CloudEngine S6730-S Series Switches

Huawei CloudEngine S6730-S series full-featured 10GE switches are Huawei's new generation fixed switches that provide 10GE downlink ports 40GE uplink ports.

Introduction

Huawei CloudEngine S6730-S series full-featured 10 GE switches are Huawei's new generation fixed switches ,to provide 10GE downlink ports as well as 40GE uplink ports.

Huawei CloudEngine S6730-S can be used to provide high-speed access for 10 Gbit/s access to high-density servers or function as a core/aggregation switch on a campus network to provide 40 Gbit/s rate. In addition, S6730-S provides a wide variety of services, comprehensive security policies, and various QoS features to help customers build scalable, manageable, reliable, and secure campus and data center networks.

Product Overview

Models and Appearances

Appearance	Description
CloudEngine S6730-S24X6Q	• 24 x 10 Gig SFP+, 6 x 40 Gig QSFP+ • Dual pluggable power modules, 1+1 power backup • Forwarding performance: 490Mpps • Switching capacity: 960Gbps/2.4Tbps **NOTE** The value before the slash (/) refers to the device's switching capability, while the value after the slash (/) means the chip's switching capability.

Fan Module

The following table lists the fan module on the CloudEngine S6730-S series.

Fan Module	Technical Specifications	Applied Switch Model
FAN-031A-B	• Dimensions (W x D x H): 40 mm x 100.3 mm x 40 mm • Number of fans: 1 • Weight: 0.1 kg • Maximum power consumption: 21.6 W • Maximum fan speed: 24500±10% revolutions per minute (RPM)	• CloudEngine S6730-S24X6Q

Fan Module	Technical Specifications	Applied Switch Model
	• Maximum wind rate: 31 cubic feet per minute (CFM) • Hot swap: Supported	

Power Supply

The following table lists the power supplies on the CloudEngine S6730-S series.

Power Module	Technical Specifications	Applied Switch Model

PAC600S12-CB	• Dimensions (H x W x D): 40 mm x 90 mm x 215 mm (1.6 in. x 3.5 in. x 8.5 in.)
	• Weight: 0.95 kg (2.09 lb)
	• Rated input voltage range:
	  − 100 V AC to 240 V AC, 50/60 Hz
	  − 240 V DC
	• Maximum input voltage range:
	  − 90 V AC to 290 V AC, 45 Hz to 65 Hz
	  − 190 V DC to 290 V DC
	• Maximum input current:
	  − 100 V AC to 240 V AC: 8 A
	  − 240 V DC: 4 A
	• Maximum output current: 50 A
	• Rated output voltage: 12 V
	• Maximum output power: 600 W
	• Hot swap: Supported
		• CloudEngine S6730-S24X6Q

PDC1000S12-DB	• Dimensions (H x W x D): 40 mm x 90 mm x 215 mm (1.6 in. x 3.5 in. x 8.5 in.) • Weight: 1.02 kg (2.25 lb) • Rated input voltage range: -48 V DC to -60 V DC • Maximum input voltage range: -38.4 V DC to -72 V DC • Maximum input current: 30 A • Maximum output current: 83.3 A • Maximum output power: 1000 W • Hot swap: Supported	• CloudEngine S6730-S24X6Q

The CloudEngine S6730-S uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy.

Product Features and Highlights

Abundant Convergence Feature

• The S6730-S supports SVF and functions as a parent switch. With this virtualization technology, a physical network with the "Small-sized core/aggregation switches + Access switches + APs" structure can be virtualized into a "super switch", greatly simplifying network management.

• The S6730-S provides excellent QoS capabilities and supports queue scheduling and congestion control algorithms. Additionally, it adopts innovative priority queuing and multi-level scheduling mechanisms to implement fine-grained scheduling of data flows, meeting service quality requirements of different user terminals and services.

Providing Fine Granular Network Management

- The S6730-S uses the Packet Conservation Algorithm for Internet (iPCA) technology that changes the traditional method of using simulated traffic for fault location. iPCA technology can monitor network quality for any service flow anywhere, anytime, without extra costs. It can detect temporary service interruptions in a very short time and can identify faulty ports accurately. This cutting-edge fault detection technology turns "extensive management" to "fine granular management."

- The S6730-S supports Two-Way Active Measurement Protocol (TWAMP) to accurately check any IP link and obtain the entire network's IP performance. This protocol eliminates the need of using a dedicated probe or a proprietary protocol.

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the S6730-S 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 service 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 S6730-S supports Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One S6730-S switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Intelligent Stack (iStack)

- The S6730-S supports the iStack function that 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 a stack's ports, bandwidth, and processing capability by simply adding member switches. iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches can be virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in it.

Cloud-based Management

- The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX. Huawei switches support both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

VXLAN

- VXLAN is used to construct a Unified Virtual Fabric (UVF). As such, multiple service networks or tenant networks can be deployed on the same physical network, and service and tenant networks are isolated from each other. This capability truly achieves 'one network for multiple purposes'. The resulting benefits include enabling data transmission of different services or customers, reducing the network construction costs, and improving network resource utilization. The S6730-S series switches are VXLAN-capable and allow centralized and distributed VXLAN gateway deployment modes. These switches also support the BGP EVPN protocol for dynamically establishing VXLAN tunnels and can be configured using NETCONF/YANG.

High-Performance VRP Software System

- Huawei S series switches build on a unified Versatile Routing Platform (VRP) software system, meeting the growing network scale and the evolving Internet technologies and guaranteeing network services and network quality.

- VRP is a network operating system developed by Huawei with independent intellectual property rights. It can run on multiple hardware platforms and provide unified network, user, and management views. VRP provides flexible application solutions for users. In addition, VRP is a future-proof platform that maximally protects customer investments.

- The VRP platform is focused on IP services and uses a component-based architecture to provide more than 300 features. Besides, VRP stands out for its application-based tailorable and scalable capabilities.

OPS

- Open Programmability System (OPS) is an open programmable system based on the Python language. IT administrators can program the O&M functions of a switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Big Data Powered Collaborative Security

- Switches use NetStream to collect campus network data and then report such data to the Huawei HiSec Insight. The purposes of doing so are to detect network security threats, display the security posture across the entire network, and enable automated or manual response to security threats. The HiSec Insight delivers the security policies to the iMaster NCE-Campus. The iMaster NCE-Campus then delivers such policies to switches that will handle security events accordingly. All these ensure campus network security.

- Switches supports Encrypted Communication Analytics(ECA). It uses built-in ECA probes to extract characteristics of encrypted streams based on NetStream sampling and Service Awareness(SA), generates metadata, and reports the metadata to HiSec Insight. The HiSec Insight uses the AI algorithm to train the traffic model and compare characteristics of extracted encrypted traffic to identify malicious traffic. The HiSec Insight displays detection results on the GUI, provides threat handling suggestions, and automatically isolates threats with the iMaster NCE-Campus to ensure campus network security.

- Switches supports deception. It functions as a sensor to detect threats such as IP address scanning and port scanning on a network and lures threat traffic to the honeypot for further checks. The honeypot performs in-depth interaction with the initiator of the threat traffic, records various application-layer attack methods of the initiator, and reports security logs to the HiSec Insight. The HiSec Insight analyzes security logs. If the HiSec Insight determines that the suspicious traffic is an attack, it generates an alarm and provides handling suggestions. After the administrator confirms the alarm, the HiSec Insight delivers a policy to the iMaster NCE-Campus. The iMaster NCE-Campus delivers the policy to the switch for security event processing, ensuring campus network security.

Intelligent O&M

- Switches provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer(iMaster NCE-CampusInsight). The CampusInsight analyzes network data based on the intelligent fault identification algorithm, accurately displays the real-time network status, effectively demarcates and locates faults in a timely manner, and identifies network problems that affect user experience, accurately guaranteeing user experience.

- Switches supports a variety of intelligent O&M features for audio and video services, including the enhanced Media Delivery Index (eMDI). With this eDMI function, the switch can function as a monitored node to periodically conduct statistics and report audio and video service indicators to the CampusInsight platform. In this way, the CampusInsight platform can quickly demarcate audio and video service quality faults based on the results of multiple monitored nodes.

Intelligent Upgrade

- Switches support the intelligent upgrade feature. Specifically, switches obtain the version upgrade path and download the newest version for upgrade from the Huawei Online Upgrade Platform (HOUP). The entire upgrade process is highly automated and achieves one-click upgrade. In addition, preloading the version is supported, which greatly shortens the upgrade time and service interruption time.

- The intelligent upgrade feature greatly simplifies device upgrade operations and makes it possible for the customer to upgrade the version independently. This greatly reduces the customer's maintenance costs. In addition, the upgrade policies on the HOUP platform standardize the upgrade operations, which greatly reduces the risk of upgrade failures.

Product Specifications

The following table describes the functions and features available on the CloudEngine S6730-S series.

Functions and Features

Function and Feature		Description	CloudEngine S6730-S24X6Q
Ethernet features	Ethernet basics	Rate auto-negotiation on an interface	Yes
		Flow control on an interface	Yes
		Jumbo frames	Yes
		Link aggregation	Yes
		Load balancing among links of a trunk	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
		Transparent transmission of Layer 2 protocol packets	Yes
		Device Link Detection Protocol (DLDP)	Yes
		Link Layer Discovery Protocol (LLDP)	Yes
		Link Layer Discovery Protocol-Media Endpoint Discovery (LLDP-MED)	Yes
		Interface isolation	Yes
		Broadcast traffic suppression on an interface	Yes
		Multicast traffic suppression on an interface	Yes
		Unknown unicast traffic suppression on an interface	Yes
		VLAN broadcast traffic suppression	Yes
		VLAN multicast traffic suppression	Yes
		VLAN unknown unicast traffic suppression	Yes
	VLAN	VLAN specification	4094
		VLANIF interface specification	1024
		Access mode	Yes
		Trunk mode	Yes
		Hybrid mode	Yes
		QinQ mode	Yes
		Default VLAN	Yes
		VLAN assignment based on interfaces	Yes
		VLAN assignment based on protocols	Yes
		VLAN assignment based on IP subnets	Yes
		VLAN assignment based on MAC addresses	Yes
		VLAN assignment based on MAC address + IP address	Yes
		VLAN assignment based on MAC address + IP address + interface number	Yes
		Adding double VLAN tags to packets based on interfaces	Yes
		Super-VLAN	Yes
		Super-VLAN specification	256
		Sub-VLAN	Yes
		Sub-VLAN specification	1K
		VLAN mapping	Yes
		Selective QinQ	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
		MUX VLAN	Yes
		Voice VLAN	Yes
		Guest VLAN	Yes
	GVRP	GARP	Yes
		GVRP	Yes
	VCMP	VCMP	Yes
	MAC	MAC address	64K
		Automatic learning of MAC addresses	Yes
		Automatic aging of MAC addresses	Yes
		Static, dynamic, and blackhole MAC address entries	Yes
		Interface-based MAC address learning limiting	Yes
		Sticky MAC	Yes
		MAC address flapping detection	Yes
		Configuring MAC address learning priorities for interfaces	Yes
		MAC address spoofing defense	Yes
		Port bridge	Yes
	ARP	Static ARP	Yes
		Dynamic ARP	Yes
		ARP entry	64K
		ARP aging detection	Yes
		Intra-VLAN proxy ARP	Yes
		Inter-VLAN proxy ARP	Yes
		Routed proxy ARP	Yes
		Multi-egress-interface ARP	Yes
Ethernet loop protection	MSTP	STP	Yes
		RSTP	Yes
		MSTP	Yes
		VBST	Yes
		BPDU protection	Yes
		Root protection	Yes
		Loop protection	Yes
		Defense against TC BPDU attacks	Yes
	Loopback detection	Loop detection on an interface	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
	SEP	SEP	Yes
	Smart Link	Smart Link	Yes
		Smart Link multi-instance	Yes
		Monitor Link	Yes
	RRPP	RRPP	Yes
		Single RRPP ring	Yes
		Tangent RRPP ring	Yes
		Intersecting RRPP ring	Yes
		Hybrid networking of RRPP rings and other ring networks	Yes
	ERPS	G.8032 v1	Yes
		G.8032 v2	Yes
		ERPS semi-ring topology	Yes
		ERPS closed-ring topology	Yes
IPv4/IPv6 forwarding	IPv4 and unicast routing	IPv4 static routing	Yes
		VRF	Yes
		DHCP client	Yes
		DHCP server	Yes
		DHCP relay	Yes
		DHCP policy VLAN	Yes
		URPF check	Yes
		Routing policies	Yes
		IPv4 routes	64K
		RIPv1	Yes
		RIPv2	Yes
		OSPF	Yes
		BGP	Yes
		MBGP	Yes
		IS-IS	Yes
		Policy-based routing (PBR)	Yes
	Multicast routing features	IGMPv1/v2/v3	Yes
		PIM-DM	Yes
		PIM-SM	Yes
		MSDP	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
		IPv4 multicast routes	4K
		IPv6 multicast routes	4K
		Multicast routing policies	Yes
		RPF	Yes
	IPv6 features	IPv6 protocol stack	Yes
		ND	Yes
		ND entry	32K
		ND snooping	Yes
		DHCPv6 snooping	Yes
		RIPng	Yes
		DHCPv6 server	Yes
		DHCPv6 relay	Yes
		OSPFv3	Yes
		BGP4+	Yes
		IS-IS for IPv6	Yes
		IPv6 routes	32K
		VRRP6	Yes
		MLDv1/v2	Yes
		PIM-DM for IPv6	Yes
		PIM-SM for IPv6	Yes
	IPv6 transition technology	IPv6 manual tunneling	Yes
Layer 2 multicast features	-	IGMPv1/v2/v3 snooping	Yes
		IGMP snooping proxy	Yes
		MLD snooping	Yes
		Multicast traffic suppression	Yes
		Inter-VLAN multicast replication	Yes
Device reliability	BFD	Single-hop BFD	Yes
		BFD for static routes	Yes
		BFD for OSPF	Yes
		BFD for IS-IS	Yes
		BFD for BGP	Yes
		BFD for PIM	Yes
		BFD for VRRP	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
	Stacking	Service interface-based stacking	Yes
		Maximum number of stacked devices	9
		Stack bandwidth (Unidirectional)	Up to 240 Gbit/s
	VRRP	VRRP standard protocol	Yes
Ethernet OAM	EFM (802.3ah)	Automatic discovery of links	Yes
		Link fault detection	Yes
		Link troubleshooting	Yes
		Remote loopback	Yes
	CFM (802.1ag)	Software-level CCM	Yes
		802.1ag MAC ping	Yes
		802.1ag MAC trace	Yes
	OAM association	Association between 802.1ag and 802.3ah	Yes
	Y.1731	Unidirectional delay and jitter measurement	Yes
		Bidirectional delay and jitter measurement	Yes
QoS features	Traffic classification	Traffic classification based on ACLs	Yes
		Configuring traffic classification priorities	Yes
		Matching the simple domains of packets	Yes
	Traffic behavior	Traffic filtering	Yes
		Traffic policing (CAR)	Yes
		Modifying the packet priorities	Yes
		Modifying the simple domains of packets	Yes
		Modifying the packet VLANs	Yes
	Traffic shaping	Traffic shaping on an egress interface	Yes
		Traffic shaping on queues on an interface	Yes
	Congestion avoidance	Weighted Random Early Detection (WRED) on queues	Yes
		Tail drop	Yes
	Congestion management	Priority Queuing (PQ)	Yes
		Weighted Deficit Round Robin (WDRR)	Yes
		PQ+WDRR	Yes
		Weighted Round Robin (WRR)	Yes
		PQ+WRR	Yes
ACL	Packet filtering at Layer 2 to Layer	Number of rules per IPv4 ACL	6K(shared)
		Number of rules per IPv6 ACL	6K(shared)

Function and Feature		Description	CloudEngine S6730-S24X6Q
	4	Basic IPv4 ACL	Yes
		Advanced IPv4 ACL	Yes
		Basic IPv6 ACL	Yes
		Advanced IPv6 ACL	Yes
		Layer 2 ACL	Yes
		User group ACL	Yes
		User-defined ACL	Yes
Configuration and maintenance	Login and configuration management	Command line interface (CLI)-based configuration	Yes
		Console terminal service	Yes
		Telnet terminal service	Yes
		SSH v1.5	Yes
		SSH v2.0	Yes
		SNMP-based NMS for unified configuration	Yes
		Web page-based configuration and management	Yes
		EasyDeploy (client)	Yes
		EasyDeploy (commander)	Yes
		SVF	Yes
		Cloud management	Yes
		OPS	Yes
	File system	Directory and file management	Yes
		File upload and download	Yes
	Monitoring and maintenance	Deception	Yes
		ECA	Yes
		eMDI	Yes
		Hardware monitoring	Yes
		Log information output	Yes
		Alarm information output	Yes
		Debugging information output	Yes
		Port mirroring	Yes
		Flow mirroring	Yes
		Remote mirroring	Yes
		Energy saving	Yes
	Version upgrade	Version upgrade	Yes
		Version rollback	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
Security	ARP security	ARP packet rate limiting	Yes
		ARP anti-spoofing	Yes
		Association between ARP and STP	Yes
		ARP gateway anti-collision	Yes
		Dynamic ARP Inspection (DAI)	Yes
		Static ARP Inspection (SAI)	Yes
		Egress ARP Inspection (EAI)	Yes
	IP security	ICMP attack defense	Yes
		IPSG for IPv4	Yes
		IPSG user capacity	3K
		IPSG for IPv6	Yes
		IPSGv6 user capacity	1.5K
	Local attack defense	CPU attack defense	Yes
	MFF	MFF	Yes
	DHCP snooping	DHCP snooping	Yes
		Option 82 function	Yes
		Dynamic rate limiting for DHCP packets	Yes
	Attack defense	Defense against malformed packet attacks	Yes
		Defense against UDP flood attacks	Yes
		Defense against TCP SYN flood attacks	Yes
		Defense against ICMP flood attacks	Yes
		Defense against packet fragment attacks	Yes
		Local URPF	Yes
User access and authentication	AAA	Local authentication	Yes
		Local authorization	Yes
		RADIUS authentication	Yes
		RADIUS authorization	Yes
		RADIUS accounting	Yes
		HWTACACS authentication	Yes
		HWTACACS authorization	Yes
		HWTACACS accounting	Yes
	NAC	802.1X authentication	Yes
		MAC address authentication	Yes

Function and Feature		Description	CloudEngine S6730-S24X6Q
		Portal authentication	Yes
		Hybrid authentication	Yes
	Policy association	Functioning as the control device	Yes
Network management	-	Ping	Yes
		Tracert	Yes
		NQA	Yes
		NTP	Yes
		iPCA	Yes
		NetStream	Yes
		SNMP v1	Yes
		SNMP v2c	Yes
		SNMP v3	Yes
		HTTP	Yes
		HTTPS	Yes
		RMON	Yes
		RMON2	Yes
		NETCONF/YANG	Yes
VXLAN	-	VXLAN Layer 2 gateway	Yes
		VXLAN Layer 3 gateway	Yes
		Centralized gateway	Yes
		Distributed gateway	Yes
		BGP-EVPN	Yes
		BGP-EVPN neighbor capacity	256
Interoperability	-	VLAN-based Spanning Tree (VBST)	Yes
		Link-type Negotiation Protocol (LNP)	Yes
		VLAN Central Management Protocol (VCMP)	Yes

📖 **NOTE**

This content is applicable only to regions outside mainland China. Huawei reserves the right to interpret this content.

Hardware Specifications

The following table lists hardware specifications of the CloudEngine S6730-S series.

Item		CloudEngine S6730-S24X6Q
Physical specifications	Chassis dimensions (W x D x H, mm)	442 x 420 x 43.6

Item		CloudEngine S6730-S24X6Q
	Chassis height	1 U
	Chassis weight (full configuration weight, including weight of packaging materials)	6.95 kg
Fixed port	10GE port	24
	40GE port	6
Management port	ETH management port	Supported
	Console port (RJ45)	Supported
	USB port	USB 2.0
CPU	Frequency	1.4 GHz
	Cores	4
Memory	Memory (RAM)	4GB
	Flash	Hardware: 2 GB
Power supply system	Power supply type	• 600 W AC (pluggable) • 1000 W DC (pluggable)
	Rated voltage range	• AC: 100 V AC to 240 V AC, 50/60 Hz;DC:190V-290V • DC: -48 V DC to -60 V DC
	Maximum voltage range	• AC: 90 V AC to 264 V AC; 47-63 Hz • DC: -38.4 V DC to -72 V DC
	Maximum input current	• 600 W AC: 8 A • 1000 W DC: 30 A
	Maximum power consumption of the device	225 W
	Power consumption in the case of 30% traffic load[1]	135 W
	Power consumption in the case of 100% traffic load[1]	149 W
	Minimum power consumption of the device	88 W
Heat dissipation system	Heat dissipation mode	Air-cooled heat dissipation and intelligent fan speed adjustment
	Number of fan modules	Pluggable dual fans
	Airflow	Front-to-back
Environment parameters	Long-term operating temperature	• 0-1800 m: -5°C to 45°C • 1800-5000 m: The operating temperature decreases 1°C for every 220 m increase in altitude.
	Storage temperature	-40°C to +70°C
	Relative humidity	5%-95% (non-condensing)
	Operating altitude	5000 m

Item		CloudEngine S6730-S24X6Q
	Noise under normal temperature (sound power)	65 dB(A)
	Noise under high temperature (sound power)	88 dB(A)
	Noise under normal temperature (sound pressure)	52 dB(A)
	Surge protection specification (power port)	• AC power interface: differential mode: ±6kV: common mode: ±6kV • DC power interface: differential mode: ±2kV: common mode: ±4kV
Reliability	MTBF (year)[2]	62.27
	MTTR (hour)	2
	Availability	> 0.99999
Certification		• EMC certification • Safety certification • Manufacturing certification **NOTE** For details about certifications, see the section Safety and Regulatory Compliance.

📖 **NOTE**

1: The power consumption under different load conditions is calculated according to the ATIS standard. Additionally, the EEE function is enabled and there is no PoE power output.

2: The reliability parameter values are calculated based on the typical configuration of the device. The parameter values vary according to the modules configured by the customer.

Licensing

CloudEngine S6730-S supports both the traditional feature-based licensing mode and the latest Huawei IDN One Software (N1 mode for short) licensing mode. The N1 mode is ideal for deploying Huawei CloudCampus Solution in the on-premises scenario, as it greatly enhances the customer experiences in purchasing and upgrading software services with simplicity.

Software Package Features in N1 Mode

| Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
Basic network functions: Layer 2 functions, IPv4, IPv6, MPLS, SVF, and others Note: For details, see the Service Features	√	√	√
Basic network automation based on the Agile Controller: • Basic automation: Plug-and-play • Basic monitoring: Application visualization • NE management: Image and topology management and discovery	×	√	√

Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
Advanced network automation and intelligent O&M: VXLAN, user access authentication, free mobility, and CampusInsight basic functions	×	×	√

Note: Only V200R019C00 and later versions can support N1 mode

Networking and Applications

Large-scale Enterprise Campus Network

CloudEngine S6730-S series switches can be deployed at the aggregation layer of a large-scale enterprise campus network, creating a highly reliable, scalable, and manageable enterprise campus network.
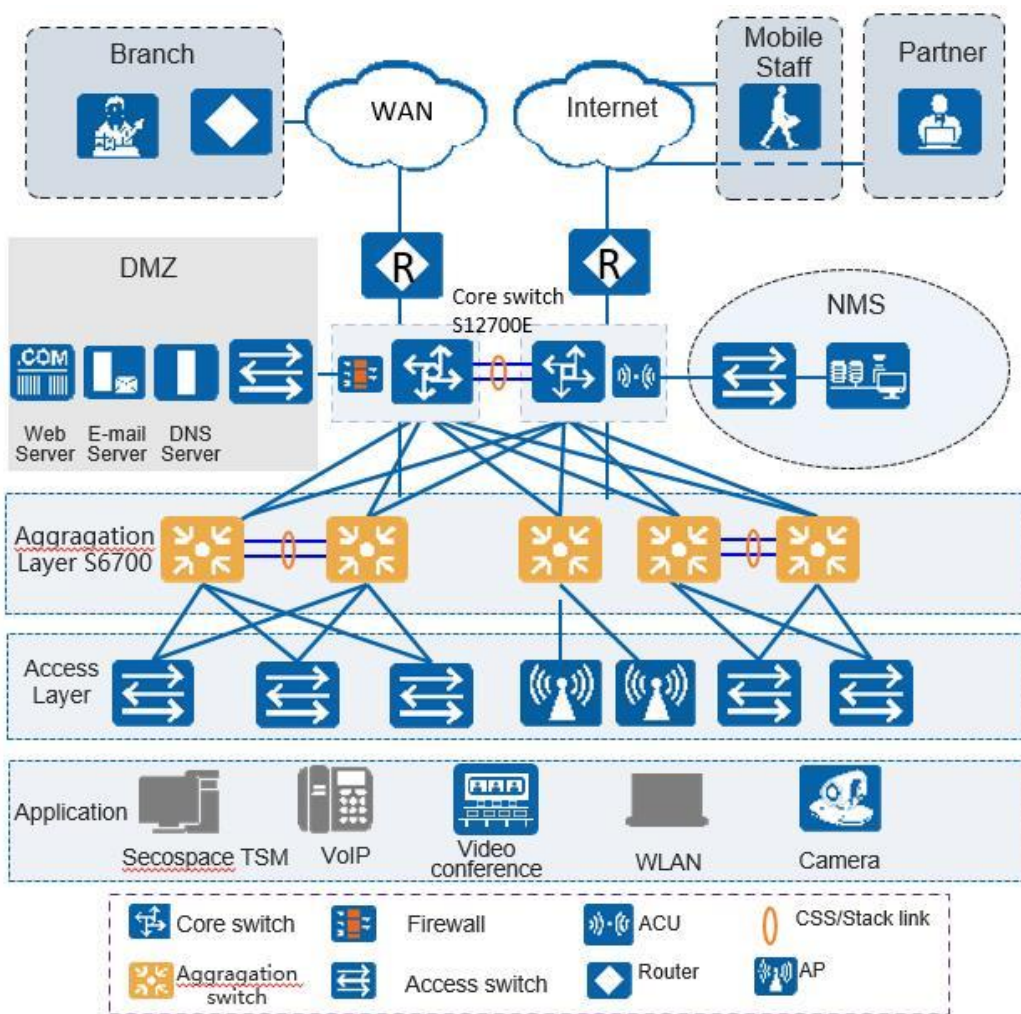
Application on a MAN

CloudEngine S6730-S series switches can be deployed at the access layer of a MAN(Metropolitan Area Network) to build a high-performance, multi-service, and highly reliable ISP MAN network.
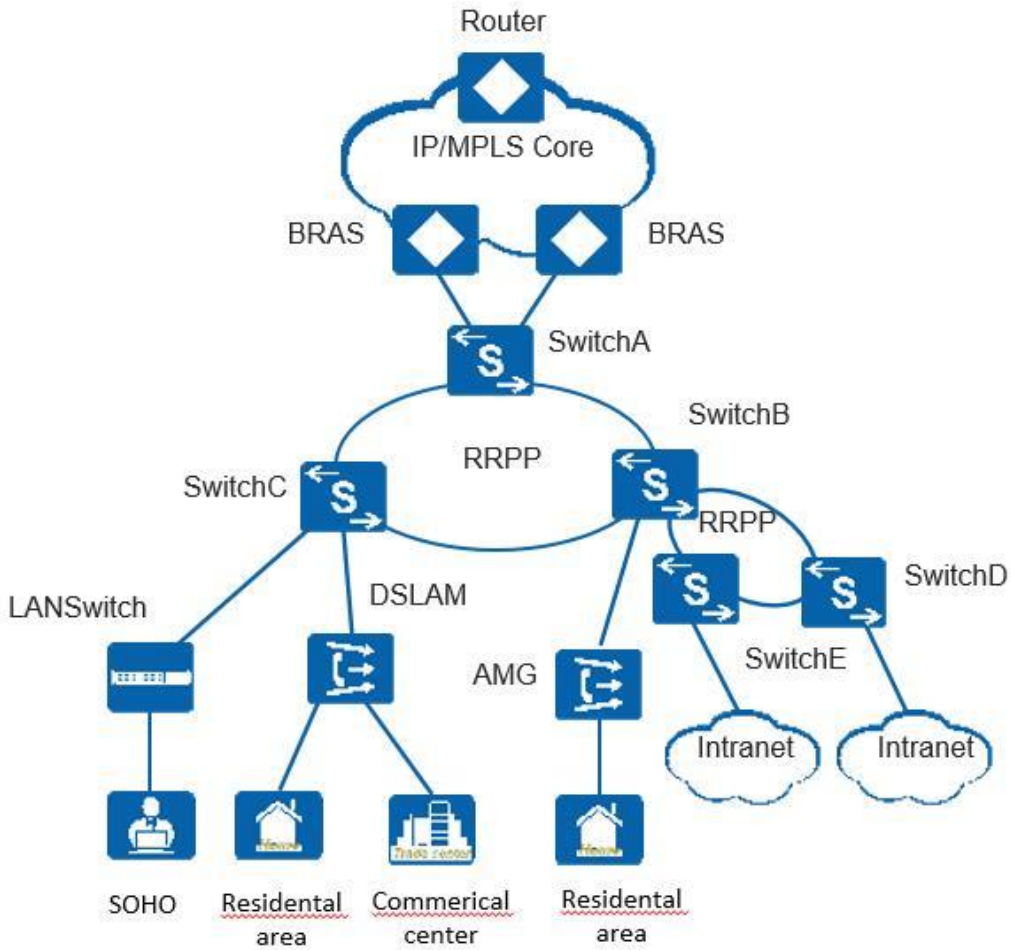
Data Center

CloudEngine S6730-S switches can be deployed at the access layer build a virtualized, highly reliable, non-blocking, and energy conservative data center network.
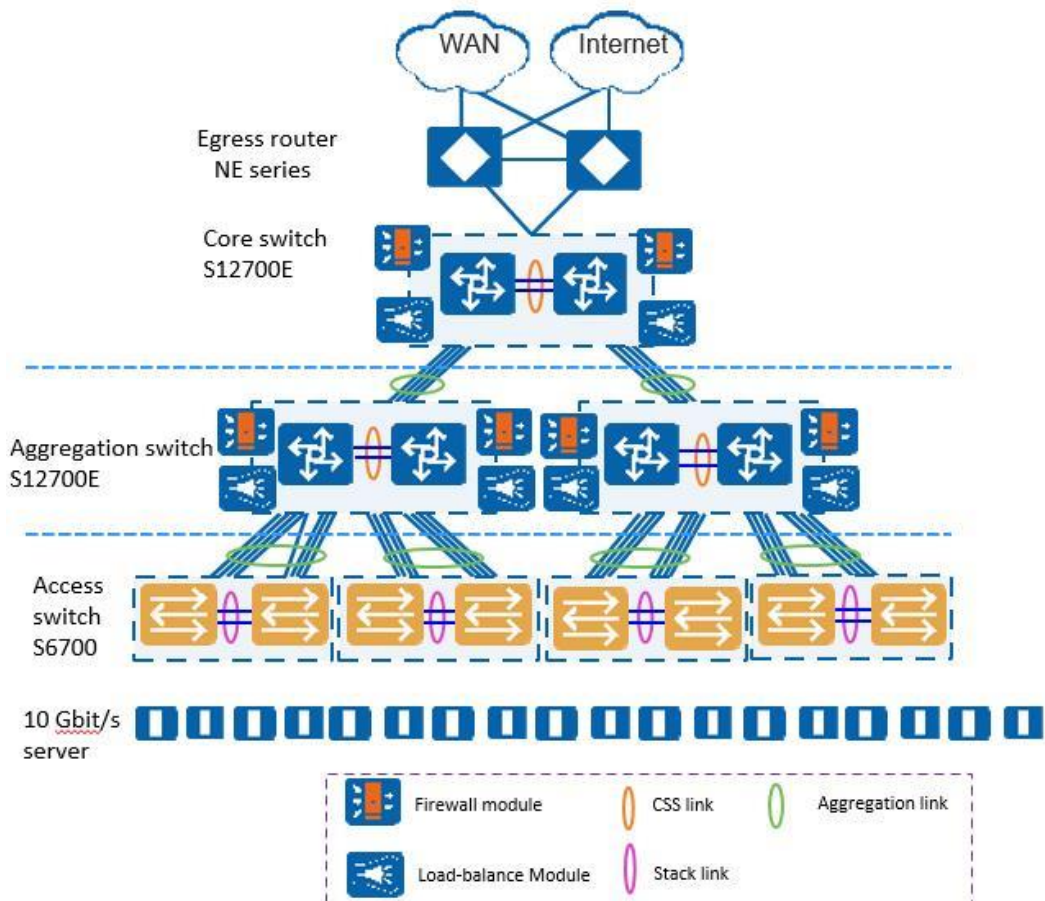
Application in Public Cloud

CloudCampus Solution is a network solution suite based on Huawei public cloud. CloudEngine S6730-S series switches can be located at the access layer.

The switches are plug-and-play. They go online automatically after being powered on and connected with network cables, without the need for complex configurations. The switches can connect to the management and control system (CloudCampus@AC-Campus for switches running V200R019C00 and earlier versions; iMaster NCE-Campus for switches running V200R019C10 and later versions), and use bidirectional certificate authentication to ensure management channel security. The switches provide the NETCONF and YANG interfaces, through which the management and control system delivers configurations to them. In addition, remote maintenance and fault diagnosis can be performed on the management and control system.

Cooperative systems: PKI, ESDP, SecCenter, Technical Support website

Management and control systems: Data center egress

Headquarters: VPN gateway

ISP network — Internet — R

Tenant network (branch) — FW — Switch — Switch

VPN tunnel

— Traffic to the Internet
— Traffic to the management and control system
- - - Traffic from branch to headquarters
- - - RADIUS authentication traffic
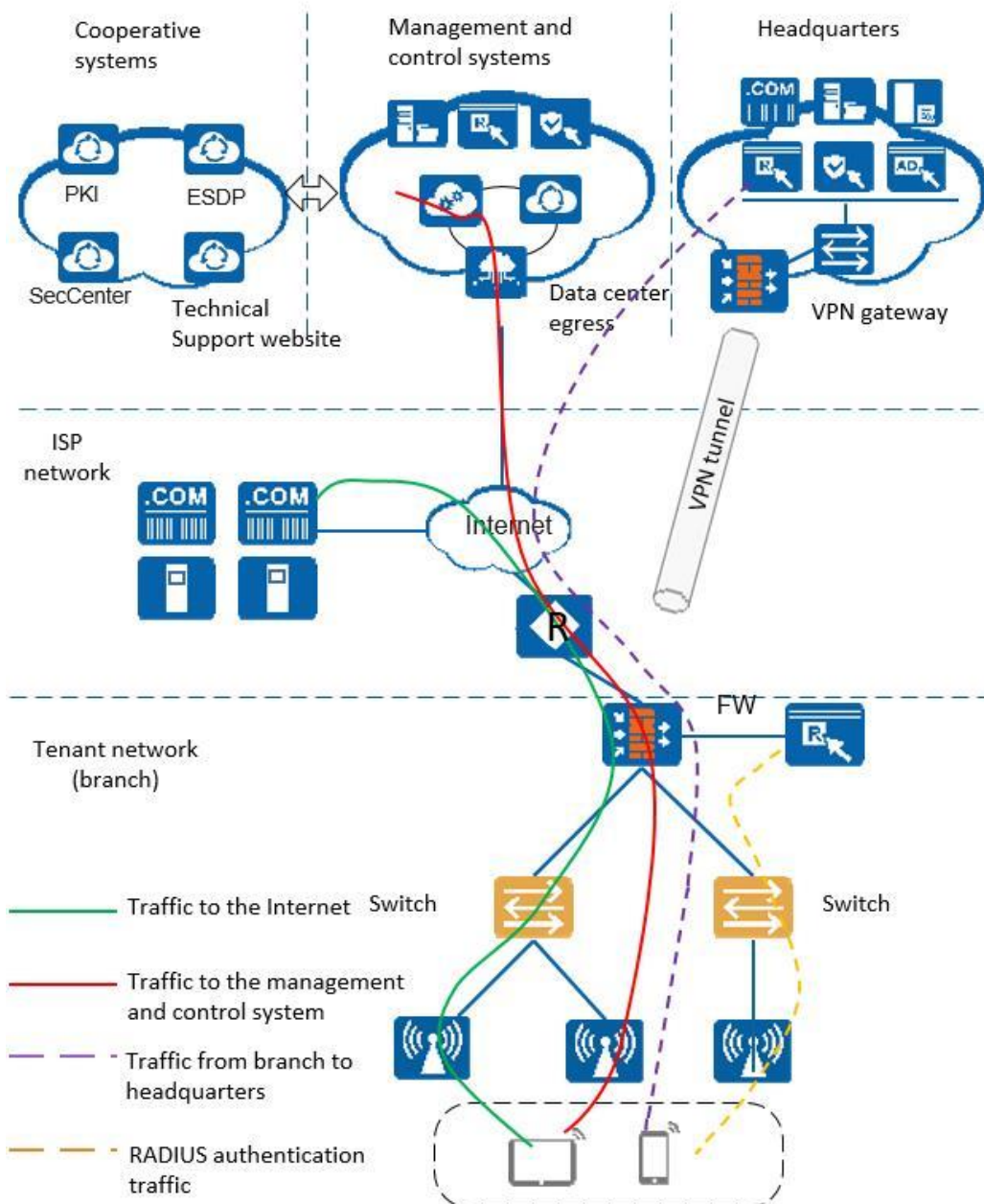
Product Accessories

Optical Modules and Fibers

10GE SFP+ ports support optical modules and cables

- GE optical module
- GE-CWDM optical module
- GE-DWDM optical module
- GE copper module (100M/1000M auto-sensing)
- 10GE SFP+ optical module (OSXD22N00 not supported)
- 10GE-CWDM optical module
- 10GE-DWDM optical module
- 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables
- 3 m and 10 m SFP+ AOC cables

- 0.5 m and 1.5 m SFP+ dedicated stack copper cables

40GE QSFP+ ports support optical modules and cables

- QSFP+ optical module
- 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables
- 10 m QSFP+ to QSFP+ AOC cable

📖 NOTE

- A 40GE QSFP+ optical port cannot be split into four 10GE ports.

The fibers and optical modules supported by Huawei switches are periodically updated. For the latest information, visit https://support.huawei.com/enterprise/en/doc/EDOC1000013621/98295a4b/pluggable-modules-for-interfaces or contact your local Huawei sales office.

Stack Cables

The CloudEngine S6730-S Series switches support service port stacking. The applicable stack cables are as follows:

Port Supporting Stacking	Stack Cable	Rate of a Single Port
10GE ports on the front panel	• 1 m, 3 m, and 5 m SFP+ passive high-speed copper cables • 10 m SFP+ active high-speed copper cables • 3 m and 10 m AOC cables • 10GE SFP+ optical module and optical fiber • 0.5 m and 1.5 m SFP+ dedicated stack cable	10 Gbit/s
40GE ports on the front panel	• 1 m, 3 m, and 5 m QSFP+ passive high-speed copper cables • 10 m QSFP+ AOC cables • QSFP+ optical module (QSFP+-40G-SR-BD not supported) and optical fiber	40 Gbit/s

Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of the CloudEngine S6730-S Series.

Certification Category	Description
Safety	• IEC 60950-1 and all country deviations • EN 60950-1 • UL 60950-1 • CAN/CSA 22.2 No.60950-1 • GB 4943
Electromagnetic Compatibility (EMC)	• EMI • FCC CFR47 Part 15 Class A • EN55022 Class A • CISPR 22 Class A • EN61000-3-2/IEC-1000-3-2, Power line harmonics • EN61000-4-3/IEC-1000-4-3, Radiated immunity • EN61000-4-2/IEC-1000-4-2, ESD • EN61000-4-4/IEC-1000-4-4, EFT

Certification Category	Description
	• EN61000-4-5/IEC-1000-4-5, Surge Signal Port
	• EN61000-4-6/IEC-1000-4-6, Low frequency conducted immunity
	• EN61000-4-11/IEC-1000-4-11, Voltage dips and sags
	• EN61000-4-29/IEC61000-4-29, Voltage dips and sags
	• EMC Directive 89/336/EEC
	• EMC Directive 2004/108/EC
	• VCCI V-3 Class A
	• ICES-003 Class A
	• AS/NZS CISPR 22 Class A
	• CNS 13438 Class A
	• GB9254 Class A

📖 NOTE

- EMC: electromagnetic compatibility
- CISPR: International Special Committee on Radio Interference
- EN: European Standard
- ETSI: European Telecommunications Standards Institute
- CFR: Code of Federal Regulations
- FCC: Federal Communication Commission
- IEC: International Electrotechnical Commission
- AS/NZS: Australian/New Zealand Standard
- VCCI: Voluntary Control Council for Interference
- UL: Underwriters Laboratories
- CSA: Canadian Standards Association
- IEEE: Institute of Electrical and Electronics Engineers

MIB and Standards Compliance

Supported MIBs

Category	MIB
Public MIB	• BRIDGE-MIB
	• DISMAN-NSLOOKUP-MIB
	• DISMAN-PING-MIB
	• DISMAN-TRACEROUTE-MIB
	• ENTITY-MIB
	• EtherLike-MIB
	• IF-MIB
	• IP-FORWARD-MIB
	• IPv6-MIB
	• LAG-MIB
	• LLDP-EXT-DOT1-MIB
	• LLDP-EXT-DOT3-MIB
	• LLDP-MIB
	• NOTIFICATION-LOG-MIB

Category	MIB
	- NQA-MIB
	- OSPF-TRAP-MIB
	- P-BRIDGE-MIB
	- Q-BRIDGE-MIB
	- RFC1213-MIB
	- RIPv2-MIB
	- RMON2-MIB
	- RMON-MIB
	- SAVI-MIB
	- SNMP-FRAMEWORK-MIB
	- SNMP-MPD-MIB
	- SNMP-NOTIFICATION-MIB
	- SNMP-TARGET-MIB
	- SNMP-USER-BASED-SM-MIB
	- SNMPv2-MIB
	- TCP-MIB
	- UDP-MIB
Huawei-proprietary MIB	- HUAWEI-AAA-MIB
	- HUAWEI-ACL-MIB
	- HUAWEI-ALARM-MIB
	- HUAWEI-ALARM-RELIABILITY-MIB
	- HUAWEI-BASE-TRAP-MIB
	- HUAWEI-BRAS-RADIUS-MIB
	- HUAWEI-BRAS-SRVCFG-EAP-MIB
	- HUAWEI-BRAS-SRVCFG-STATICUSER-MIB
	- HUAWEI-CBQOS-MIB
	- HUAWEI-CDP-COMPLIANCE-MIB
	- HUAWEI-CONFIG-MAN-MIB
	- HUAWEI-CPU-MIB
	- HUAWEI-DAD-TRAP-MIB
	- HUAWEI-DC-MIB
	- HUAWEI-DATASYNC-MIB
	- HUAWEI-DEVICE-MIB
	- HUAWEI-DHCPR-MIB
	- HUAWEI-DHCPS-MIB
	- HUAWEI-DHCP-SNOOPING-MIB
	- HUAWEI-DIE-MIB
	- HUAWEI-DNS-MIB
	- HUAWEI-DLDP-MIB
	- HUAWEI-ELMI-MIB
	- HUAWEI-ERPS-MIB
	- HUAWEI-ERRORDOWN-MIB
	- HUAWEI-ENERGYMNGT-MIB
	- HUAWEI-EASY-OPERATION-MIB

Category	MIB
	- HUAWEI-ENTITY-EXTENT-MIB
	- HUAWEI-ENTITY-TRAP-MIB
	- HUAWEI-ETHARP-MIB
	- HUAWEI-ETHOAM-MIB
	- HUAWEI-FLASH-MAN-MIB
	- HUAWEI-FWD-RES-TRAP-MIB
	- HUAWEI-GARP-APP-MIB
	- HUAWEI-GTSM-MIB
	- HUAWEI-HGMP-MIB
	- HUAWEI-HWTACACS-MIB
	- HUAWEI-IF-EXT-MIB
	- HUAWEI-INFOCENTER-MIB
	- HUAWEI-IPPOOL-MIB
	- HUAWEI-IPV6-MIB
	- HUAWEI-ISOLATE-MIB
	- HUAWEI-L2IF-MIB
	- HUAWEI-L2MAM-MIB
	- HUAWEI-L2VLAN-MIB
	- HUAWEI_LDT-MIB
	- HUAWEI-LLDP-MIB
	- HUAWEI-MAC-AUTHEN-MIB
	- HUAWEI-MEMORY-MIB
	- HUAWEI-MFF-MIB
	- HUAWEI-MFLP-MIB
	- HUAWEI-MSTP-MIB
	- HUAWEI-MULTICAST-MIB
	- HUAWEI-NAP-MIB
	- HUAWEI-NTPV3-MIB
	- HUAWEI-PERFORMANCE-MIB
	- HUAWEI-PORT-MIB
	- HUAWEI-PORTAL-MIB
	- HUAWEI-QINQ-MIB
	- HUAWEI-RIPv2-EXT-MIB
	- HUAWEI-RM-EXT-MIB
	- HUAWEI-RRPP-MIB
	- HUAWEI-SECURITY-MIB
	- HUAWEI-SEP-MIB
	- HUAWEI-SNMP-EXT-MIB
	- HUAWEI-SSH-MIB
	- HUAWEI-STACK-MIB
	- HUAWEI-SWITCH-L2MAM-EXT-MIB
	- HUAWEI-SWITCH-SRV-TRAP-MIB
	- HUAWEI-SYS-MAN-MIB
	- HUAWEI-TCP-MIB
	- HUAWEI-TFTPC-MIB

Category	MIB
	• HUAWEI-TRNG-MIB
	• HUAWEI-XQOS-MIB

📖 **NOTE**

For more information about MIBs supported by the CloudEngine S6730-S series, visit:
https://support.huawei.com/enterprise/en/switches/s6700-pid-6691593?category=reference-guides

Standards Compliance

The following table lists the standards that the CloudEngine S6730-S series complies with.

Standard Organization	Standard or Protocol
IETF	• RFC 768 User Datagram Protocol (UDP)
	• RFC 792 Internet Control Message Protocol (ICMP)
	• RFC 793 Transmission Control Protocol (TCP)
	• RFC 826 Ethernet Address Resolution Protocol (ARP)
	• RFC 854 Telnet Protocol Specification
	• RFC 951 Bootstrap Protocol (BOOTP)
	• RFC 959 File Transfer Protocol (FTP)
	• RFC 1058 Routing Information Protocol (RIP)
	• RFC 1112 Host extensions for IP multicasting
	• RFC 1157 A Simple Network Management Protocol (SNMP)
	• RFC 1256 ICMP Router Discovery
	• RFC 1305 Network Time Protocol Version 3 (NTP)
	• RFC 1349 Internet Protocol (IP)
	• RFC 1493 Definitions of Managed Objects for Bridges
	• RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
	• RFC 1643 Ethernet Interface MIB
	• RFC 1757 Remote Network Monitoring (RMON)
	• RFC 1901 Introduction to Community-based SNMPv2
	• RFC 1902-1907 SNMP v2
	• RFC 1981 Path MTU Discovery for IP version 6
	• RFC 2131 Dynamic Host Configuration Protocol (DHCP)
	• RFC 2328 OSPF Version 2
	• RFC 2453 RIP Version 2
	• RFC 2460 Internet Protocol, Version 6 Specification (IPv6)
	• RFC 2461 Neighbor Discovery for IP Version 6 (IPv6)
	• RFC 2462 IPv6 Stateless Address Auto configuration
	• RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6)
	• RFC 2474 Differentiated Services Field (DS Field)
	• RFC 2740 OSPF for IPv6 (OSPFv3)
	• RFC 2863 The Interfaces Group MIB
	• RFC 2597 Assured Forwarding PHB Group
	• RFC 2598 An Expedited Forwarding PHB
	• RFC 2571 SNMP Management Frameworks
	• RFC 2865 Remote Authentication Dial In User Service (RADIUS)

Standard Organization	Standard or Protocol
	- RFC 3046 DHCP Option82 - RFC 3376 Internet Group Management Protocol, Version 3 (IGMPv3) - RFC 3513 IP Version 6 Addressing Architecture - RFC 3579 RADIUS Support For EAP - RFC 4271 A Border Gateway Protocol 4 (BGP-4) - RFC 4760 Multiprotocol Extensions for BGP-4 - draft-grant-tacacs-02 TACACS+ - RFC 6241 Network Configuration Protocol (NETCONF) - RFC 6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)
IEEE	- IEEE 802.1D Media Access Control (MAC) Bridges - IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering - IEEE 802.1Q Virtual Bridged Local Area Networks - IEEE 802.1ad Provider Bridges - IEEE 802.2 Logical Link Control - IEEE Std 802.3 CSMA/CD - IEEE Std 802.3ab 1000BASE-T specification - IEEE Std 802.3ad Aggregation of Multiple Link Segments - IEEE Std 802.3ae 10GE WEN/LAN Standard - IEEE Std 802.3x Full Duplex and flow control - IEEE Std 802.3z Gigabit Ethernet Standard - IEEE802.1ax/IEEE802.3ad Link Aggregation - IEEE 802.3ah Ethernet in the First Mile. - IEEE 802.1ag Connectivity Fault Management - IEEE 802.1ab Link Layer Discovery Protocol - IEEE 802.1D Spanning Tree Protocol - IEEE 802.1w Rapid Spanning Tree Protocol - IEEE 802.1s Multiple Spanning Tree Protocol - IEEE802.1x Port based network access control protocol
ITU	- ITU SG13 Y.17ethoam - ITU SG13 QoS control Ethernet-Based IP Access - ITU-T Y.1731 ETH OAM performance monitor
ISO	- ISO 10589 IS-IS Routing Protocol
MEF	- MEF 2 Requirements and Framework for Ethernet Service Protection - MEF 9 Abstract Test Suite for Ethernet Services at the UNI - MEF 10.2 Ethernet Services Attributes Phase 2 - MEF 11 UNI Requirements and Framework - MEF 13 UNI Type 1 Implementation Agreement - MEF 15 Requirements for Management of Metro Ethernet Phase 1 Network Elements - MEF 17 Service OAM Framework and Requirements - MEF 20 UNI Type 2 Implementation Agreement - MEF 23 Class of Service Phase 1 Implementation Agreement - Xmodem XMODEM/YMODEM Protocol Reference

Ordering Information

The following table lists ordering information of the CloudEngine S6730-S series switches.

Model	Product Description
CloudEngine S6730-S24X6Q	CloudEngine S6730-S24X6Q(24 x 10 Gig SFP+, 6 x 40 Gig QSFP+. equipped power modules by default not available)
PAC600S12-CB	600W AC power module
PDC1000S12-DB	1000W DC power module
L-VxLAN-S67	S67 Series, VxLAN License, Per Device
N1-S67S-M-Lic	S67 Series Basic SW,Per Device
N1-S67S-M-SnS1Y	S67 Series Basic SW,SnS,Per Device,1Year

More Information

For more information about the Huawei Campus Switches, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging in to the Huawei Enterprise technical support website: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei. com