S12700 Series Agile Switches

HUAWEI TECHNOLOGIES CO., LTD.

HUAWEI

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S12700 series is available in two models: S12708 and S12712.

S12700 Series Agile Switches

HUAWEI S12700 series agile switches are designed for next-generation campus networks. Using a fully programmable 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 Unified User Management capabilities deliver unified 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 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 Agilely

- The S12700 series' native ACs allow enterprises to build a wireless network without additional AC hardware. Each S12700 switch can manage 4,096 APs and 65,536 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' unified user management function authenticates both wired and wireless users, ensuring a consistent user experience no matter whether they are connected to the network through wired or wireless access devices. The unified user management function supports various authentication methods, including 802.1x, MAC address, and Portal authentication, and is capable of managing users based on user groups, domains, and time ranges. These functions control user and service management and enable the transformation from device-centered management to user-centered management.
- The S12700 series' Service Chain function can virtualize value-added service capabilities, such as firewall, antivirus expert system (AVE), and application security gateway (ASG). Then these capabilities can be used by campus network entities (such as switches, routers, AC, AP, and terminals), regardless of their physical locations. Service Chain provides a more flexible value-added service deployment solution, which reduces equipment investment and maintenance costs.

Provide Agile Fine Granular Management

- Packet Conservation Algorithm for Internet (iPCA) changes the traditional method that uses simulated traffic for fault location. iPCA technology monitors 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.

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 large buffer on line card to prevent packet loss upon traffic bursts, delivering high-quality video services.
- The S12700 series supports high-density line-speed cards, such as 48 x 10 GE and 8 x 40G cards. Each S12700 chassis can provide a maximum of 576 x 10 GE ports and 96 x40G 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.

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 end-to-end protection switching. These technologies help build a campus network that responds quickly to topology changes and provides the most reliable services.

Comprehensive Security Measures

- NGFW is a next-generation firewall card that can be installed on an S12700. In addition to the traditional defense functions such as firewall, identity authentication, and Anti-DDoS, the NGFW supports IPS, anti-spam, web security, and application control functions.
- The S12700 provides innovative next-generation environment awareness and access control. It identifies the application-layer attacks and protects network-layer applications based on application type, content, time, user, threaten, and location.
- The dedicated software and hardware platforms provide an Intelligent Aware Engine (IAE) to perceive application information when all security functions are enabled. The built-in hardware accelerator for content detection improves application-layer protection efficiency and ensures the 10G+ performance when all security functions are enabled.

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, 4 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	unified user management	
	802.1X, MAC, and Portal authentication	
	Traffic- and time-based accounting	
	User authorization based on user groups, domains, and time ranges	
iPCA quality awareness	Marking real service packets to obtain real-time count of dropped packets and packet loss ratio	
	Counting number of dropped packets and packet loss ratio on devices and L2/L3 networks	
SVF virtualization	Virtualizing up to 64 access switches (ASs) and 2K APs into one logical device to simplify management and maintenance	
	Two layers of ASs allowed in an SVF system	
	Third-party devices allowed between SVF parent and clients	
VLAN	Access, trunk, and hybrid interface type, auto-negotiation of LNP links	
	Default VLAN	
	VLAN switching	
	QinQ and selective QinQ	
	MAC address-based VLAN assignment	

Item	S12708	S12712
ARP	256K ARP entries	
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	
	512K 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	

Item	S12708	S12712
MPLS	Basic MPLS functions	
	MPLS Operations, Administration, and Maintenance (OAM)	
	MPLS Traffic Engineering (TE)	
	MPLS VPN/VLL/VPLS	
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)	
QoS	256K 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	
	H-QoS	
	Traffic shaping	
Configuration and maintenance	Terminal access services such as console port login, Telnet, and SSH	
	Network management protocols, such as SNMP v1/v2c/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	
	Remote Network Monitoring (RMON)	
Security protection *	Firewall	
	Network Address Translation (NAT)	
	IPSec, SSL VPN	
	Intrusion Protection System (IPS)	
	Load balancing Analog Digital Conversion (ADC)	
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)	
	Supports LNP (Similar to DTP)	
	Supports VCMP (Similar to VTP)	
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

*: The S12700 supports the NGFW, which is the next-generation firewall card, and the IPS card. For more specification information, see the brochures of the cards.

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
ET1MFBX00000	Wide Voltage 129 Fan Box
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+)
10 GE and 40GE optical interface cards	
ET1D2S16QSC0	16-Port 10GBASE-X and 2-port 40Gbase-X Interface Card(SC,SFP+/QSFP+)
Cluster service subcard	
EH1D2VS08000	8-port 10G cluster switching system service unit (SFP+)
Service processing cards	
ET1D2FW00S00	NGFW Module A,with HW General Security Platform Software
ET1D2FW00S01	NGFW Module B,with HW General Security Platform Software
ET1D2FW00S02	NGFW Module C,with HW General Security Platform Software
ET1D2IPS0S00	IPS Module A,with HW General Security Platform Software
ACU2	WLAN ACU2 Access Controller Unit(128 AP Control Resource Included)***
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)

S12700 basic configuration	
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)
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)

S12700 basic configuration	
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)
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-BXU1-SC	1000Base,BIDI Optical Transceiver,SFP,GE,Single-mode Module(TX1490nm/RX1310nm,10km,SC)
Power modules	
PAC-2200WF	2,200W AC power module F (black)

S12700 basic configuration	
PDC-2200WF	2,200W DC power module F (black)
Software	
ET1SBSM25000	S12700 V200R005C00 software
ET1SBSM26000	S12700 V200R006C00 software
ET1SBSM27000	S12700 V200R007C00 software
License	
ET1SMPLS0000	MPLS Function License
ET1SNQA00000	NQA Function License
ET1SIPV60000	IPV6 Function License
ET1SSVFF0000	SVF Function License (applicable only to the S12700 series)
ET1SFIB128K0	X-series LPU FIB Resource License-128K
ET1SFIB512K0	X-series LPU FIB Resource License-512K
ET1SWL512AP0	WLAN Access Controller AP Resource License-512AP (with the X-series LPU used)
ET1SWL128AP0	WLAN Access Controller AP Resource License-128AP (with the X-series LPU used)
ET1SWL64AP00	WLAN Access Controller AP Resource License-64AP (with the X-series LPU used)
ET1SWL16AP00	WLAN Access Controller AP Resource License-16AP (with the X-series LPU used)
L-ACU2-128AP	ACU2 Wireless Access Controller AP Resource License(128 AP)
L-ACU2-256AP	ACU2 Wireless Access Controller AP Resource License(256 AP)
L-ACU2-384AP	ACU2 Wireless Access Controller AP Resource License(384 AP)
L-ACU2-512AP	ACU2 Wireless Access Controller AP Resource License(512 AP)
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 unified user management functions.

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

*** Each ACU2 card can manage 2K APs. An S12708 switch can have a maximum of 7 ACU2 cards installed and can manage up to 14K APs. An S12712 switch can have a maximum of 11 ACU2 cards installed and can manage up to 22K APs.

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 unified user management function on the S12700 reduces network construction costs by removing the need to purchase new BRAS hardware. Each S12700 switch supports 65,536 users, allowing a large number of concurrent access users. Its 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 Large 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 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 4 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.

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