Huawei CloudEngine S6750-H Series 25GE Switches Datasheet

Huawei CloudEngine S6750-H series 25GE switches are next-generation enterprise-class core and aggregation switches that provide 48 x 25GE downlink optical ports and 8 x 100GE uplink optical ports.

Introduction

Huawei CloudEngine S6750-H series 25GE switches are next-generation enterprise-class core and aggregation switches that offer high performance, high reliability, cloud management, and intelligent operations and maintenance (O&M). They build on an industry-leading software and hardware platform and are purpose-built with security, IoT, and cloud in mind. With these traits, CloudEngine S6750-H can be widely used in enterprise campuses, colleges/universities, finance/bank and other scenarios.

CloudEngine S6750-H series 25GE switches offer 25GE port types, flexibly adapting to diversified network bandwidth requirements. They also support cloud management and implement cloud-managed network services throughout the full lifecycle from planning, deployment, monitoring, experience visibility, and fault rectification, all the way to network optimization, greatly simplifying network management.

CloudEngine S6750-H series 25GE switches support free mobility, enables consistent user experience no matter the user location or IP address, fully meeting enterprises' demands for mobile offices.

CloudEngine S6750-H series 25GE switches support VXLAN to implement network virtualization, achieving multi-purpose networks and multi-network convergence for greatly improved network capacity and utilization. As such, CloudEngine S6750-H series 25GE switches are an ideal choice for building next-generation IoT converged networks in terms of cost, flexibility, and scalability.

Product Overview

Models and Appearances

The following models are available in CloudEngine S6750-H series 25GE switches.

Appearance	Description
 CloudEngine S6750-H48Y8C	• 48 x 1/10/25 GE SFP28, 8 x 40/100 GE QSFP28 ports • 1+1 power backup • Forwarding performance: 1200 Mpps • Switching capacity: 4Tbps/ 8Tbps* *Note: 40/100GE uplink ports support be splited to 4 x 10GE or 4 x 25GE, for details, see the product documentation.*
 CloudEngine S6750-H48Y8C-B	• 48 x 1/10/25 GE SFP28, 8 x 40/100 GE QSFP28 ports • 1+1 power backup • Forwarding performance: 1200 Mpps

Appearance	Description
	• Switching capacity: 4Tbps/ 8Tbps* *Note: 40/100GE uplink ports support be splited to 4 x 10GE or 4 x 25GE, for details, see the product documentation.*

*Note：The value before the slash (/) refers to the device's switching capability, while the value after the slash (/) means the system's switching capability.

Fan Module

The following table lists the fan module on CloudEngine S6750-H series 25GE switches.

Fan Module	Technical Specifications	Applied Switch Model
 FAN-031A-B	• Dimensions (H x W x D): 40 mm x 40 mm x 100.3 mm • Number of fans: 1 • Weight: 0.1 kg • Maximum power consumption: 21.6 W • Maximum fan speed: 24500±10% revolutions per minute (RPM) • Maximum wind rate: 31 cubic feet per minute (CFM) • Hot swap: Supported	• CloudEngine S6750-H48Y8C
 FAN-031A-F	• Dimensions (H x W x D): 40 mm x 40 mm x 100.3 mm • Number of fans: 1 • Weight: 0.1 kg • Maximum power consumption: 21.6 W • Maximum fan speed: 24500±10% revolutions per minute (RPM) • Maximum wind rate: 31 cubic feet per minute (CFM) • Hot swap: Supported	• CloudEngine S6750-H48Y8C-B

Power Supply

The following table lists the power supplies on CloudEngine S6750-H 25GEseries.

Power Module	Technical Specifications	Applied Switch Model
 PDC400S12-CB	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight without packaging [kg(lb)]: 0.679 kg (1.5 lb) • Rated input voltage [V]: – +48 V DC – -48 V DC to -60 V DC • Input voltage range [V]: – +40 V DC to +57 V DC – -38.4 V DC to -72 V DC • Maximum input current [A]: 12A • Rated output voltage [V]: 12.3V • Rated output current [A]: 35.52A • Rated output power [W]: 400 W	• CloudEngine S6750-H48Y8C

Power Module	Technical Specifications	Applied Switch Model
	• Hot swap: Supported	
 PDC400S12-CF	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight without packaging [kg(lb)]: 1.0kg (2.2 lb) • Rated input voltage [V]: – +48 V DC – -48 V DC to -60 V DC • Input voltage range [V]: – +40 V DC to +57 V DC – -38.4 V DC to -72 V DC • Maximum input current [A]: 12A • Rated output voltage [V]: 12.3V • Rated output current [A]: 35.52A • Rated output power [W]: 400 W • Hot swap: Supported	• CloudEngine S6750-H48Y8C-B
 PAC600S12-PB	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight: 1 kg (2.2 lb) • Rated input voltage [V]: – 100 V AC to 240 V AC, 50/60 Hz – 240 V DC • Input voltage range [V]: – 90 V AC to 290 V AC, 45 Hz to 65 Hz – 190 V DC to 290 V DC • Maximum input current [A]: – 100 V AC to 240 V AC: 8 A – 240 V DC: 4 A • Rated output current [A]: 50 A • Rated output voltage [V]: 12 V • Rated output power [W]: 600 W • Hot swap: Supported	• CloudEngine S6750-H48Y8C
 PAC600S12-PF	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight: 1 kg (2.2 lb) • Rated input voltage [V]: – 100 V AC to 240 V AC, 50/60 Hz – 240 V DC • Input voltage range [V]: – 90 V AC to 290 V AC, 45 Hz to 65 Hz – 190 V DC to 290 V DC • Maximum input current [A]: – 100 V AC to 240 V AC: 8 A – 240 V DC: 4 A • Rated output current [A]: 50 A	• CloudEngine S6750-H48Y8C-B

Power Module	Technical Specifications	Applied Switch Model
	• Rated output voltage [V]: 12 V • Rated output power [W]: 600 W • Hot swap: Supported	
 PAC1K2S12-PB	• Dimensions (H x W x D): 39.6 mm x 66 mm x 215 mm • Weight: 0.844 kg (1.86 lb) • Rated input voltage range: – 200V AC to 240V AC；50/60Hz – 100V AC to 130V AC；50/60Hz – 240V DC • Maximum input voltage range: – AC：90V AC to 290V AC；45Hz～65Hz – HVDC：190V DC to 290V DC • Maximum input current: – 100V AC to 130V AC：10A – 200V AC to 240V AC：8A – 240V DC：8A • Maximum output current: 100 A • Maximum output power: 1200 W • Hot swap: Supported	• CloudEngine S6750-H48Y8C
 PDC1K2S12-CE	• Dimensions (H x W x D): 39.6 mm x 66.0 mm x 215 mm (1.56 in. x 2.6 in. x 8.46 in.) • Weight: 1.0 kg (2.2 lb) • Rated input voltage [V]: – +48 V DC – -48 V DC to -60 V DC • Input voltage range [V]: – +40 V DC to +57 V DC – -38.4 V DC to -72 V DC • -38.4 V DC to -72 V DC • Maximum input current [A]: 38 A • Rated output current [A]: 100 A • Rated output voltage [V]: 12V • Maximum output power: 1200 W • Hot swap: Supported	• CloudEngine S6750-H48Y8C

The S6750-H 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

Enable Networks to be More Agile for Services

- Built-in high-speed and flexible processor chips, with their flexible packet processing and traffic control capabilities, CloudEngine S6750-H series 25GE switches are close to services, meeting current and future challenges, and helping customers build scalable networks.

- CloudEngine S6750-H series 25GE switches support fully customizing the forwarding mode, forwarding behavior, and search algorithm of traffic. New services are implemented through microcode programming. Customers do not need to replace new hardware and new services can be rolled out within six months.
- CloudEngine S6750-H series 25GE switches provide open interfaces and user-defined forwarding processes to meet customized service requirements of enterprises. Enterprises can use multi-layer open interfaces to develop new protocols and functions independently. They can also hand over their requirements to vendors and jointly develop them to build an enterprise-dedicated campus network.

Delivering Abundant Services More Agilely

- With the unified user management function, the CloudEngine S6750-H series 25GE switches 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 is capable of managing users based on user groups, domains, and time ranges. These functions visualize user and service management and boost the transformation from device-centric management to user experience-centric management.
- The CloudEngine S6750-H series 25GE switches provide excellent quality of service(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.

Fine-Grained Network Management and Visualized Fault Diagnosis

- In-situ Flow Information Telemetry (IFIT) is an in-band Operations, Administration, and Maintenance (OAM) measurement technology that uses service packets to measure real performance indicators of an IP network, such as the packet loss rate and delay. IFIT can significantly improve the timeliness and effectiveness of network O&M, thereby promoting the development of intelligent O&M.
- Three IFIT modes are available: application-level quality measurement, tunnel-level quality measurement, and native-IP IFIT measurement. Currently, CloudEngine S6750-H series 25GE switches support native-IP IFIT measurement only. By providing in-band measurement capabilities, CloudEngine S6750-H series 25GE switches can monitor indicators such as the delay and packet loss rate of service flows in real time. CloudEngine S6750-H series 25GE switches also offer visualized O&M capabilities to centrally manage and control networks and graphically display performance data. Designed with IFIT capabilities featuring high measurement precision and easy deployment, CloudEngine S6750-H series 25GE switches are ideal for constructing an intelligent O&M system and stand out with future-proof scalability.

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the CloudEngine S6750-H series 25GE switches support 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.
- CloudEngine S6750-H series 25GE switches support Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One CloudEngine S6750-H series 25GE switch can connect to multiple core switches through multiple links, significantly improving reliability of aggregation devices.

Mature IPv6 Features

- The CloudEngine S6750-H series swithes are developed based on the mature, stable VRP and supports IPv4/IPv6 dual stacks, IPv6 routing protocols (RIPng, OSPFv3, BGP4+, and IS-IS for IPv6). With these IPv6 features, the CloudEngine S6750-H can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

Intelligent Stack (iStack)

- CloudEngine S6750-H series 25GE switches support 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, up to nine 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.

VXLAN Features

- 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.
- This 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.

Link Layer Security

- Huawei switches support post-quantum cryptography (PQC) algorithms and encryption capabilities within transport security protocols, effectively defending against decryption threats posed by quantum computing to deliver future-proof quantum-resistant security for network infrastructure.
- CloudEngine S6750-H series 25GE switches support MACsec. MACsec protects transmitted Ethernet data frames through identity authentication, data encryption, integrity check, and anti-replay protection, reducing the risks of information leakage and malicious network attacks. With MACsec, these switch models are able to address strict information security requirements of customers in industries such as government and finance.

Note: MACsec ports supported by the CloudEngine S6750-H48Y8C: downlink ports 1 to 32, or downlink ports 1 to 24 + uplink ports 1 to 2, or downlink ports 1 to 16 + uplink ports 1 to 4, or downlink ports 1 to 8 + uplink ports 1 to 6 or uplink ports 1 to 8.

Open Programmability System(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.

Intelligent O&M

- This series 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.

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 S6750-H series 25GE switches.

Functions and Features

Category	Service Features

Category	Service Features
User management	Unified user management
	802.1X authentication
	MAC authentication
	Traffic- and duration-based accounting
	User authorization based on user groups, domains, and time ranges
	jumbo frames：9500 bytes
MAC	Automatic MAC address learning and aging
	512K MAC entries (MAX)
	Static, dynamic, and blackhole MAC address entries
	Source MAC address filtering
	MAC address learning limiting based on ports and VLANs
ACL	Basic IPv4/6 ACL, Advanced IPv4/6 ACL, Layer 2 ACL, User group ACL, User-defined ACL
	ACL Hardware Specifications: 34K*160b(ingress)+4K*160b(egress)
VLAN	4K VLANs simultaneously
	4K VLANif interface simultaneously
	Access mode, Trunk mode and Hybrid mode
	Default VLAN
	QinQ and enhanced selective QinQ
	VLAN Stacking, VLAN mapping
	Dynamic VLAN assignment based on MAC addresses
	VLAN-based ACL (VACL)
ARP	ARP Snooping
	Number of ARP forwarding entries: 140K (Standard mode)
DHCP	DHCPv4 Client/Relay/Server, DHCPv4 Snooping
	DHCPv6 Client/Relay/Server, DHCPv6 Snooping
IP routing	IPv4 dynamic routing protocols such as RIP, OSPF, IS-IS, and BGP
	IPv6 dynamic routing protocols such as RIPng, OSPFv3, ISISv6, and BGP4+
	Routing Policy, Policy-Based Routing
	VRF
	Up to 640K FIBv4 entries (MAX)
	Up to 320K FIBv6 entries (MAX)
Segment Routing	SRv6 BE (L3 EVPN)
	BGP EVPN
	SRv6 configuration through NETCONF

Category	Service Features
Multicast	IGMPv1/v2/v3 and IGMP v1/v2/v3 Snooping
	PIM-DM, PIM-SM, PIM-SSM, PIMv6
	Fast-leave mechanism
	Multicast traffic control
	Multicast VPN
	IP multicast over VXLAN, including L ayer 2/Layer 3 multicast over VXLAN
	Multicast querier
	Multicast protocol packet suppression
MPLS	MPLS-LDP
	MPLS-L3VPN
	MPLS Qos
	MPLS TE
VPN	MPLS BGP VPN, VPWS, VPLS, GRE
VXLAN	Centralized gateway
	Distributed gateway
	BGP-EVPN
	Configures VXLANs through NETCONF
QoS	Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p priority
	Actions such as ACL, Committed Access Rate (CAR), re-marking, and scheduling
	Queuing algorithms, such as PQ, DRR, WDRR, and PQ+DRR, PQ+WDRR
	Congestion avoidance mechanisms such as WRED and tail drop
	Traffic shaping
	Eight queues on each interface
	Network Slicing
	Device buffer: 32.5MB
Native-IP IFIT	Marks the real service packets to obtain real-time count of dropped packets and packet loss ratio
	The statistical period can be modified
	Two-way frame delay measurement
Ethernet loop protection	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s).
	BPDU protection, root protection, and loop protection
	G.8032 Ethernet Ring Protection Switching (ERPS)
	Smart Ethernet Protection(SEP)
Reliability	M-LAG(switching time ＜ 2s)

Category	Service Features
	Service interface-based stacking
	Maximum number of stacked devices: 9
	Stack bandwidth (Bidirectional)
	Link Aggregation Control Protocol (LACP) and E-Trunk
	Virtual Router Redundancy Protocol (VRRP) and Bidirectional Forwarding Detection (BFD) for VRRP
	VRRP group: 1024
	BFD for BGP/IS-IS/OSPF/static routes
	Eth-OAM 802.1ag(CFM)
	Smartlink
	LLDP
	LBDT
	Y.1731
System management	iStack, Maximum number: 9
	Console terminal service
	Telnet/IPv6 Telnet terminal service
	SSH v1.5
	SSH v2.0
	SNMP v1/v2/v3
	FTP, TFTP, SFTP
	BootROM upgrade and remote in-service upgrade
	Hot patch
	User operation logs
	Open Programmability System (OPS)
	Streaming Telemetry
	GVRP
	iPCA, NetStream, NQA, Telemetry
	1588v2
Security and management	NAC
	Port security
	RADIUS and HWTACACS authentication for login users
	MACsec
	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

Category	Service Features
	IPv6 RA Guard
	CPU hardware queues to implement hierarchical scheduling and protection for protocol packets on the control plane
	Remote Network Monitoring (RMON)
	Secure boot
	Port mirroring
	ND snooping
Wireless management (integrated WLAN AC): Basic WLAN services	Hot backup for devices with integrated WLAN AC functionality in cluster mode
	2.4G & 5G load balancing
	5G-prior access
Wireless management (integrated WLAN AC): AP management	Total number of managed APs: 1K
	An IPv4 network between an AP and a WLAN AC
	AP blacklist
	AP whitelist
	Sets the AP access control mode
	AP configuration and management
	AP LLDP topology awareness
Wireless management (integrated WLAN AC): Wireless user management	User roaming within a WLAN AC
	AP-based user location
	802.1X authentication
	MAC address authentication
	Portal authentication
Wireless management (integrated WLAN AC): CAPWAP	Direct data forwarding on L2/L3 networks
	Tunnel-based data forwarding on L2/L3 networks
	CAPWAP tunnel encryption
Wireless management (integrated WLAN AC): RF management	802.11a/b/g/n
	802.11ac wave1/wave2
	802.11ax
	802.11be
	Sets RF interference monitoring and avoidance
	Detects co-channel interference, adjacent interference, and interference from other devices and STAs
	Automatically selects channels and power when APs go online
	Dynamic power and channel optimization
Wireless management	Rate limiting of upstream and downstream traffic on the air interface based on the VAP

Category	Service Features
(integrated WLAN AC): WLAN QoS	Rate limiting of upstream and downstream traffic on the air interface based on users
	CAR for WLAN users
Interoperability	VBST (compatible with PVST/PVST+/RPVST)

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 S6750-H series 25GE switches.

Item		CloudEngine S6750-H48Y8C	CloudEngine S6750-H48Y8C-B
Physical specifications	Chassis dimensions (H x W x D, mm)	43.6 mm x 442.0 mm x 420.0 mm (1.72 in. x 17.4 in. x 16.54 in.)	43.6 mm x 442.0 mm x 420.0 mm (1.72 in. x 17.4 in. x 16.54 in.)
	Chassis height	1U	1U
	Chassis weight (full configuration weight, including weight of packaging materials)	11.23kg	11.23kg
Fixed port	GE port	48	48
	10GE	48	48
	25GE port	48	48
	40GE port	8	8
	100GE port	8	8
Management port	ETH management port(RJ45)	Supported	Supported
	Console port (RJ45)	Supported	Supported
	USB port	USB 2.0	USB 2.0
CPU	Frequency	1.4 GHz	1.4 GHz
	Cores	4	4
Memory	Memory (RAM)	8GB	8GB
	Flash	Physical space: 4 GB	Physical space: 4 GB
Power supply system	Power supply type	• 600 W AC (pluggable) • 400 W DC (pluggable) • 1200 W AC (pluggable) • 1200 W DC (pluggable)	• 600 W AC (pluggable) • 400 W DC (pluggable)
	Rated voltage range	• AC input: 100 V AC to 240 V AC; 50/60 Hz • High-voltage DC input: 240 V DC • DC input: –48 V DC to –60 V DC	• AC input: 100 V AC to 240 V AC; 50/60 Hz • High-voltage DC input: 240 V DC • DC input: –48 V DC to –60 V DC

Item		CloudEngine S6750-H48Y8C	CloudEngine S6750-H48Y8C-B
	Maximum voltage range	• AC input: 90 V AC to 290 V AC; 45–65 Hz • High-voltage DC input: 190 V DC to 290 V DC • DC input: -38.4 V DC to -72 V DC	• AC input: 90 V AC to 290 V AC; 45–65 Hz • High-voltage DC input: 190 V DC to 290 V DC • DC input: -38.4 V DC to -72 V DC
	Maximum input current	The current specifications are related to the pluggable power module. For details, see Pluggable Power Modules.	The current specifications are related to the pluggable power module. For details, see Pluggable Power Modules.
	Typical power consumption [W]	30% traffic under the ATIS standard and dual power modules: 223 W	30% traffic under the ATIS standard, dual power modules: • 224 W (all ports used, two 600 W AC power modules) • 215 W (all ports used, two 400 W DC power modules)
	Maximum power consumption [W]	100% traffic under the ATIS standard and dual power modules: 244 W High temperature 45°C (113°F), 100% traffic, and dual power modules: 342 W	100% traffic under the ATIS standard, dual power modules: • 244 W (all ports used, two 600 W AC power modules) • 231 W (all ports used, two 400 W DC power modules)
Heat dissipation system	Heat dissipation mode	Air cooling for heat dissipation, intelligent fan speed adjustment	Air cooling for heat dissipation, intelligent fan speed adjustment
	Number of fan modules	5	5
	Airflow	Air intake from front, air exhaustion from rear (front-to-rear)	Air intake from rear, air exhaustion from front (rear-to-front)
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.	• 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	–40°C to +70°C (–40°F to +158°F)
	Relative humidity	5% to 95%, noncondensing	5% to 95%, non-condensing
	Operating altitude	0-5000 m	0-5000 m
	Noise at normal temperature (acoustic power) [dB(A)]	58.4 dB(A)	73.6 dB(A)
	Noise at normal temperature (acoustic pressure) [dB(A)]	57.2 dB(A)	56.9 dB(A)
	Surge protection specification (power port)	• Using AC power modules: ±6 kV in differential mode, ±6 kV	• Using AC power modules: ±6 kV in differential mode,

Item		CloudEngine S6750-H48Y8C	CloudEngine S6750-H48Y8C-B
		in common mode • Using DC power modules: ±2 kV in differential mode, ±4 kV in common mode	±6 kV in common mode • Using DC power modules: ±2 kV in differential mode, ±4 kV in common mode
Reliability	MTBF (year)[2]	35.18 years	35.18 years
	Availability	> 0.99999	> 0.99999
Certification		• EMC certification • Safety certification • Manufacturing certification	• EMC certification • Safety certification • Manufacturing certification

NOTE

1: The power consumption under different load conditions is calculated according to the ATIS standard. Additionally.

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.

Performance Specification

Entries	S6750-H series switches
Number of dynamic MAC address entries	up to 512K
Number of static MAC address entries	1024
Maximum number of VLANs	4094
Number of VLANIF interfaces	4094
IPv4 routing entries	up to 640000
IPv6 routing entries	up to 320000
Number of ARP entries	up to 140K
Number of ND entries	up to 128K
ACL scale entries	34K@160 bits or 17K@320b (inbound direction) + 2K@320 bits (outbound direction) The maximum number of VLAN ACLs is 1.5K@320 bits (K = 1024).
IPv4/IPv6 multicast L2 entries	up to 32K/16K
IPv4/IPv6 multicast L3 entries	up to 32K/16K
Device buffer (byte)	36MB
Jumbo frames	9500

Licensing

Licensing

This series switches 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.

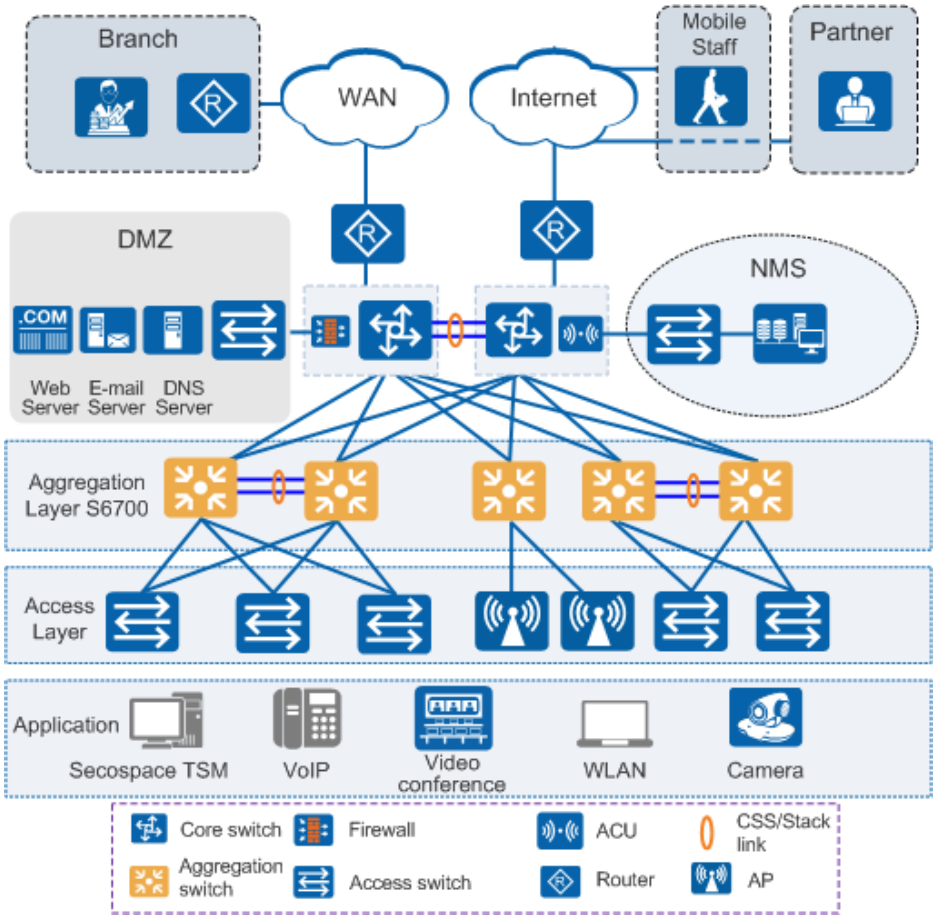
Software Package Features in N1 Mode

Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
Basic network functions: Layer 2 functions, IPv4, IPv6, and others Note: For details, see the Service Features	√	√	√
Basic network automation based on the iMaster NCE-Campus: • NE management: Device management, topology management and discovery • User access authentication	×	√	√
Automation and intelligent O&M: Basic functions for intelligent network analysis of CampusInsight.	×	√	√
Advanced network automation and intelligent O&M: VXLAN, free mobility, Endpoint plug&play of iMaster NCE-Campus and Application analysis function of CampusInsight.	×	×	√

Networking and Applications

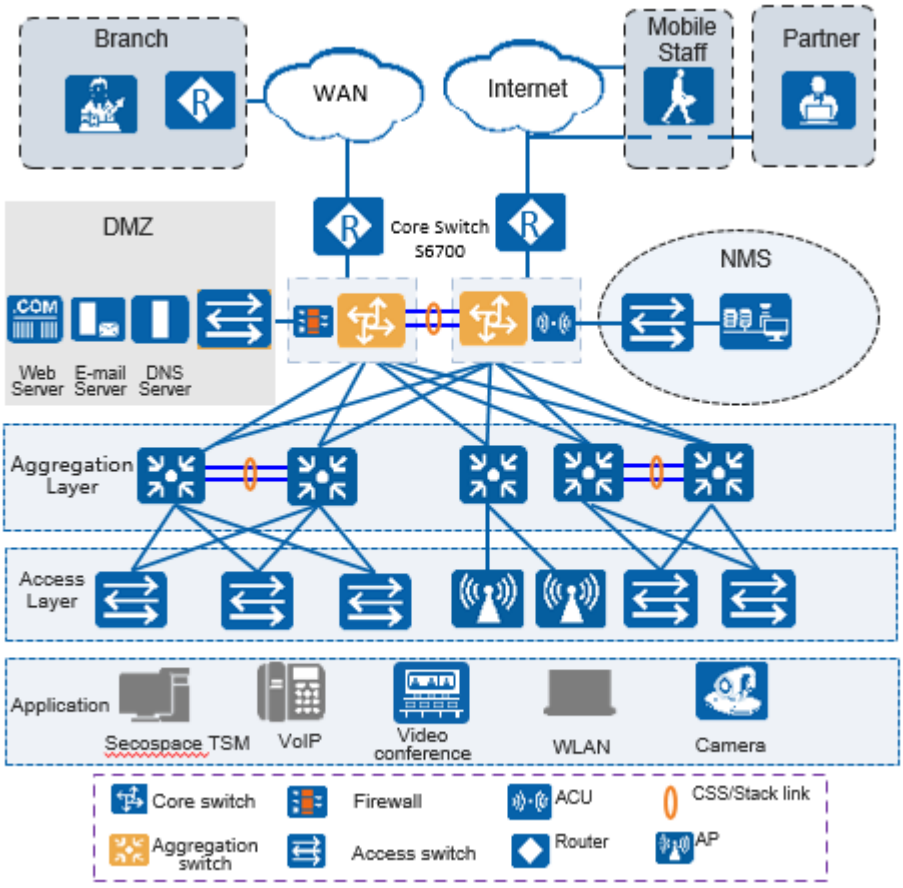
Large-scale Enterprise Campus Network

CloudEngine S6750-H series 25GE 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.



Small/Midsize Enterprise Campus Networks

On a simplified small or midsize enterprise campus network shown in the figure above, CloudEngine S6750-H functions as the core switch. Enterprises can embrace a future-proof campus network with stand-out features such as strong reliability, high-density access, and high energy efficiency.



Product Accessories

Optical Modules and Fibers

25GE SFP28 ports support optical modules and cables

- GE eSFP optical module
- GE SFP optical module
- GE-CWDM optical module
- GE-DWDM optical module
- 10GE SFP+ optical module
- 10GE-CWDM optical module
- 10GE-DWDM optical module
- 25GE SFP28 optical module
- 1 m, 3 m, 5 m, and 10 m SFP+ high-speed cables
- 3 m and 10 m SFP+ AOC cables
- 1 m, 3 m, 5 m SFP28 high-speed cables
- 3 m, 5 m, 7 m, and 10 m SFP28 AOC cables

40GE/100GE QSFP28 ports support optical modules and cables

- QSFP+ optical module
- QSFP28 optical module
- 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables
- 10 m QSFP+ to QSFP+ AOC cable

- 1 m QSFP28 to QSFP28 high-speed copper cable
- 10 m QSFP28 to QSFP28 AOC cable

Stack Cables

CloudEngine S6750-H series 25GE switches support service port stacking. The applicable stack cables are as follows:

Port Supporting Stacking	Stack Cable	Rate of a Single Port
25GE SFP28 Ethernet optical port	• All SFP+ optical modules supported by the device and the matching optical fibers • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed cables • 3 m and 10 m SFP+ AOC cables • 0.5 m and 1.5 m SFP+ dedicated stack cables (configuration required) (Note: The preceding cables can be used only after the port rate decreases.)	10 Gbit/s
	• All SFP28 optical modules supported by the device and the matching optical fibers • 1 m SFP28 high-speed cable • 3 m, 5 m, 7 m, and 10 m SFP28 AOC cables	25 Gbit/s
100GE QSFP28 Ethernet optical port	• All QSFP+ optical modules supported by the device and the matching optical fibers • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed cables • 10 m QSFP+ to QSFP+ AOC cable (Note: The preceding cables can be used only after the port rate decreases.)	40 Gbit/s
	• All QSFP28 optical modules supported by the device and the matching optical fibers • 1 m and 3 m QSFP28 to QSFP28 high-speed cables • 10 m QSFP28 to QSFP28 AOC cable • 2 m QSFP28 dedicated stack cable (zero-configuration stacking supported from V600R023C00)	100 Gbit/

Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of the CloudEngine S6750-H series 25GE switches.

Certification Category	Description
Safety	IEC 62368-1
	EN 62368-1
	UL 62368-1
	CSA C22.2 No 62368-1
Electromagnetic Compatibility (EMC)	CISPR32

Certification Category	Description
	CISPR35
	EN 55032
	EN 55035
	ETSI EN 300 386
	CFR 47 FCC Part 15
	ICES 003
	AS/NZS CISPR32
	VCCI
	IEC61000-4-2
Environment	RoHS
	REACH
	WEEE
Laser safety	IEC60825-1
	IEC60825-2
	EN60825-1
	EN60825-2

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

Category	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 • 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

Category	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 • 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

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

NOTE

For more information about MIBs supported by CloudEngine S6750-H series 25GE switches, visit: https://support.huawei.com/enterprise/en/switches/s6700-pid-6691593?category=reference-guides

Standards Compliance

The following table lists the standards that CloudEngine S6750-H series 25GE switches comply 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)

Standard Organization	Standard or Protocol
	• RFC 2462 IPv6 Stateless Address Auto configuration • RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) • RFC 2474 Differentiated Services Field (DS Field) • RFC 2475 An Architecture for Differentiated Services • 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) • RFC 3046 DHCP Option82/Relay • 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+ • RFC5340 OSPF for IPv6 • RFC 5798 Virtual Router Redundancy Protocol (VRRP) Version 3 for IPv4 and IPv6 • RFC 6241 Network Configuration Protocol (NETCONF) • RFC 6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF) • RFC 7348 Virtual eXtensible Local Area Network (VXLAN): A Framework for Overlaying Virtualized Layer 2 Networks over Layer 3 Networks • RFC 8365 A Network Virtualization Overlay Solution Using Ethernet VPN (EVPN) • RFC4291 IP Version 6 Addressing Architecture • RFC3484 Default Address Selection for Internet Protocol version 6 (IPv6) • RFC4862 IPv6 Stateless Address Auto configuration • RFC4541 Considerations for Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) Snooping Switches • RFC3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6 • RFC2711 IPv6 Router Alert Option • RFC2338 Virtual Router Redundancy Protocol
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

Standard Organization	Standard or Protocol
	• IEEE 802.1ax/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 • IEEE 802.1x Port based network access control protocol • IEEE 802.3ad Port Trunk, LACP • IEEE 802.3BY Media Access Control, Physical Layers, and Management for 25 Gb/s Operation • IEEE 802.1v - VLAN Classification by Protocol and Port • IEEE 802.3ba 40 Gigabit Ethernet (40GBase-X) • IEEE 802.3bj 100 Gigabit Ethernet
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

NOTE

The listed standards and protocols are fully or partially supported by Huawei switches. For details, visit http://e.huawei.com/en or contact your local Huawei sales office.

Ordering Information

The following table lists ordering information of CloudEngine S6750-H series 25GE switches.

Model	Product Description
CloudEngine S6750-H48Y8C	CloudEngine S6750-H48Y8C (48*25GE SFP28 ports, 8*100GE QSFP28 ports, without power module)
CloudEngine S6750-H48Y8C-B	S6750-H48Y8C-B (48*25GE SFP28 ports, 8*100GE QSFP28 ports, without power module)
PAC600S12-PB	600W AC power module

Model	Product Description
PAC1K2S12-PB	1200W AC power module
PDC1K2S12-CE	1200W DC power module
PDC400S12-CF	400W DC Power Module (66 mm Width case, Power panel side intake)
PAC600S12-PF	600W AC &240 V DC Power Module(66 mm Width Case, Power panel side intake)
FAN-031A-F	Fan Module
FAN-031A-B	Fan Module

License	Product Description
N1-S67H-M-Lic	S67XX-H Series Basic SW,Per Device
N1-S67H-M-SnS1Y	S67XX-H Series Basic SW,SnS,Per Device,1Year
N1-S67H-F-Lic	N1-CloudCampus,Foundation,S67XX-H Series,Per Device
N1-S67H-F-SnS	N1-CloudCampus,Foundation,S67XX-H Series,SnS,Per Device
N1-S67H-A-Lic	N1-CloudCampus,Advanced,S67XX-H Series,Per Device
N1-S67H-A-SnS	N1-CloudCampus,Advanced,S67XX-H Series,SnS,Per Device
N1-S67H-FToA-Lic	N1-Upgrade-Foundation to Advanced,S67XX-H,Per Device
N1-S67H-FToA-SnS	N1-Upgrade-Foundation to Advanced,S67XX-H,SnS,Per Device
N1-AM-30-Lic	N1-CloudCampus, Add-On Package, Access Management, Per 30 Endpoints
N1-AM-30-SnS1Y	N1-CloudCampus, Add-On Package, Access Management, Software Subscription and Support, Per 30 Endpoints, 1 Year
N1-EPNP-30-Lic	N1-CloudCampus, Add-On Package, Endpoints Plug and Play, Per 30 Endpoints
N1-EPNP-30-SnS1Y	N1-CloudCampus, Add-On Package, Endpoints Plug and Play, Software Subscription and Support, Per 30 Endpoints, 1 Year
N1-APP-X7FSwitch	N1-CloudCampus, Add-On Package, Intelligent Application Analysis, X7 Series Fixed Switch, Per Device
N1-APP-X7FSwitch-SnS1Y	N1-CloudCampus, Add-On Package, Intelligent Application Analysis, X7 Series Fixed Switch, Software Subscription and Support, Per Device, 1 Year
N1-S67H-A-NVXLAN-Lic	N1-CloudCampus,Advanced non-vxlan,S67XX-H Series,Per Device
N1-S67H-A-NVXLAN-SnS1Y	N1-CloudCampus,Advanced non-vxlan,S67XX-H Series,SnS,Per Device,1 Year
N1-S67H-F2A-NVXLAN-Lic	N1-Upgrade-Foundation to Advanced non-vxlan,S67XX-H,Per Device
N1-S67H-F2A-NVXLAN-SnS1Y	N1-Upgrade-Foundation to Advanced non-vxlan,S67XX-H,SnS,Per Device,1 Year

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

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