

# CloudEngine S5755-H Series High-Quality 2.5GE Switches Brochure

CloudEngine S5755-H series High-Quality 2.5GE switches are brand-new access switches that provide 24/48 10/100/1000/2.5G ports, and provide four 1/10/25GE and two 40/100GE uplink ports and one extended slot.

## Product Overview

CloudEngine S5755-H series High-Quality 2.5GE Switches are brand-new full-1/2.5GE switches developed by Huawei for the Wi-Fi 6/Wi-Fi 7. The CloudEngine S5755-H builds on Huawei's unified Platform and boasts various IDN features. For example, the VXLAN functionality implements network virtualization. With these merits, the CloudEngine S5755-H can function as core switches for small-sized campus networks and branches of medium- and large-sized campus networks, and also work as access switches for Metropolitan Area Network. CloudEngine S5755-H can provide a maximum of 48 10GE Multi-GE ports, which is a good choice for WLAN APs to connect to a switch in the high-quality campus networks.

## Models and Appearances

The following models are available in the CloudEngine S5755-H series.

| Models and Appearances                                                                                              | Description                                                                                                                                                                                                                                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>CloudEngine S5755-H24N4Y-A   | <ul style="list-style-type: none"> <li>24 × 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28</li> <li>Built-in AC</li> <li>Forwarding performance: 238 Mpps</li> <li>Switching capacity*: 320 Gbps/2.32 Tbps</li> </ul>                                                                                 |
| <br>CloudEngine S5755-H48N4Y-A   | <ul style="list-style-type: none"> <li>48 × 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28</li> <li>Built-in AC</li> <li>Forwarding performance: 327 Mpps</li> <li>Switching capacity*: 440 Gbps/2.32 Tbps</li> </ul>                                                                                 |
| <br>CloudEngine S5755-H24UN4Y2CZ | <ul style="list-style-type: none"> <li>24 × 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28, 2 x 40/100GE QSFP28 ports**</li> <li>One extended slot</li> <li>90W PoE++</li> <li>N+1 power backup</li> <li>Forwarding performance: 450 Mpps</li> <li>Switching capacity*: 720 Gbps/2.32 Tbps</li> </ul> |
| <br>CloudEngine S5755-H48UN4Y2CZ | <ul style="list-style-type: none"> <li>48 × 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28, 2 x 40/100GE QSFP28 ports**</li> <li>One extended slot</li> </ul>                                                                                                                                         |

| Models and Appearances | Description                                                                                                                                                                              |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | <ul style="list-style-type: none"> <li>• 90W PoE++</li> <li>• N+1 power backup</li> <li>• Forwarding performance: 450 Mpps</li> <li>• Switching capacity*: 840 Gbps/2.32 Tbps</li> </ul> |

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.

\*\*Uplink 40GE ports can be split into 4 x 10GE ports, and uplink 100GE ports can be split into 4 x 25GE ports.

## Features and Highlights

### High-density Multi-GE Access Interface

- The S5755-H series switches provide industry-leading Multi-GE port density, switching capacity, and packet forwarding rate. A single switch supports a maximum of 48 10/100/1000/2.5G Base-T auto-sensing ports and 1G/10G/25G/40G/100G optical uplink ports, meets various device interconnection requirements and can be seamlessly integrated into the existing network.

### Enabling Networks to Be More Agile for Services

- CloudEngine S5755-H has a built-in high-speed and flexible processor chip. 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 capabilities of traditional switches, the CloudEngine S5755-H provides open interfaces and supports user-defined forwarding behavior. Enterprises can use the open interfaces to develop new protocols and functions independently or jointly with equipment vendors to build campus networks meeting their own needs.
- CloudEngine S5755-H series switches, on which enterprises can define their own forwarding models, forwarding behavior, and lookup algorithms. Microcode programmability makes it possible to provide new services within six months, without the need of replacing the hardware. In contrast, traditional 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 one to three years later.

### Delivering Abundant Services More Agilely

- The CloudEngine S5755-H provides the integrated WLAN AC(native AC) function that can manage 1,024 APs, reducing the costs of purchasing additional WLAN AC hardware and breaking the forwarding performance bottleneck of an external WLAN AC. With this switch series, customers can stay ahead in the high-speed wireless era.
- With the unified user management function, the CloudEngine S5755-H 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, Portal, 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 S5755-H provides 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.

Note: The CloudEngine S5755-H can manage 16 APs by default . You can purchase licenses for more AP management on demand.

### Providing Fine Granular Network Management More Agilely

- The CloudEngine S5755-H 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 and 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."

## Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the CloudEngine S5755-H supports the latest Ethernet Ring Protection Switching (ERPS) standard. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- The CloudEngine S5755-H supports Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One CloudEngine S5755-H switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

## Various Security Control Methods

- The CloudEngine S5755-H supports 802.1x authentication, MAC address authentication, , and hybrid authentication, and can dynamically delivery user policies such as VLANs, QoS policies, and access control lists (ACL). It also supports user management based on user groups.
- The CloudEngine S5755-H provides a series of mechanisms to defend against DoS and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and change of the DHCP CHADDR value.
- The CloudEngine S5755-H sets up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. You can specify DHCP snooping trusted and untrusted ports to ensure that users connect only to the authorized DHCP server.
- The CloudEngine S5755-H supports strict ARP learning, which prevents ARP spoofing attackers from exhausting ARP entries.
- The CloudEngine S5755-H supports Media Access Control Security (MACsec) with all downlink ports and uplink ports . It provides identity authentication, data encryption, integrity check, and replay protection to protect Ethernet frames and prevent attack packets.

## Mature IPv6 Features

- The CloudEngine S5755-H is developed based on the mature, stable platform and supports IPv4/IPv6 dual stacks, IPv6 routing protocols (RIPng, OSPFv3, BGP4+, and IS-IS for IPv6). With these IPv6 features, the CloudEngine S5755-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)

- The CloudEngine S5755-H 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 capacity 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 the stack.

*Note: All ports of the S5755-H series switches can be dedicated as stack ports or service ports as required.*

## Inter-Device Link Aggregation, Ensuring High Efficiency and Reliability

- The CloudEngine S5755-H supports Multichassis Link Aggregation Group (M-LAG) to implement link aggregation among multiple devices, improving link reliability from the card level to the device level.
- Switches in an M-LAG all work in active state to share traffic and back up each other, enhancing system reliability.
- Switches in an M-LAG system can be upgraded independently. During the upgrade, other switches in the system take over traffic forwarding to ensure uninterrupted services.
- M-LAG supports dual-homing to Ethernet, VXLAN, and IP networks, allowing for flexible networking.

## 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.

- The CloudEngine S5755-H 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.

## Intelligent O&M

- The CloudEngine S5755-H provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer 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.

## PoE Function

- **Perpetual PoE:** When a PoE switch is warm rebooting (Don't turn PSE switch power off), for example, reboot upon the software upgrade, the power supply to PDs is not interrupted. This capability ensures that PDs are not powered off during the switch warm reboot.
- **Fast PoE:** PoE switches can supply power to PDs within seconds after they are powered on. This is different from common switches that generally take 1 to 3 minutes to start to supply power to PDs. When a PoE switch reboots due to a power failure, the PoE switch continues to supply power to the PDs immediately after being powered on without waiting until it finishes reboot. This greatly shortens the power failure time of PDs.

## 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.

## Big Data Security Collaboration

- The CloudEngine S5755-H 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.

## Cloud 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).

## Link Layer Security

- This series 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.

## 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.

# Licensing

## IDN One Software

CloudEngine S5755-H 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 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------|------------------------------|
| <b>Basic network functions:</b><br>Layer 2 functions, IPv4, IPv6, and others<br>Note: For details, see the Service Features                                                                                                                                                                                | √                 | √                              | √                            |
| <b>Basic network automation based on the iMaster NCE-Campus:</b> <ul style="list-style-type: none"><li>Basic automation: Plug-and-play</li><li>Basic monitoring: Application visualization</li><li>NE management: Image and topology management and discovery</li><li>User access authentication</li></ul> | ×                 | √                              | √                            |
| <b>Advanced network automation and intelligent O&amp;M:</b><br>VXLAN, free mobility, and CampusInsight basic functions                                                                                                                                                                                     | ×                 | ×                              | √                            |

## Product Specifications

| Item                                       | CloudEngine S5755-H24UN4Y2CZ                                                                                                                                                                   | CloudEngine S5755-H48UN4Y2CZ                                                                                                                                                                   |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fixed port                                 | 24 × 10/100/1000/2.5G Base-T Ethernet ports, 4 × 1/10/25GE SFP28, 2 × 40/100GE QSFP28 ports                                                                                                    | 48 × 10/100/1000/2.5G Base-T Ethernet ports, 4 × 1/10/25GE SFP28, 2 × 40/100GE QSFP28 ports                                                                                                    |
| Extended slot                              | Support 8*10GE SFP+ ports or 4*25GE SFP28 ports (only ports 1 to 4 support 25GE)                                                                                                               |                                                                                                                                                                                                |
| Dimensions (H x W x D)                     | 43.6 mm x 442 mm x 420 mm                                                                                                                                                                      | 43.6 mm x 442 mm x 420 mm                                                                                                                                                                      |
| Chassis height                             | 1U                                                                                                                                                                                             | 1U                                                                                                                                                                                             |
| Chassis weight (full configuration weight) | 9.74kg                                                                                                                                                                                         | 10.02kg                                                                                                                                                                                        |
| Power supply type                          | <ul style="list-style-type: none"><li>600 W PoE AC (pluggable)</li><li>1000 W PoE AC (pluggable)</li><li>1000 W PoE DC (pluggable)</li></ul>                                                   | <ul style="list-style-type: none"><li>600 W PoE AC (pluggable)</li><li>1000 W PoE AC (pluggable)</li><li>1000 W PoE DC (pluggable)</li></ul>                                                   |
| Rated voltage range                        | <ul style="list-style-type: none"><li>AC input : 100 V AC to 130 V AC, 200 V AC to 240 V AC, 50/60 Hz</li><li>High-Voltage DC input: 240 V DC</li><li>DC input : -48 VDC to -60 V DC</li></ul> | <ul style="list-style-type: none"><li>AC input : 100 V AC to 130 V AC, 200 V AC to 240 V AC, 50/60 Hz</li><li>High-Voltage DC input: 240 V DC</li><li>DC input : -48 VDC to -60 V DC</li></ul> |
| Maximum voltage range                      | <ul style="list-style-type: none"><li>AC input: 90 V AC to 290 V AC, 45</li></ul>                                                                                                              | <ul style="list-style-type: none"><li>AC input: 90 V AC to 290 V AC, 45</li></ul>                                                                                                              |

| Item                                        | CloudEngine S5755-H24UN4Y2CZ                                                                                                                                                                                                                                                     | CloudEngine S5755-H48UN4Y2CZ                                                                                                                                                                                                                                                     |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                             | Hz to 65 Hz <ul style="list-style-type: none"> <li>High-Voltage DC input: 190 V DC to 290 V DC</li> <li>DC input: -38.4 V DC to -72 V DC</li> </ul>                                                                                                                              | Hz to 65 Hz <ul style="list-style-type: none"> <li>High-Voltage DC input: 190 V DC to 290 V DC</li> <li>DC input: -38.4 V DC to -72 V DC</li> </ul>                                                                                                                              |
| Maximum power consumption(input)            | <ul style="list-style-type: none"> <li>100% traffic under the ATIS standard, dual power supplies, and without PoE:</li> <li>120 W (all ports used)</li> <li>110 W (2 x 100GE ports not used)</li> <li>Full PoE load, three 1000 W power modules: 2435 W (PoE: 2268 W)</li> </ul> | <ul style="list-style-type: none"> <li>100% traffic under the ATIS standard, dual power supplies, and without PoE:</li> <li>151 W (all ports used)</li> <li>141 W (2 x 100GE ports not used)</li> <li>Full PoE load, three 1000 W power modules: 3022 W (PoE: 2820 W)</li> </ul> |
| Operating temperature                       | <ul style="list-style-type: none"> <li>0-1800 m altitude: -5°C to 45°C</li> <li>1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.</li> </ul>                                                                            | <ul style="list-style-type: none"> <li>0-1800 m altitude: -5°C to 45°C</li> <li>1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.</li> </ul>                                                                            |
| Storage temperature                         | -40°C~70°C                                                                                                                                                                                                                                                                       | -40°C~70°C                                                                                                                                                                                                                                                                       |
| Relative humidity                           | 5% to 95% (non-condensing)                                                                                                                                                                                                                                                       | 5% to 95% (non-condensing)                                                                                                                                                                                                                                                       |
| Surge protection specification (power port) | <ul style="list-style-type: none"> <li>AC power port: <math>\pm 6</math> kV in differential mode, <math>\pm 6</math> kV in common mode</li> <li>DC power port: <math>\pm 2</math> kV in differential mode, <math>\pm 4</math> kV in common mode</li> </ul>                       | <ul style="list-style-type: none"> <li>AC power port: <math>\pm 6</math> kV in differential mode, <math>\pm 6</math> kV in common mode</li> <li>DC power port: <math>\pm 2</math> kV in differential mode, <math>\pm 4</math> kV in common mode</li> </ul>                       |
| Heat dissipation                            | Air cooling heat dissipation, intelligent speed adjustment, and pluggable fans                                                                                                                                                                                                   | Air cooling heat dissipation, intelligent speed adjustment, and pluggable fans                                                                                                                                                                                                   |

| Item                                       | CloudEngine S5755-H24N4Y-A                                                                                                                                                                            | CloudEngine S5755-H48N4Y-A                                                                                                                                                                            |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fixed port                                 | 24 x 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28                                                                                                                                      | 48 x 10/100/1000/2.5G Base-T Ethernet ports, 4 x 1/10/25GE SFP28                                                                                                                                      |
| Extended slot                              | NA                                                                                                                                                                                                    | NA                                                                                                                                                                                                    |
| Dimensions (H x W x D)                     | 43.6 mm x 442 mm x 220 mm                                                                                                                                                                             | 43.6 mm x 442 mm x 220 mm                                                                                                                                                                             |
| Chassis height                             | 1u                                                                                                                                                                                                    | 1U                                                                                                                                                                                                    |
| Chassis weight (full configuration weight) | 4.45kg                                                                                                                                                                                                | 4.71kg                                                                                                                                                                                                |
| Power supply type                          | Built-in AC power                                                                                                                                                                                     | Built-in AC power                                                                                                                                                                                     |
| Rated voltage range                        | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                        | 100 V AC to 240 V AC, 50/60 Hz                                                                                                                                                                        |
| Maximum voltage range                      | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                       | <ul style="list-style-type: none"> <li>AC input: 90 V AC to 290 V AC, 45 Hz to 65 Hz</li> </ul>                                                                                                       |
| Maximum power consumption(input)           | 100% traffic under the ATIS standard: 69 W                                                                                                                                                            | 100% traffic under the ATIS standard: 105 W                                                                                                                                                           |
| Operating temperature                      | <ul style="list-style-type: none"> <li>0-1800 m altitude: -5°C to 45°C</li> <li>1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.</li> </ul> | <ul style="list-style-type: none"> <li>0-1800 m altitude: -5°C to 45°C</li> <li>1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.</li> </ul> |

| Item                                        | CloudEngine S5755-H24N4Y-A                                                                                                                                                                 | CloudEngine S5755-H48N4Y-A                                                                                                                                                                 |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storage temperature                         | -40°C~70°C                                                                                                                                                                                 | -40°C~70°C                                                                                                                                                                                 |
| Relative humidity                           | 5% to 95% (non-condensing)                                                                                                                                                                 | 5% to 95% (non-condensing)                                                                                                                                                                 |
| Surge protection specification (power port) | <ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in common mode</li> <li>DC power port: ±2 kV in differential mode, ±4 kV in common mode</li> </ul> | <ul style="list-style-type: none"> <li>AC power port: ±6 kV in differential mode, ±6 kV in common mode</li> <li>DC power port: ±2 kV in differential mode, ±4 kV in common mode</li> </ul> |
| Heat dissipation                            | 2 built-in fans for forced air cooling                                                                                                                                                     | 2 built-in fans for forced air cooling                                                                                                                                                     |

## Service Features

Except for special instructions, the following features are supported by CloudEngine S5755-H with N1 basic software.

| Category        | Service Features                                                             |
|-----------------|------------------------------------------------------------------------------|
| User management | Unified user management                                                      |
|                 | 802.1X authentication, MAC authentication, Portal authentication             |
|                 | Traffic- and duration-based accounting                                       |
|                 | User authorization based on user groups, domains, and time ranges            |
| MAC             | Automatic MAC address learning and aging                                     |
|                 | 256K MAC entries (MAX)                                                       |
|                 | Static, dynamic, and blackhole MAC address entries                           |
|                 | Source MAC address filtering                                                 |
|                 | MAC address learning limiting based on ports and VLANs                       |
| VLAN            | 4K VLANs simultaneously                                                      |
|                 | Access mode, Trunk mode and Hybrid mode                                      |
|                 | Default VLAN                                                                 |
|                 | Private VLAN                                                                 |
|                 | QinQ and enhanced selective QinQ                                             |
|                 | VLAN Stacking                                                                |
|                 | Dynamic VLAN assignment based on MAC addresses                               |
| ARP             | ARP Snooping                                                                 |
| IP routing      | Static Route, Routing Policy, Policy-Based Routing                           |
|                 | ECMP, URPF                                                                   |
|                 | IPv4 dynamic routing protocols such as RIP v1/v2, OSPF v1/v2, IS-IS, and BGP |
|                 | IPv6 dynamic routing protocols such as RIPng, OSPFv3, ISISv6, and BGP4+      |
|                 | Up to 192K FIBv4 entries (MAX)                                               |
|                 | Up to 96K FIBv6 entries (MAX)                                                |

| Category                 | Service Features                                                                                           |
|--------------------------|------------------------------------------------------------------------------------------------------------|
| Segment Routing          | SRv6 BE (L3 EVPN)                                                                                          |
|                          | BGP EVPN                                                                                                   |
|                          | SRv6 configuration through NETCONF                                                                         |
| Multicast                | IGMPv1/v2/v3 and IGMP v1/v2/v3 Snooping                                                                    |
|                          | PIM-DM, PIM-SM, and PIM-SSM                                                                                |
|                          | Fast-leave mechanism                                                                                       |
|                          | Multicast traffic control                                                                                  |
|                          | Multicast querier                                                                                          |
|                          | Multicast protocol packet suppression                                                                      |
|                          | Multicast VLAN, Multicast Static MAC                                                                       |
| 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                                                                          |
|                          | VXLAN-Routing, VXLAN-Bridge, VXLAN-Tunnel, VXLAN-Access                                                    |
| 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, and PQ+DRR                                                            |
|                          | Congestion avoidance mechanisms such as WRED and tail drop                                                 |
|                          | Traffic shaping                                                                                            |
|                          | 8 queues on each interface                                                                                 |
|                          | Network Slicing (VLAN/VxLAN/SRv6)                                                                          |
| 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).                                             |
|                          | VLAN-based Spanning Tree (VBST)                                                                            |
|                          | BPDU protection, root protection, and loop protection                                                      |

| Category                | Service Features                                                                                                                                                            |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | G.8032 Ethernet Ring Protection Switching (ERPS)                                                                                                                            |
| Reliability             | M-LAG                                                                                                                                                                       |
|                         | Service interface-based stacking                                                                                                                                            |
|                         | Maximum number of stacked devices                                                                                                                                           |
|                         | Stack bandwidth (Bidirectional)                                                                                                                                             |
|                         | Link Aggregation Control Protocol (LACP)                                                                                                                                    |
|                         | Virtual Router Redundancy Protocol (VRRP) and Bidirectional Forwarding Detection (BFD) for VRRP                                                                             |
|                         | BFD for BGP/IS-IS/OSPF/static routes                                                                                                                                        |
|                         | Eth-OAM 802.1ag(CFM)                                                                                                                                                        |
|                         | Smartlink                                                                                                                                                                   |
|                         | LLDP, LLDP-MED                                                                                                                                                              |
| System management       | Console terminal service                                                                                                                                                    |
|                         | Telnet/IPv6 Telnet terminal service                                                                                                                                         |
|                         | SSH v1.5                                                                                                                                                                    |
|                         | SSH v2.0                                                                                                                                                                    |
|                         | SNMP v1/v2c/v3                                                                                                                                                              |
|                         | FTP, TFTP, SFTP                                                                                                                                                             |
|                         | BootROM upgrade and remote in-service upgrade                                                                                                                               |
|                         | Hot patch                                                                                                                                                                   |
|                         | User operation logs                                                                                                                                                         |
|                         | Open Programmability System (OPS)                                                                                                                                           |
|                         | Streaming Telemetry                                                                                                                                                         |
|                         | Registration Center Deployment                                                                                                                                              |
|                         |                                                                                                                                                                             |
| Security and management | NAC                                                                                                                                                                         |
|                         | Port-security                                                                                                                                                               |
|                         | RADIUS and HWTACACS authentication for login users                                                                                                                          |
|                         | Management by Command Line Interface(CLI)                                                                                                                                   |
|                         | 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 |
|                         | IPv6 RA Guard                                                                                                                                                               |
|                         | CPU hardware queues to implement hierarchical scheduling and protection for protocol packets on the control plane                                                           |
|                         | Remote Network Monitoring (RMON)                                                                                                                                            |
|                         |                                                                                                                                                                             |

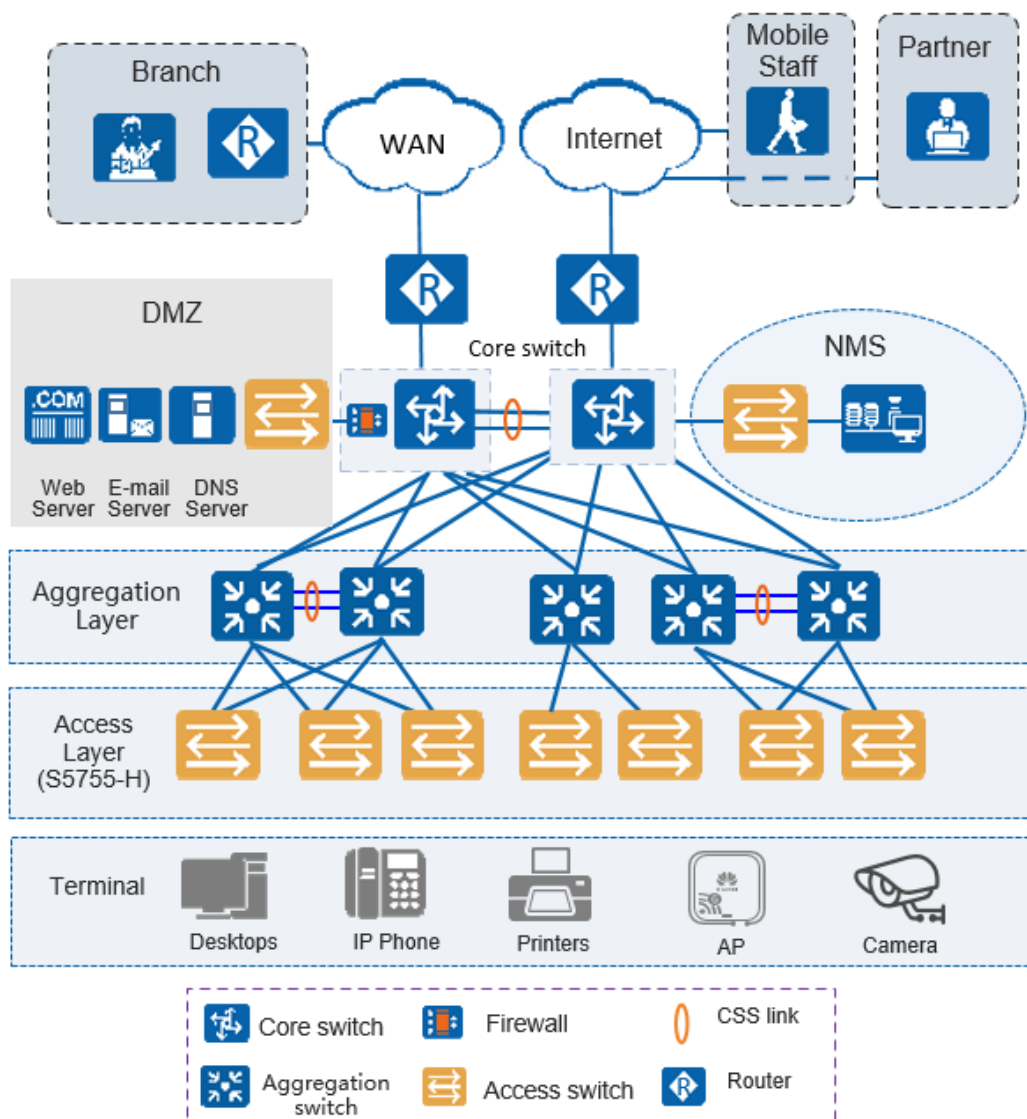
| Category                                                                    | Service Features                                                                                     |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|                                                                             | Secure boot                                                                                          |
|                                                                             | Macsec(IEEE 802.1ae)                                                                                 |
|                                                                             | Deception                                                                                            |
|                                                                             | Port mirroring                                                                                       |
|                                                                             | Dynamic ARP Inspection                                                                               |
|                                                                             | IP Source Guard                                                                                      |
| Interface Management                                                        | IEEE 802.3bz                                                                                         |
| Wireless management<br>(integrated WLAN AC):<br>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<br>(integrated WLAN AC):<br>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<br>(integrated WLAN AC):<br>Wireless user<br>management | User roaming within a WLAN AC                                                                        |
|                                                                             | AP-based user location                                                                               |
|                                                                             | 802.1X authentication                                                                                |
|                                                                             | MAC address authentication                                                                           |
|                                                                             | Portal authentication                                                                                |
| Wireless management<br>(integrated WLAN AC):<br>CAPWAP                      | Direct data forwarding on L2/L3 networks                                                             |
|                                                                             | Tunnel-based data forwarding on L2/L3 networks                                                       |
|                                                                             | CAPWAP tunnel encryption                                                                             |
| Wireless management<br>(integrated WLAN AC):<br>RF management               | 802.11a/b/g/n                                                                                        |
|                                                                             | 802.11ac wave1/wave2                                                                                 |
|                                                                             | 802.11ax                                                                                             |
|                                                                             | 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<br>(integrated WLAN AC):                                | Rate limiting of upstream and downstream traffic on the air interface based on the VAP               |
|                                                                             | Rate limiting of upstream and downstream traffic on the air interface based on users                 |

| Category | Service Features   |
|----------|--------------------|
| WLAN QoS | CAR for WLAN users |

## Networking and Applications

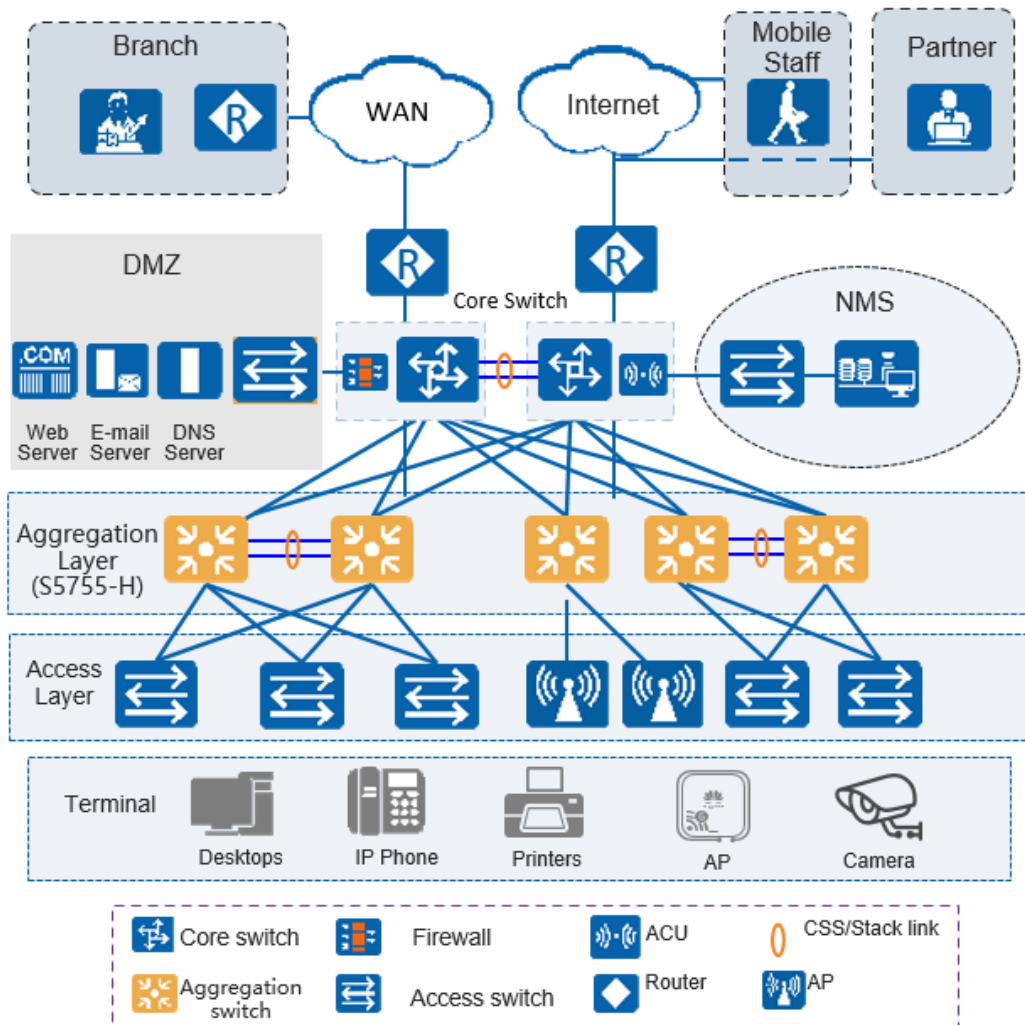
### Large-Scale Enterprise Campus Network

CloudEngine S5755-H series switches can be deployed at the access layer of a campus network to build a high-performance and highly reliable enterprise network.



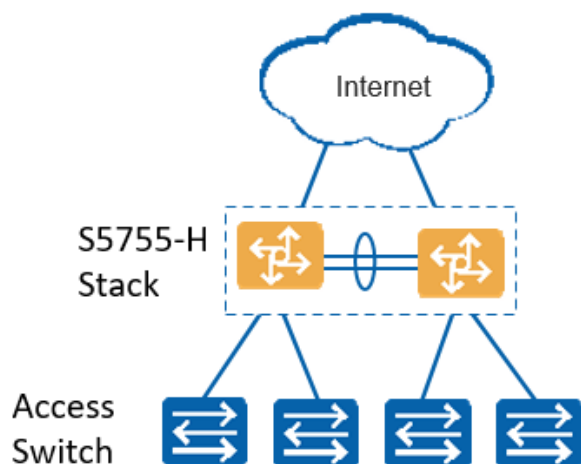
### Small- or Medium-scale Enterprise Campus Network

CloudEngine S5755-H series switches can be deployed at the aggregation layer of a campus network to build a high-performance, multi-service, and highly reliable enterprise network.



## Small-scale Enterprise Campus Network

With powerful aggregation and routing capabilities of CloudEngine S5755-H series switches make them suitable for use as core switches in a small-scale enterprise network. Two or more S5755-H switches use iStack technology to ensure high reliability. They provide a variety of access control policies to achieve centralized management and simplify configuration.



# Ordering Information

The following table lists ordering information of the CloudEngine S5755-H series switches.

| Model                        | Product Description                                                                                                                          |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| CloudEngine S5755-H24N4Y-A   | S5755-H24N4Y-A (24*10/100/1000/2.5G Ethernet ports, 4*25GE SFP28 ports, AC power, front access)                                              |
| CloudEngine S5755-H48N4Y-A   | S5755-H48N4Y-A (48*10/100/1000/2.5G Ethernet ports, 4*25GE SFP28 ports, AC power, front access)                                              |
| CloudEngine S5755-H24UN4Y2CZ | S5755-H24UN4Y2CZ (24*10/100/1000/2.5G Ethernet ports, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module) |
| CloudEngine S5755-H48UN4Y2CZ | S5755-H48UN4Y2CZ (48*10/100/1000/2.5G Ethernet ports, 4*25G SFP28 ports, 2*100G QSFP28 ports, 1*expansion slot, PoE++, without power module) |
| PAC600S56-EB                 | 600W PoE AC&240 V DC Power Module                                                                                                            |
| PAC1000S56-EB                | 1000 W PoE AC&240 V DC Power Module                                                                                                          |
| PDC1000S56-EB                | 1000 W PoE DC Power Module                                                                                                                   |
| FAN-031A-B                   | Fan module                                                                                                                                   |
| HSIC-X08S000                 | Interface card with 8*10GE SFP+ ports or 4*25GE SFP28 ports (only ports 1 to 4 support 25GE)                                                 |
| L-VxLAN-S57                  | S57 Series, VxLAN License, Per Device                                                                                                        |
| N1-S57H-M-Lic                | S57XX-H Series Basic SW,Per Device                                                                                                           |
| N1-S57H-M-SnS1Y              | S57XX-H Series Basic SW,SnS,Per Device,1Year                                                                                                 |
| N1-S57H-F-Lic                | N1-CloudCampus,Foundation,S57XX-H Series,Per Device                                                                                          |
| N1-S57H-F-SnS1Y              | N1-CloudCampus,Foundation,S57XX-H Series,SnS,Per Device,1Year                                                                                |
| N1-S57H-A-Lic                | N1-CloudCampus,Advanced,S57XX-H Series,Per Device                                                                                            |
| N1-S57H-A-SnS1Y              | N1-CloudCampus,Advanced,S57XX-H Series,SnS,Per Device,1Year                                                                                  |
| N1-S57H-FToA-Lic             | N1-Upgrade-Foundation to Advanced,S57XX-H,Per Device                                                                                         |
| N1-S57H-FToA-SnS1Y           | N1-Upgrade-Foundation to Advanced,S57XX-H,SnS,Per Device,1Year                                                                               |

## More Information

For more information about 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

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Copyright © Huawei Technologies Co., Ltd. 2022. All rights reserved.</b></p> <p>No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.</p> <p><b>Trademarks and Permissions</b></p> <p> HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.</p> <p>All other trademarks and trade names mentioned in this document are the property</p> | <p><b>Huawei Technologies Co., Ltd.</b></p> <p>Address:Huawei Industrial Base Bantian, Longgang Shenzhen 518129 People's Republic of China</p> <p>Website:e.huawei.com</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <p>of their respective holders.</p> <p><b>Notice</b></p> <p>The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.</p> <p>The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.</p> |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

**Copyright © Huawei Technologies Co., Ltd. 2024. All rights reserved.**

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

**Trademarks and Permissions**

 HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

**Notice**

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

**Huawei Technologies Co., Ltd.**

Address:Huawei Industrial Base Bantian,  
Longgang Shenzhen 518129 People's  
Republic of China

Website:e.huawei.com