Base-X SFP ports, and two 1000Base-X SFP ports
- Two models: AC model and DC model
- Forwarding performance: 13.2 Mpps

S3700-52P-EI-24S-AC

- Twenty-four 10/100Base-TX ports, twenty-four 100Base-FX SFP ports, two 100/1000Base-X SFP ports, and two 1000Base-X SFP ports
- Two models: AC model and DC model
- Forwarding performance: 13.2 Mpps

Product Features

Reliable service support

- The S3700 provides the Multi-VPN-Instance CE (MCE) function to isolate users in different VLANs, ensuring data security and reducing costs.
- The S3700 supports multicast functions such as IGMP snooping, IGMP filter, fast leave, and IGMP proxy. It supports line-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV and other multicast services.

PoE function

- The S3700 PWR offers an improved Power over Ethernet (PoE) function. Users can determine when or whether a PoE port provides power.
- The S3700 PWR can use PoE power supplies with different power levels to provide -48V DC power for powered devices (PDs), such as IP Phones, WLAN APs, and Bluetooth APs. As a power sourcing equipment (PSE), the S3700 PWR complies with IEEE 802.3af and 802.3at (PoE+) and can work with PDs that are incompatible with 802.3af or 802.3at. Each port provides a maximum of 30W of power, complying with IEEE 802.3at. The PoE+ function increases the maximum power available to each port and implements intelligent power management for high power consumption applications. This facilitates the ease of PD use. PoE ports continue to work while in power-saving mode.

Comprehensive QoS policies and security mechanisms

- The S3700 classifies complex traffic based on packet information such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. The S3700 supports a flow-based two-rate three-color CAR. Each port supports eight priority queues and multiple queue scheduling algorithms, such as WRR, DRR, SP, WRR+SP, and DRR+SP. Together, these features ensure high-quality voice, video, and data services.
- The S3700 provides multiple security measures to defend against Denial of Service (DoS) attacks, as well as attacks against networks or individual users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks on networks refer to STP BPDU/root attacks. Attacks on users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, and DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are another type of attack aimed at users.
- The S3700 supports DHCP snooping, which generates user binding entries based on users' access interfaces, MAC addresses, IP addresses, IP address leases, and VLAN IDs. DHCP snooping discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents hackers from using ARP packets to initiate man-in-the-middle attacks on campus networks. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.

- The S3700 supports strict ARP learning, which prevents ARP spoofing attacks that exhaust ARP entries. The S3700 also provides IP source guard to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing.
- The S3700 supports centralized MAC address authentication and 802.1x authentication. It authenticates users based on statically or dynamically bound user information, such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be dynamically applied to users.
- The S3700 can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes the packet flooding that occurs when users' MAC addresses cannot be found in the MAC address table.

Various routing and IPv6 features

- The S3700 supports various routing protocols, including static routing, RIPv1, RIPv2, OSPF, IS-IS and BGP.
- S3700 hardware supports IPv4/IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. The S3700 can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.
- The S3700 supports various IPv6 routing protocols including RIPng and OSPFv3. It uses the IPv6 Neighbor Discovery Protocol (NDP) to manage the packets exchanged between neighbors. The S3700 also provides a path MTU (PMTU) discovery mechanism to select an appropriate MTU on the path from the source to the destination, optimizing network resource utilization and obtaining maximum throughput.

High scalability and reliability

- The S3700 supports intelligent stacking (iStack). Multiple S3700s can be connected with stack cables to set up a stack, which functions as a virtual switch. The backup switch takes over services when the master switch fails, reducing service interruption time. Stacks support intelligent upgrades so that users do not need to change the software version of a switch when adding it to a stack. The iStack function allows users to connect multiple switches with stack cables to expand the system capacity. These switches can be managed using a single IP address, which greatly reduces the costs of system expansion, operation, and maintenance. Compared with traditional networking technologies, iStack has distinct advantages regarding scalability, reliability, and system architecture.
- Besides STP, RSTP, and MSTP, the S3700 supports enhanced Ethernet reliability technologies, such as Smart Link and RRPP, which implement millisecond-level protection switchovers and ensure network reliability. The S3700 also provides RRPP multi-instance for load balancing among links, optimizing bandwidth usage.
- The S3700 supports BFD, which provides millisecond-level fault detection for protocols, such as OSPF, IS-IS, VRRP, and PIM to improve network reliability. Complying with IEEE 802.3ah and 802.1ag, the S3700 supports point-to-point Ethernet fault management and can detect faults within the last mile of an Ethernet link to users.
- The reliable design of the S3700 is highly expansible and compatible. The S3700 can work with devices on existing networks, which protects customer investments and enables customers to deploy new services.

Maintenance-free design and manageability

- The S3700 offers a maintenance-free design which supports batch remote upgrades. The S3700 provides multiple maintenance and management modes to help users monitor various data. In addition, it supports SNMP, NTP, SSH v2, HWTACACS, RMON, port-based traffic statistics, and NQA.
- The S3700 supports GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to reduce network administrator workloads and ensure the correct configuration of VLANs. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.
- The S3700 supports MUX VLAN. MUX VLAN isolates the Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN, but cannot communicate with each other. MUX VLAN is typically used on an enterprise intranet to isolate user interfaces from each other while still allowing them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups, but allows these devices to communicate with the default gateway.

Unique fan-free and energy-saving design

- S3700s that are equipped with 24 electrical ports offer a fan-free design, which dramatically reduces power consumption and eliminates noise. This design reduces mechanical faults and protects the device against damage caused by condensed water and dust.
- The S3700 incorporates an energy-saving integrated circuit design to ensure even heat dissipation. Idle ports can enter a sleep mode to further reduce power consumption.
- Radiation produced by the S3700 is within the standard range for electric appliances and causes no harm to the human body.

Product Specifications

Item	S3700-SI*	S3700-EI*
Ports description	S3700-28TP-EI**/S3700-28TP-SI/S3700-28TP-PWR-SI/S3700-28TP-PWR-EI/ S3700-28TP-EI-MC: 24*10/100Base-TX S3700-52P-EI/S3700-52P-SI/S3700-52P-PWR-EI/S3700-52P-PWR-SI: 48*10/100Base-T S3700-28TP-EI-24S: 24*100Base-FX S3700-52P-EI-24S: 24*10/100Base-T+24*100Base-FX S3700-52P-EI-48S: 48*100Base-FX	
	SI/EI 28 ports: 2*1000Base-X, 2*GE Combo SI/EI 52 ports: 2*100/1000Base-X, 2*1000Base-X	
MAC address table	IEEE 802.1d compliance 16K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses	

Item	S3700-SI*	S3700-EI*
VLAN	4K VLANs Guest VLANs, voice VLAN, and super VLAN VLAN assignment based on MAC addresses, protocols, and IP subnets QinQ Selective QinQ 1:1 VLAN mapping N:1 VLAN mapping	
Reliability	RRPP (ring topology, intersecting rings, and multi-instance), implementing protection switchover within 50 ms Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection Smart Ethernet Protection (SEP)	
	N/A	BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM
IP routing	Static routing, RIPv1, RIPv2, and ECMP	
	N/A	OSPF, IS-IS, and BGP
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracert, and IPv6 Telnet Manually configured tunnel 6to4 tunnel ISATAP tunnel ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping	
Multicast	1 K multicast groups IGMP v1/v2/v3 snooping and IGMP fast leave Multicast VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics	
	N/A	IGMP v1/v2/v3, PIM-SM and PIM-SSM
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering on Layers 2 through 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports	

Item	S3700-SI*	S3700-EI*
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC SSH v2.0 CPU defense Blacklist and whitelist	
Surge protection	6KV surge protection capability on service ports (1KV on service ports on PoE devices)	
Management and maintenance	iStack MAC Forced Forwarding (MFF) Remote configuration and maintenance using Telnet Auto-Config. Virtual cable test Ethernet OAM (IEEE 802.3ah and 802.1ag) Dying gasp power-off alarm (S3700-28TP-EI-MC-AC) SNMPv1/v2/v3 and RMON MUX VLAN and GVRP Web NMS	
Operating environment	Operating temperature: 0°C–50°C (long term); Relative humidity: 10%–90% (non-condensing)	
Power supply	AC: Rated voltage range: 100 V to 240 V AC; 50/60 Hz Maximum voltage range: 90 V to 264 V AC; 50/60 Hz DC: Rated voltage range: –48 V to –60 V DC Maximum voltage range: –36 V to –72 V DC Note: PoE-support switches do not use DC power supplies.	
Dimensions (W x D x H)	S3700-28TP-EI/SI, S3700-28TP-EI-MC, S3700-28TP-EI-24S, S3700-52P-EI/SI: 442 mm x 220 mm x 43.6 mm S3700-28TP-PWR-EI/SI, S3700-52P-EI-48S, S3700-52P-EI-24S, S3700-52P-PWR-EI/SI: 442 mm x 420 mm x 43.6 mm	
Weight	S3700-28TP-SI<2.5Kg S3700-52P-SI<3Kg S3700-28TP-PWR-SI<4Kg (without power supply) S3700-52P-PWR-SI<4.3Kg (without power supply)	S3700-28TP-EI<2.5Kg S3700-28TP-EI-MC<2.5Kg S3700-28TP-EI-24S<2.6Kg S3700-52P-EI<3Kg S3700-52P-EI-24S<4.8Kg S3700-52P-EI-48S<4.8Kg S3700-28TP-PWR-EI<4Kg (without power supply) S3700-52P-PWR-EI< 4.3Kg (without power supply)

Item	S3700-SI*	S3700-EI*
Power consumption	S3700-28TP-SI<20W S3700-52P-SI<38W S3700-28TP-PWR-SI<818W (PoE: 740W) S3700-52P-PWR-SI<880W (PoE: 740W)	S3700-28TP-EI<20W S3700-28TP-EI-MC<20W S3700-28TP-EI-24S<52W S3700-52P-EI<38W S3700-52P-EI-24S<65W S3700-52P-EI-48S<90W S3700-28TP-PWR-EI<818W (PoE: 740W) S3700-52P-PWR-EI<880W (PoE: 740W)

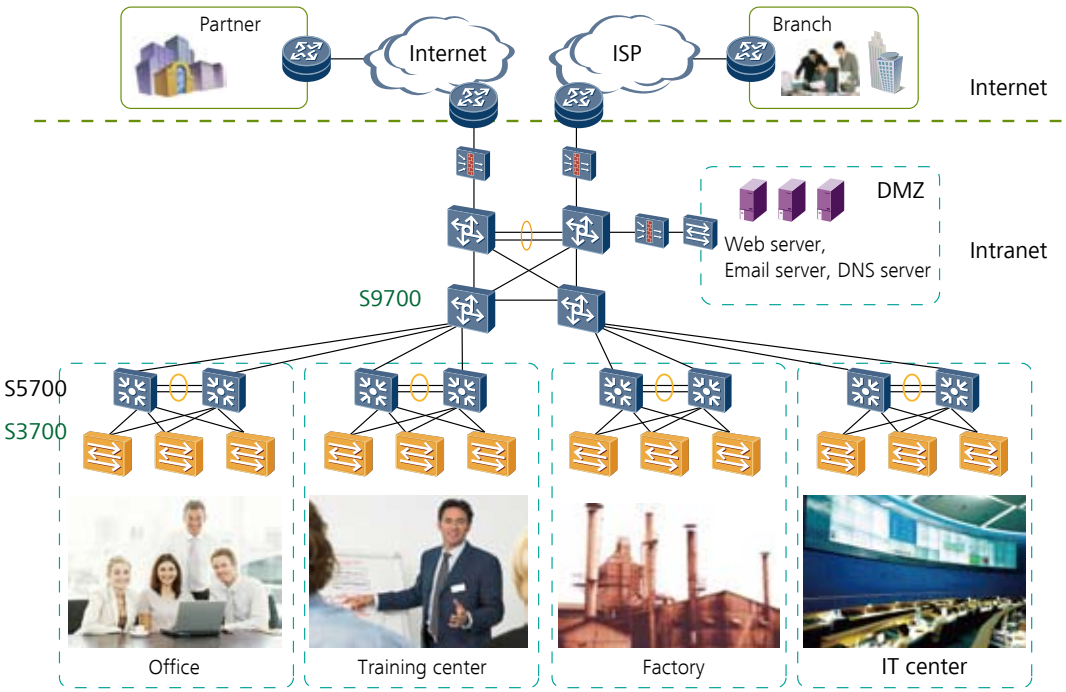
*:The S3700 is provided in the standard version (SI) , enhanced version (EI). The S3700 switches of the EI series are collectively called S3700-EI, the S3700 switches of the SI series are collectively called S3700-SI.

**:S3700-28TP-EI is short for S3700-28TP-EI-AC and S3700-28TP-EI-DC. As product versions are irrelevant to the power supply mode, the product names mentioned in product specifications do not contain AC or DC. This rule also applies to other product models.

Applications

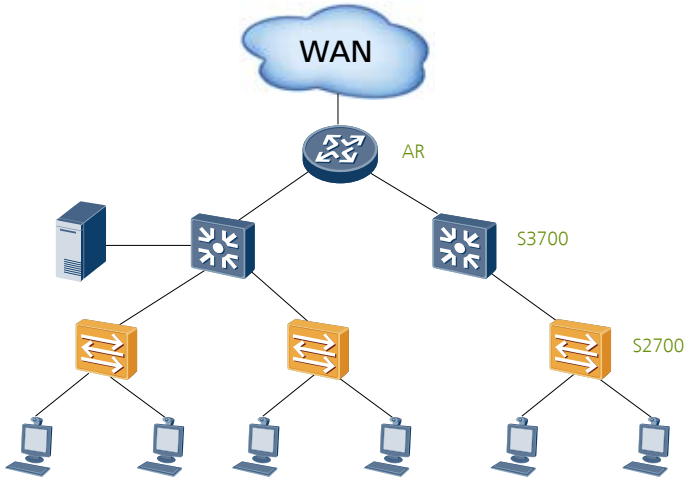
Large-scale Enterprise Networks

The S3700 can function as an access device on large-scale enterprise networks.



Medium- and Small-scale Enterprise Networks

Medium- and small-scale enterprises can use S3700s as core switches. The S3700s provide routing functions to enable users in different departments to communicate with each other. Multiple S3700s can be stacked to expand system capacity and increase the number of ports.



Product List

Product Description
S3700-28TP-SI-DC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,DC -48V)
S3700-28TP-EI-DC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,DC -48V)
S3700-52P-PWR-EI Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,PoE+,Dual Slots of power,Without Power Module)
S3700-28TP-PWR-EI Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,PoE+,Dual Slots of power,Without Power Module)
S3700-28TP-EI-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S3700-28TP-EI-24S-AC Mainframe(24 FE SFP,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S3700-28TP-EI-MC-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,2 MC ports,AC 110/220V)
S3700-52P-SI-AC Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,AC 110/220V)
S3700-52P-EI-48S-AC Mainframe(48 FE SFP,4 Gig SFP,AC 110/220V)
S3700-28TP-SI-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S3700-52P-EI-24S-AC Mainframe(24 Ethernet 10/100 ports,24 FE SFP,4 Gig SFP,AC 110/220V)
S3700-52P-EI-AC Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,AC 110/220V)
S3700-52P-PWR-SI Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,PoE+,Dual Slots of Power,Including Single 500W AC Power)
S3700-28TP-PWR-SI Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,PoE+,Dual Slots of Power,Including Single 500W AC Power)
500W AC Power Module

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S2700 Series Enterprise Switches

Product Overview

The S2700 series enterprise switches (S2700 for short), including S2710, S2750, and S2751 series, are next-generation energy-saving intelligent 100M Ethernet switches developed by Huawei. The S2700 utilizes cutting-edge switching technologies and Huawei Versatile Routing Platform (VRP) software to meet the demand for multi-service provisioning and access on Ethernet networks. It is easy to install and maintain. With its flexible network deployment, comprehensive security and quality of service (QoS) policies, and energy-saving technologies, the S2700 helps enterprise customers build next-generation IT networks.

The S2700 is a box device that is 1 U (44.45 mm or 1.75 in.) high. It is available in a standard version (SI) or an enhanced version (EI).

Product Appearance

S2700-9TP-SI-AC

S2700-9TP-EI-AC

S2700-9TP-EI-DC

- 8 Ethernet 10/100 ports, 1 dual-purpose 10/100/1000 or SFP
- AC and DC power supply for the EI version; AC power supply for the SI version
- Forwarding performance: 2.7 Mpps

S2700-9TP-PWR-EI

- 8 Ethernet 10/100 ports, 1 dual-purpose 10/100/1000 or SFP
- AC power supply
- PoE+
- Forwarding performance: 2.7 Mpps

S2700-18TP-SI-AC

S2700-18TP-EI-AC

- 16 Ethernet 10/100 ports, 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- Forwarding performance: 5.4 Mpps

S2700-26TP-SI-AC

S2700-26TP-EI-AC

S2700-26TP-EI-DC

- 24 Ethernet 10/100 ports, 2 dual-purpose 10/100/1000 or SFP
- AC and DC power supply for the EI version; AC power supply for the SI version
- Forwarding performance: 6.6 Mpps

S2700-26TP-PWR-EI

- 24 Ethernet 10/100 ports, 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- PoE+
- Forwarding performance: 6.6 Mpps

S2710-52P-SI-AC

- 48 Ethernet 10/100 ports, 4 Gig SFP
- AC power supply
- Forwarding performance: 13.2 Mpps

S2700-52P-EI-AC

- 48 Ethernet 10/100 ports, 4 Gig SFP
- AC and DC power supply
- Forwarding performance: 13.2 Mpps

S2710-52P-PWR-SI

- 48 Ethernet 10/100 ports, 4 Gig SFP
- AC power supply
- PoE+
- Forwarding performance: 13.2 Mpps

S2700-52P-PWR-EI

- 48 Ethernet 10/100 ports, 4 Gig SFP
- AC power supply
- PoE+
- Forwarding performance: 13.2 Mpps

S2750-20TP-PWR-EI-AC

- 16 Ethernet 10/100 ports, 2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- PoE+
- Forwarding performance: 8.4 Mpps

S2750-28TP-EI-AC

- 24 Ethernet 10/100 ports, 2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- Forwarding performance: 9.6 Mpps

S2750-28TP-PWR-EI-AC

- 24 Ethernet 10/100 ports, 2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- PoE+
- Forwarding performance: 9.6 Mpps

S2751-28TP-PWR-EI-AC

- 24 Ethernet 10/100 ports, 2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP
- AC power supply
- PoE+
- Forwarding performance: 9.6 Mpps

Product Features and Highlights

Easy Operation

- The S2700 supports Huawei Easy Operation function. Thanks to this function, the S2700 implements easy installation, configuration, monitoring, and troubleshooting, greatly deuces initial installation and configuration costs, improves upgrade efficiency and lowers engineering costs. It provides a Web network management system (NMS) system with a user-friendly graphical user interface (GUI) to implement alarm management and visual configuration, facilitating operation and maintenance. In addition, it supports faulty device replacement without configuration.
- The S2700 offers a new application-specific integrated circuit (ASIC) switching technique and a fan-free design. This design reduces mechanical faults and protects the device against damages caused by condensed water and dust.

Flexible service control

- The S2700-EI supports various ACLs. ACL rules can be applied to VLANs to flexibly control ports and schedule VLAN resources.
- The S2700 supports port-based VLAN assignment, MAC address-based VLAN assignment, protocol-based VLAN assignment, and network segment-based VLAN assignment. These secure and flexible VLAN assignment modes are used in networks where users move frequently.
- The S2700 supports GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to ensure correct VLAN configuration and reduce network administrator workloads. In addition, the S2700 supports SSH v2, HWTACACS, RMON, and port-based traffic statistics. The network quality analyzing (NQA) function assists users with network planning and upgrades.

Excellent security features

- The S2700 supports DHCP snooping, which generates user binding entries based on users' access interfaces, MAC addresses, IP addresses, IP address leases, VLAN IDs. The DHCP snooping function protects enterprises from common attacks such as bogus IP packet attacks, man-in-the-middle attacks, and bogus DHCP server attacks.
- The S2700 can limit the number of MAC addresses that can be learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes packet flooding, which occurs when users' MAC addresses cannot be found in the MAC address table. The S2700 can also limit the number of ARP entries to prevent ARP spoofing attacks. In addition, it provides an IP source check function to prevent malicious users from using spoofed IP addresses to initiate DoS attacks.
- The S2700 supports centralized MAC address authentication and 802.1x authentication. It authenticates users based on statically or dynamically bound user information such as IP address, MAC address, VLAN ID, access interface. VLANs, QoS policies, and ACLs can be dynamically applied to users.

PoE function

- The S2700 PWR series support improved Power over Ethernet (PoE) solutions and you can determine whether a PoE port provides power and the time a PoE port provides power. The S2700 PWR can use PoE power supplies with different power levels to provide the PoE function. Powered devices (PDs) such as IP Phones, WLAN APs, and Bluetooth APs can be connected to the S2700 PWR through network cables. The S2700 PWR provides -48V DC power for the PDs.
- In its role as power sourcing equipment (PSE), the S2700 PWR complies with IEEE 802.3af and 802.3at (PoE+), and can work with PDs that are incompatible with 802.3af or 802.3at (PoE+). Each port provides a maximum of 30 W of power, complying with IEEE 802.3at. The PoE+ function increases the maximum power available on each port and implements intelligent power management for high-power consumption applications. This process facilitates the ease of PD use. PoE ports are still able to work while in power-saving mode.

High scalability

- The S2700 uses Intelligent Stack (iStack) to virtualize multiple switches into a single logical device to ease user management and configuration and expand the system switching capacity. iStack improves switching capacity, reliability, and scalability. Additionally, after the stack is established, all the member switches in a stack use the same IP address. You can use a single IP address to manage and maintain the switches uniformly. This greatly reduces system operation and maintenance (O&M) costs.
- Besides traditional STP, RSTP, and MSTP, the S2700 supports enhanced Ethernet technologies such as Smart Link and RRPP, implements millisecond-level protection switchover for links, and ensures the network quality.
- The S2700 supports Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer of an Ethernet network. SEP provides millisecond-level service switchovers and ensures nonstop forwarding of services. In addition, SEP features simplicity, high reliability, high switchover performance, convenient maintenance, and flexible topology and enables users to manage and plan networks conveniently.
- The S2700 supports G.8032 Ethernet Ring Protection Switching (ERPS). The ERPS is based on traditional Ethernet MAC and bridging functions. It uses the mature Ethernet OAM and Ring Automatic Protection Switching (Ring APS or R-APS) technologies to implement millisecond-level protection switching on Ethernet. ERPS supports various services and flexible networking and lowers operating expense (OPEX) and capital expenditure (CAPEX) of users.

Comprehensive QoS policies

- The S2700 supports complex traffic classification based on packets' TCP/UDP port numbers, VLAN IDs, source MAC/IP addresses, destination MAC/IP addresses, IP protocols, or priorities. By limiting the traffic rate based on traffic classification results, the S2700 implements line-speed forwarding on each port to ensure high-quality voice, video, and data services. Each port supports a maximum of eight queues and multiple queue scheduling algorithms, such as WRR, SP, and WRR+SP.

Powerful surge protection capability

- The S2700 uses the Huawei patented surge protection technique that supports 6 KV surge protection capability on service ports. This effectively protects switches against over lightning induced overvoltage. The Huawei patented surge protection technique greatly reduces the possibility of equipment being damaged by lightning, even in extreme situations or in scenarios where grounding is not feasible.

Quiet operation, energy conservation, and low radiation

- The S2700 uses an energy-saving integrated circuit design to ensure even heat dissipation. Idle ports can enter a sleep mode to further reduce power consumption. The S2700 generates no sound because it does not contain any fans. Radiation produced by the S2700 is within the standard range for electric appliances and causes no harm to the human body.

Product Specifications

Item	S2700-SI/S2710-SI*	S2700-EI	S2750-EI/S2751-EI
Downlink ports	S2700-9TP-SI**/S2700-9TP-EI/S2700-9TP-PWR-EI: 8 10/100Base-TX Ethernet ports S2700-18TP-SI/S2700-18TP-EI/S2750-20TP-PWR-EI-AC: 16 10/100Base-TX Ethernet ports S2700-26TP-SI/S2700-26TP-EI/S2700-26TP-PWR-EI/S2750-28TP-EI-AC/S2750-28TP-PWR-EI-AC/S2751-28TP-PWR-EI-AC: 24 10/100Base-TX Ethernet ports S2710-52P-SI/S2700-52P-EI: 48 10/100Base-TX Ethernet ports		
Uplink ports	S2700-9TP-SI/S2700-9TP-EI/S2700-9TP-PWR-EI/: 1 dual-purpose 10/100/1000 or SFP S2700-18TP-EI /S2700-18TP-SI /S2700-26TP-EI /S2700-26TP-EI /S2700-26TP-PWR-EI/ S2700-26TP-SI: 2 dual-purpose 10/100/1000 or SFP S2710-52P-SI/S2700-52P-EI/: 4 gigabit SFP S2750-20TP-PWR-EI /S2750-28TP-EI-AC/S2750-28TP-PWR-EI/S2751-28TP-PWR-EI: 2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP		
MAC address	8K MAC address entries Manual deletion of dynamic MAC address entries Aging time of MAC address configurable Blackhole MAC address entries	8K MAC address entries Manual deletion of dynamic MAC address entries Aging time of MAC address configurable Blackhole MAC address entries MAC address learning control which based on ports	16K MAC address entries Manual deletion of dynamic MAC address entries Aging time of MAC address configurable MAC address learning control which based on ports Blackhole MAC address entries

Item	S2700-SI/S2710-SI*	S2700-EI	S2750-EI/S2751-EI
VLAN feature	4K VLANs, complying with IEEE 802.1Q Port-based VLAN assignment		
	N/A	MAC address-based assignment Port-based QinQ	
QoS	Outbound-Port-based rate limiting and flow-based rate limiting 4 or 8 queues of different priorities on each port Mapping between 802.1p priorities and queues SP, WRR, and SP+WRR algorithms	Port-based rate limiting and flow-based rate limiting 4 or 8 queues of different priorities on each port Mapping between 802.1p priorities and queues SP, WRR, and SP+WRR algorithms	Port-based rate limiting and flow-based rate limiting 8 queues of different priorities on each port Mapping between 802.1p priorities and queues SP, WRR, and SP+WRR algorithms
	N/A		packet-based priority remark and packet redirection
IPv6 feature	IPv6 protocol Static IPv6 routes	IPv6 protocol Static IPv6 routes Supports MLD v1/v2 snooping.	
Multicast	IGMP v1/v2/v3 snooping Port-based rate limiting for multicast packets	MVLAN Controllable multicast IGMP v1/v2/v3 snooping Port-based rate limiting for multicast packets	
Reliability	S2700-SI:STP (IEEE 802.1d), RSTP (IEEE 802.1w) S2710-SI: STP (IEEE 802.1d), RSTP (IEEE 802.1w), MSTP (IEEE 802.1s)	STP (IEEE 802.1d), RSTP (IEEE 802.1w), MSTP (IEEE 802.1s), and RRPP topology and RRPP multi-instance	STP (IEEE 802.1d), RSTP (IEEE 802.1w), MSTP (IEEE 802.1s), and RRPP topology and RRPP multi-instance SEP and ERPS (G.8032) Smart Link tree topology and Smart Link multi-instance, implementing millisecond-level protective switchover
Traffic sampling	N/A		sFlow

Item	S2700-SI/S2710-SI*	S2700-EI	S2750-EI/S2751-EI
Security features	S2700-SI:Storm suppression S2710-SI: Storm suppression, IP Source Guard	802.1x authentication and limit on the number of users on an interface Storm suppression IP Source Guard	
	S2700-SI:Multiple authentication methods including AAA, RADIUS, and TACACS+; Port isolation; Suppression of multicast, broadcast, and unknown unicast packets; CPU defense S2710-SI：Multiple authentication methods including AAA, RADIUS, and TACACS+; Port isolation; Suppression of multicast, broadcast, and unknown unicast packets; CPU defense; DHCP snooping	Multiple authentication methods including AAA authentication, RADIUS authentication, and TACACS+ authentication 802.1x authentication, MAC address authentication, MAC bypass authentication, and PPPoE authentication DHCP snooping Port isolation and sticky MAC Packet filtering based on MAC addresses Suppression of multicast, broadcast, and unknown unicast packets Limit on the number of learned MAC addresses CPU defense	
Surge protection	Surge protection capability of service ports: 6 kV (The surge protection capability of service ports on PoE switches is 1 kV.)		Surge protection capability of service ports: 6 kV
Management	Stack(S2710-52P-SI-AC, S2710-52P-PWR-SI, S2700-52P-EI-AC, S2700-52P-PWR-EI) Auto-Config CLI-based configuration Remote configuration using Telnet SNMP V1/V2/V3 Remote network monitoring SSHv2 Web-based device management		Stack Easy Operation CLI-based configuration Remote configuration using Telnet SNMP V1/V2/V3 Remote network monitoring SSHv2 Web-based device management
Operating environment	Long-term operating temperature: –5°C to + 50°C Relative humidity: 10% to 90% (non-condensing)		
Power	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage: 90 to 264 V AC, 50/60 Hz DC: Rated voltage range: –48 V to –60 V DC Maximum voltage range: –36 V to –72 V, DC Note: PoE models do not use DC power supplies.		

Item	S2700-SI/S2710-SI*	S2700-EI	S2750-EI/S2751-EI
Dimensions (W x D x H)	S2700-9TP-EI/SI: 250×180×43.6 S2700-9TP-PWR-EI: 320×220×43.6 S2700-18TP-EI/SI/ S2700-26TP-EI/SI/S2750-28TP-EI-AC: 442×220×43.6 S2700-26TP-PWR-EI: 442×420×43.6 S2710-52P-SI/S2700-52P-EI: 442×220×43.6 S2750-20TP-PWR-EI-AC/S2750-28TP-PWR-EI-AC/S2751-28TP-PWR-EI-AC: 442×310×43.6		
Weight	S2700-9TP-SI<1.4 kg S2700-18TP-SI<2.4 kg S2700-26TP-SI<2.4 kg S2710-52P-SI<3 kg	S2700-9TP-EI<1.4 kg S2700-9TP-PWR-EI<2.5 kg S2700-18TP-EI<2.4 kg S2700-26TP-EI<2.4 kg S2700-52P-EI<3 kg S2700-26TP-PWR-EI<4 kg (without power supply)	S2750-20TP-PWR-EI<4.5 kg S2750-28TP-EI<3 kg S2750-28TP-PWR-EI<4.5 kg S2751-28TP-PWR-EI-AC<4.5 kg
Power consumption	S2700-9TP-SI<12.8 W S2700-18TP-SI<14.5 W S2700-26TP-SI<15.5 W S2710-52P-SI<38 W	S2700-9TP-EI<12.8 W S2700-9TP-PWR-EI<154 W (PoE: 124 W) S2700-18TP-EI<14.5 W S2700-26TP-EI<15.5 W S2700-52P-EI<38 W S2700-26TP-PWR-EI<808W (PoE: 740 W)	S2750-20TP-PWR-EI<435 W S2750-28TP-EI< 15.7 W S2750-28TP-PWR-EI< 445 W S2751-28TP-PWR-EI-AC<147 W

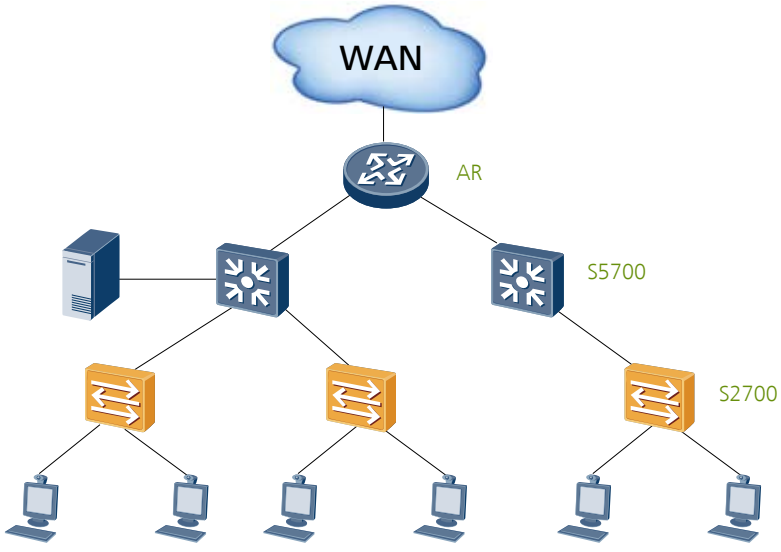
*: The S2700 is provided in the standard version (SI) and enhanced version (EI). The S2700 switches of the EI series are collectively called S2700-EI, and the S2700 switches of the SI series are collectively called S2700-SI. S2710-SI is a sub-series switch of S2700-SI. S2750-EI/S2751-EI are the sub-series switches of S2700-EI.

**: S2700-9TP-SI is short for S2700-9TP-SI-AC. As product versions are irrelevant to the power supply mode, the product names mentioned in product specifications do not contain AC or DC. This rule also applies to other product models.

Application

100 Mbit/s Access Rate for Terminals

The S2700 can function as a desktop access device that provides an access rate of 100 Mbit/s for terminals and 1000 Mbit/s uplink interfaces to communicate with uplink devices.



Product List

Product Description
S2700-9TP-EI-AC Mainframe(8 Ethernet 10/100 ports,1 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-9TP-EI-DC Mainframe(8 Ethernet 10/100 ports,1 dual-purpose 10/100/1000 or SFP,DC -48V)
S2700-9TP-SI-AC Mainframe(8 Ethernet 10/100 ports,1 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-18TP-EI-AC Mainframe(16 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-18TP-SI-AC Mainframe(16 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-26TP-EI-AC Mainframe(24 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-26TP-EI-DC Mainframe(24 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP,DC -48V)
S2700-26TP-SI-AC Mainframe(24 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-52P-EI-AC Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,AC 110/220V)
S2710-52P-SI-AC Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,AC 110/220V)
S2700-9TP-PWR-EI Mainframe(8 Ethernet 10/100 ports, PoE+,1 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2700-26TP-PWR-EI Mainframe(24 Ethernet 10/100 ports,2 dual-purpose 10/100/1000 or SFP, PoE+,without power module)
S2700-52P-PWR-EI Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,PoE+,Dual Slots of Power,Including Single 500W AC Power)
S2710-52P-PWR-SI Mainframe(48 Ethernet 10/100 ports,4 Gig SFP,PoE+,Dual Slots of Power,Including Single 500W AC Power)
S2750-20TP-PWR-EI-AC Mainframe(16 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP, PoE+,AC 110/220V)
S2750-28TP-EI-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP,AC 110/220V)
S2750-28TP-PWR-EI-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP, PoE+,AC 110/220V)
S2751-28TP-PWR-EI-AC Mainframe(24 Ethernet 10/100 ports,2 Gig SFP and 2 dual-purpose 10/100/1000 or SFP, PoE+,AC 110/220V)
500W PoE power supply unit

For more information, visit http://enterprise.huawei.com or contact your local Huawei sales office.

S1700 Series Enterprise Switches

Product Overview

The S1700 series enterprise switches (S1700s) are next-generation energy-saving Ethernet access switches. The S1700 uses high-performance hardware, which offers a wide array of features to help customers build secure, reliable, high-performance networks. The S1700 is easy to install and maintain, and is ideal for small-size and medium-size enterprises, Internet cafes, hotels, and schools.

The S1700 consists of unmanaged switches, SNMP-based switches, and a web-managed switch:

- Unmanaged switches include the S1700-8-AC, S1700-24-AC, S1700-52R-2T2P-AC, S1700-8G-AC, S1724G and S1700-24GR.
- SNMP-based switches include the S1700-10GF-2P, S1700-10GF-2P-PWR, S1700-28FR-2T2P-AC, S1700-28FR-2T2P-PWR , S1700-28GFR-4P-AC, S1700-28GFR-4P-PWR, S1700-52FR-2T2P-AC, S1700-52GFR-4P-AC and S1700-52GFR-4P-PWR.
- The web-managed switch is the S1728GWR-4P.

Product Appearance

S1700-8-AC

- 8 Ethernet 10/100 ports,
- AC power supply
- Packet forwarding rate: 1.2 Mpps

S1700-24-AC

- 24 Ethernet 10/100 ports
- AC power supply
- Packet forwarding rate: 3.6 Mpps

S1700-52R-2T2P-AC

- 48 Ethernet 10/100 ports, 2 Ethernet 10/100/1000 ports and 2 Gig SFP
- AC power supply
- Packet forwarding rate: 13.2 Mpps

S1700-8G-AC

- 8 Ethernet 10/100/1000 ports
- AC power supply
- Packet forwarding rate: 12 Mpps

S1724G

- 24 Ethernet 10/100/1000 ports
- AC power supply
- Packet forwarding rate: 36 Mpps

S1700-24GR

- 24 Ethernet 10/100/1000 ports
- AC power supply
- Packet forwarding rate: 36 Mpps

S1728GWR-4P

- 24 Ethernet 10/100/1000 ports,4 Gig SFP
- AC power supply
- Packet forwarding rate: 42 Mpps

S1700-10GF-2P

- 8 Ethernet 10/100/1000 ports,2 Gig SFP
- AC power supply
- Packet forwarding rate: 42 Mpps

S1700-10GF-2P-PWR

- 8 Ethernet 10/100/1000 ports,2 Gig SFP
- AC power supply, PoE+
- Packet forwarding rate: 42 Mpps

S1700-28FR-2T2P-AC

- 24 Ethernet 10/100 ports, 2 Ethernet 10/100/1000 ports and 2 Gig SFP
- AC power supply
- Packet forwarding rate: 9.6Mpps

S1700-28FR-2T2P-PWR

- 24 Ethernet 10/100 ports, 2 Ethernet 10/100/1000 ports and 2 Gig SFP
- AC power supply, PoE+
- Packet forwarding rate: 9.6Mpps

S1700-52FR-2T2P-AC

- 48 Ethernet 10/100 ports, 2 Ethernet 10/100/1000 ports and 2 Gig SFP
- AC power supply
- Packet forwarding rate: 13.2Mpps

S1700-28GFR-4P-AC

- 24 Ethernet 10/100/1000 ports, 4 Gig SFP
- AC power supply
- Packet forwarding rate: 42 Mpps

S1700-28GFR-4P-PWR

- 24 Ethernet 10/100/1000 ports, 4 Gig SFP
- AC power supply
- Packet forwarding rate: 42 Mpps

S1700-52GFR-4P-AC

- 48 Ethernet 10/100/1000 ports,4 Gig SFP
- AC power supply
- Packet forwarding rate: 78 Mpps

S1700-52GFR-4P-PWR

- 48 Ethernet 10/100/1000 ports,4 Gig SFP
- AC power supply
- Packet forwarding rate: 78 Mpps

Product Features

Innovative energy-saving design

- All S1700 series switches are based on a fan-free design, which reduces power consumption and noise.
- The S1700 supports Energy Efficient Ethernet (EEE), which enables the switch to enter a power-saving mode when traffic is light.
- The S1700 can adjust the power output for transmissions based on the cable length. It can also set any ports that are not transmitting traffic to sleep mode.

PoE function

- The S1700 PWR series support Power over Ethernet (PoE) function. Powered devices (PDs) such as IP Phones, WLAN APs and electronic equipments charges can be connected to the S1700 PWR through network cables. The S1700 PWR provides DC power for the PDs.

- In its role as power sourcing equipment (PSE), the S1700 PWR complies with IEEE 802.3af and 802.3at (PoE+), it can work with PDs that are incompatible with 802.3af or 802.3at (PoE+). Each port provides a maximum of 30 W of power, complying with IEEE 802.3at. This process facilitates the ease of PD use.

Non-blocking and high-speed forwarding

- All S1700 ports provide Layer 2 wire-speed forwarding capabilities to ensure non-blocking packet forwarding. S1700 models provide optical and electrical GE uplink ports, which facilitate user access and are cost-effective.
- The S1700 MAC address table supports up to 8 K of MAC addresses, making it easy to expand networks and deploy new services.

Convenient management and maintenance

- The S1700 is easy to manage and maintain, being equipped with a one-key operation button on the front panel.
- Web-managed S1700 models come with a web network management system, making it easy to configure switches.
- SNMP-based S1700 models allow for the use of an SNMP-based NMS for centralized configuration and management.

Powerful security performance

- The S1700 provides a range of security features, including 802.1x, RADIUS, and NAC. The S1700 also supports packet filtering based on MAC addresses or ports in order to defend against hackers and virus attacks.

Great networking and bandwidth extensibility

- The S1700 provides LACP, STP, RSTP, and MSTP functions to implement link aggregation and backup. SNMP-based switches support up to eight MSTP instances for flexible networking.

Product Specifications

Type	Unmanaged Switch						Web-managed Switch
Model	S1700-8-AC	S1700-24-AC	S1700-52R-2T2P-AC	S1700-8G-AC	S1724G	S1700-24GR	S1728GWR-4P
Downlink port	8 Ethernet 10/100 ports	24 Ethernet 10/100 ports	48 Ethernet 10/100 ports	8 Ethernet 10/100/1000 ports	24 Ethernet 10/100/1000 ports	24 Ethernet 10/100/1000 ports	24 Ethernet 10/100/1000 ports
Uplink port	Shared with downlink ports	Shared with downlink ports	2 Ethernet 10/100/1000 ports and 2 Gig SFP	Shared with downlink ports	Shared with downlink ports	Shared with downlink ports	4 Gig SFP
MAC address table	8 K MAC						
Dimensions mm (W*D *H)	160*134*30	320*208*43.6	442*220*43.6	160*134*30	330*208*43.6	442*220*43.6	442*220*43.6
Input voltage	100 V to 240 V AC, 50/60 Hz						
EEE	NA				Supported	NA	Supported
Power consumption	<5W	<15W	<25W	<10W	<15W	<20W	<15W
Operating temperature	0°C to 45°C						
Humidity (non-condensing)	10%～90%				5%～90%		
Heat dissipation	Fan-free natural heat dissipation						

Type	SNMP-based Switch								
Model	S1700-28FR-2T2P-AC	S1700-52FR-2T2P-AC	S1700-28GFR-4P-AC	S1700-52GFR-4P-AC	S1700-10GF-2P	S1700-10GF-2P-PWR	S1700-28GFR-4P-PWR	S1700-28FR-2T2P-PWR	S1700-52GFR-4P-PWR
Downlink port	24 Ethernet 10/100 ports	48 Ethernet 10/100 ports	24 Ethernet 10/100 ports	48 Ethernet 10/100/ 1000 ports	8 Ethernet 10/100/ 1000 ports	8 Ethernet 10/100/ 1000 ports	24 Ethernet 10/100/ 1000 ports	24 Ethernet 10/100 ports	48 Ethernet 10/100/ 1000 ports

Type	SNMP-based Switch								
Model	S1700-28FR-2T2P-AC	S1700-52FR-2T2P-AC	S1700-28GFR-4P-AC	S1700-52GFR-4P-AC	S1700-10GF-2P	S1700-10GF-2P-PWR	S1700-28GFR-4P-PWR	S1700-28FR-2T2P-PWR	S1700-52GFR-4P-PWR
Uplink port	2 Ethernet 10/100/1000 ports and 2 Gig SFP	2 Ethernet 10/100/1000 ports and 2 Gig SFP	4 Gig SFP	4 Gig SFP	2 Gig SFP	2 Gig SFP	4 Gig SFP	2 Ethernet 10/100/1000 ports and 2 Gig SFP	4 Gig SFP
MAC address table	8 K MAC								
Dimensions mm (W*D *H)	442*220*43.6				250*180*43.6	320*220*43.6	442*220*43.6	442*220*43.6	442*330*43.6
Input voltage	100 V to 240 V AC, 50/60 Hz								
EEE	NA	NA	Supported	Supported	Supported	Supported	Supported	NA	Supported
Power consumption	<25W	<35W	<30W	<55W	<15W	Without POE: <20W With POE+: <150w	Without POE: <40W With POE+: <230W	Without POE: <30W With POE+: <230w	Without POE: <60W With POE+: <450w
Operating temperature	0°C to 45°C								
Humidity (non-condensing)	10% to 90%				5%～90%				
Heat dissipation	Fan-free natural heat dissipation	Fan-free natural heat dissipation	Fan-free natural heat dissipation	Heat dissipation using fans supporting intelligent speed adjustment	Fan-free natural heat dissipation	Fan-free natural heat dissipation	Heat dissipation using fans supporting intelligent speed adjustment	Heat dissipation using fans supporting intelligent speed adjustment	Heat dissipation using fans supporting intelligent speed adjustment

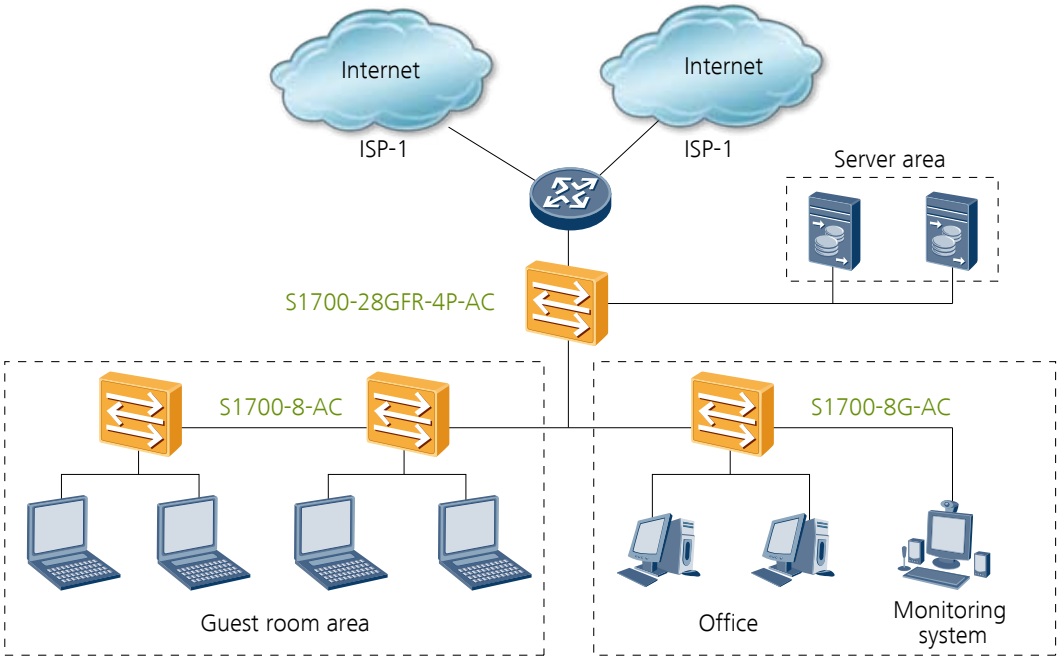
Service Features

Item	Web-managed Switch	SNMP-based Switch
Security features	Packet filtering based on MAC addresses Port-based 802.1x authentication RADIUS authentication Port isolation	Hardware ACL Packet filtering based on MAC addresses MAC address authentication Port-based 802.1x authentication. RADIUS authentication Port isolation Storm suppression Attack defense, which prevents broadcast traffic, ARP attacks, ICMP attacks, TCP attacks, worm viruses, and DoS attacks DHCP snooping

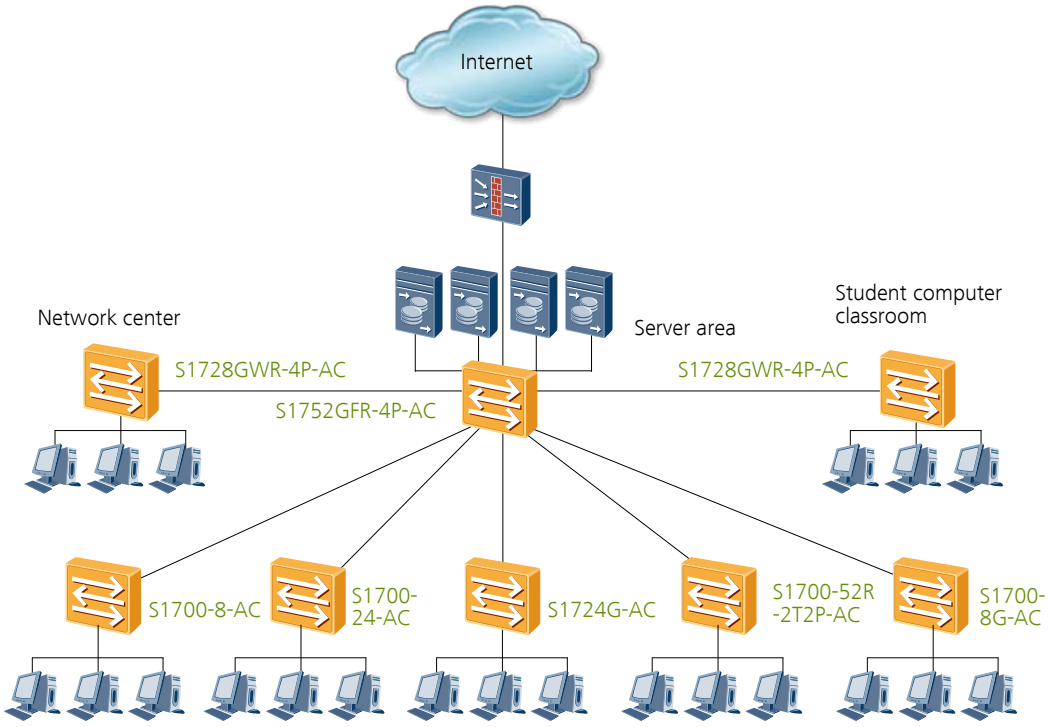
Item	Web-managed Switch	SNMP-based Switch
VLANs	256 VLANs Access port Trunk port Hybrid port Management VLAN Voice VLAN	4 K VLANs Access port Trunk port Hybrid port Management VLAN Voice VLAN
QOS	SP and WRR Four queues on each port Queue scheduling based on 802.1p or DSCP priorities	SP and WRR Eight queues on each port Queue scheduling based on 802.1p or DSCP priorities
STP	STP(IEEE 802.1d), RSTP(IEEE 802.1w)	STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s)
Multicast	IGMP snooping and a maximum of 256 multicast groups	IGMP snooping and a maximum of 256 multicast groups Fast leave
Link aggregation	12 link aggregation groups (LAGs) with a maximum of eight ports in each LAG Static LACP	12 link aggregation groups (LAGs) with a maximum of eight ports in each LAG Static LACP
Port mirroring	Port-based bidirectional flow mirroring	Port-based bidirectional flow mirroring Configuring a trunk as a mirrored interface
Bandwidth control	Rate limiting for incoming and outgoing packets, with a granularity of 64 kbps	Rate limiting for incoming and outgoing packets, with a granularity of 64 kbps
Broadcast storm suppression	Broadcast storm suppression based on the interface rate Alarm sending when the traffic rate reaches the upper limit	Broadcast storm suppression based on the interface rate Alarm sending when the traffic rate reaches the upper limit
Device management	Web system network management DHCP client One-key restoration	SNMP Web system network management (HTTPS) DHCP client User password protection One-key restoration
Device maintenance	System log Ping Virtual Cable Test (VCT) Link Layer Discovery Protocol (LLDP)	Remote Network Monitoring (RMON) System log Ping and traceroute Virtual Cable Test (VCT) Link Layer Discovery Protocol (LLDP)

Applications

Hotels



Schools



Product List

S1700 switch models

Product Description
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,China Power Adapter)
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,North America Power Adapter)
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,Europe Power Adapter)
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,Switzerland Power Adapter)
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,Italy Power Adapter)
S1700-8-AC (8 Ethernet 10/100 ports, AC 110/220V,UK/Singapore/HK Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC 110/220V,China Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC 110/220V, AC 110/220V,Australia Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC 110/220V,North America Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC110/220V,Europe Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC110/220V,Switzerland Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC 110/220V,Italy Power Adapter)
S1700-8G-AC (8 Ethernet 10/100/1000 ports, AC 110/220V, UK/Singapore/Hongkong Power Adapter)
S1700-10GF-2P(8 Ethernet 10/100 ports,2 Gig SFP, AC 110/220V)
S1700-10GF-2P-PWR(8 Ethernet 10/100 ports,2 Gig SFP, PoE+, AC 110/220V)
S1700-24-AC (24 Ethernet 10/100 ports, AC 110/220V)
S1724G (24 Ethernet 10/100/1000 ports, AC 110/220V)
S1700-24GR(24 Ethernet 10/100/1000 ports, AC 110/220V)
S1728GWR-4P (24 Ethernet 10/100/1000 ports,4 Gig SFP,AC 110/220V)
S1700-28FR-2T2P-AC (24 Ethernet 10/100 ports,2 Ethernet 10/100/1000 ports and 2 Gig SFP,AC 110/220V)
S1700-28FR-2T2P-PWR((24 Ethernet 10/100 ports,2 Ethernet 10/100/1000 ports and 2 Gig SFP, PoE+, AC 110/220V)
S1700-28GFR-4P-AC (24 Ethernet 10/100 ports,4 Gig SFP,AC 110/220V)
S1700-28GFR-4P-PWR(24 Ethernet 10/100 ports,4 Gig SFP, PoE+, AC 110/220V)
S1700-52R-2T2P-AC(48 Ethernet 10/100 ports,2 Ethernet 10/100/1000 ports and 2 Gig SFP,AC 110/220V)
S1700-52FR-2T2P-AC (48 Ethernet 10/100 ports,2 Ethernet 10/100/1000 ports and 2 Gig SFP,AC 110/220V)
S1700-52GFR-4P-AC (48 Ethernet 10/100/1000 ports,4 Gig SFP,AC 110/220V)
S1700-52GFR-4P-PWR(48 Ethernet 10/100/1000 ports,4 Gig SFP, PoE+,AC 110/220V)

For more information, visit http://enterprise.huawei.com or contact the Huawei local sales office.

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