Huawei CloudEngine S5735-L-V2 Series 2.5GE Switches Brochure

Huawei CloudEngine S5735-L-V2 series 2.5GE switches are simplified 2.5G Ethernet switches that provide 24/48 x GE downlink ports, 4 x 10GE uplink ports and 2 x 12GE dedicated stack ports.

Product Overview

CloudEngine S5735-L-V2 series 2.5GE switches are ideal for scenarios such as enterprise campus network access and 2.5G to the desktop. Built on next-generation, high-performance hardware and software platform, CloudEngine S5735-L-V2 switches stand out with compelling features such as intelligent stack (iStack), flexible Ethernet networking, and diversified security control. They support multiple Layer 3 routing protocols and provide high performance and service processing capabilities.

Models and Appearances

The following models are available in the CloudEngine S5735-L-V2 series 2.5GE switches.

Models and appearances of the CloudEngine S5735-L-V2 series 2.5GE

Models and Appearances	Description
 CloudEngine S5735-L24PN4XE-A-V2	• 24 x 10/100/1000/2.5G Base-T ports, 4 x 10GE SFP+ ports, 2 x 12GE stack ports • Built-in AC power supply • PoE+ • Forwarding performance: 144 Mpps • Switching capacity: 248 Gbps/520 Gbps*
 CloudEngine S5735-L48LPN4XE-A-V2	• 48 x 10/100/1000/2.5G Base-T ports, 4 x 10 GE SFP+ ports, 2 x 12GE stack ports • Built-in AC power supply • PoE+ • Forwarding performance: 276 Mpps • Switching capacity: 368 Gbps/520 Gbps*
 CloudEngine S5735-L48PN4XE-A-V2	• 48 x 10/100/1000/2.5G Base-T ports, 4 x 10 GE SFP+ ports, 2 x 12GE stack ports • Built-in AC power supply • PoE+ • Forwarding performance: 276 Mpps • Switching capacity: 368 Gbps/520 Gbps*

*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.

Features and Highlights

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the CloudEngineS5735-L-V2 supports Huawei-developed Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast protection switching within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.
- CloudEngine S5735-L-V2 supports Smart Link, which implements backup of uplinks. One CloudEngine S5735-L-V2 switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Diversified Security Control

- CloudEngine S5735-L-V2 supports Portal authentication, 802.1X authentication, MAC address authentication, and hybrid authentication on a per port basis, and implements dynamic policy delivery (VLAN, QoS, and ACL) to users.
- CloudEngine S5735-L-V2 provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and changing of the DHCP CHADDR value.
- CloudEngine S5735-L-V2 sets up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. The DHCP snooping trusted port feature ensures that users connect only to the authorized DHCP server.
- CloudEngine S5735-L-V2supports strict ARP learning. This feature prevents ARP spoofing attackers from exhausting ARP entries so that users can connect to the Internet normally.

Easy Operation and Maintenance

- CloudEngine S5735-L-V2 supports Huawei Easy Operation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment*, batch device configuration, and batch remote upgrade. The Easy Operation solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduces O&M costs. CloudEngine S5735-L-V2 can be managed and maintained using Simple Network Management Protocol (SNMP) V1, V2, and V3, Command Line Interface (CLI), web-based network management system, or Secure Shell (SSH) V2.0. Additionally, it supports remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis, paving the way for network optimization and reconstruction.
- CloudEngine S5735-L-V2 supports MUX VLAN, which involves a principal VLAN and multiple subordinate VLANs. Subordinate VLANs are classified into group VLANs and separate VLANs. Ports in the principal VLAN can communicate with ports in subordinate VLANs. Ports in a subordinate group VLAN can communicate with each other, whereas ports in a subordinate separate VLAN cannot communicate with each other. CloudEngine S5735-L-V2 also supports VLAN-Based Spanning Tree (VBST) protocol.

iStack

- CloudEngine S5735-L-V2 supports intelligent stack (iStack). This technology combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability.
- iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack.
- iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack. CloudEngine S5735-L-V2 support stacking through electrical ports.
- Some CloudEngine S5735-L-V2 supports two 12GE dedicated stack ports, which release uplink ports and do not need to be configured.

PoE Function

- **Perpetual PoE**: When a PoE switch is abnormal Power-off or the software version is upgraded, the power supply to PDs is not interrupted. This capability ensures that PDs are not powered off during the switch 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.

Network Slicing Functions

- CloudEngine S5735-L-V2 provides a range of VLAN slicing functions to meet diversified SLA requirements of different services and customers. Service isolation and bandwidth guarantee are implemented based on QoS. Slices can be completely isolated from each other without affecting each other. Traffic is isolated at the physical layer, and network slicing is performed for services on the same physical network. The Network Slicing technology can be used at the access, aggregation, and core layers to meet differentiated SLA requirements of new services on campus networks.

Intelligent O&M

- CloudEngine S5735-L-V2 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.

Intelligent Upgrade

- CloudEngine S5735-L-V2 supports the intelligent upgrade feature. Specifically, CloudEngine S5735-L-V2 obtains the version upgrade path and downloads 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.

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).

OPS

- CloudEngine S5735-L-V2 supports Open Programmability System (OPS), an open programmable system based on the Python language. IT administrators can program the O&M functions of a CloudEngine S5735-L-V2 switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Licensing

CloudEngine S5735-L-V2 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	√	√	√

Switch Functions	N1 Basic Software	N1 Foundation Software Package	N1 Advanced Software Package
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	×	√	√
Advanced network automation and intelligent O&M: IPCA, CampusInsight basic functions	×	×	√

Product Specifications

Item	CloudEngine S5735-L24PN4XE-A-V2	CloudEngine S5735-L48LPN4XE-A-V2	CloudEngine S5735-L48PN4XE-A-V2
Fixed port	24 x 10/100/1000/2.5G Base-T ports (PoE+), 4 x 10 GE SFP+ ports, 2 stack ports	48 x 10/100/1000/2.5G Base-T ports(PoE+), 4 x 10GE SFP ports, 2 stack ports	48 x 10/100/1000/2.5G Base-T ports(PoE+), 4 x 10GE SFP ports, 2 stack ports
Dimensions (H x W x D)	43.6 mm x 442 mm x 420 mm	43.6 mm x 442 mm x 420 mm	43.6 mm x 442 mm x 420 mm
Chassis height	1 U	1 U	1 U
Chassis weight (including packaging)	6.89 kg	7.42 kg	13.48 kg
Power supply type	Built-in AC power	Built-in AC power	Built-in AC power
Rated voltage range	• AC input: 100 V AC to 240 V AC, 50/60 Hz • High-voltage DC input: 240 V DC	• AC input: 100 V AC to 240 V AC, 50/60 Hz • High-voltage DC input: 240 V DC	• AC input: 100 V AC to 240 V AC, 50/60 Hz • High-voltage DC input: 240 V DC
Maximum voltage range	• AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz • High-voltage DC input: 190 V DC to 290 V DC	• AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz • High-voltage DC input: 190 V DC to 290 V DC	• AC input: 90 V AC to 290 V AC; 45 Hz to 65 Hz • High-voltage DC input: 190 V DC to 290 V DC
Maximum power consumption	• 77.7 W (without PD) • 517.3 W(with PD,PD Power consumption of :400W）	• 117.2 W (without PD) • 512.5 W(with PD,PD Power consumption of :360 W）	• 117.2 W (without PD) • 512.5 W(with PD,PD Power consumption of :360 W）
Noise	• Under normal temperature (sound power): 47.9dB (A) • Under normal temperature (sound pressure): 34.22dB (A)	• Under normal temperature (sound power): 51.4dB (A) • Under normal temperature (sound pressure): 37.72dB (A)	• Under normal temperature (sound power): 67dB (A) • Under normal temperature (sound pressure): 55dB (A)
Long-term operating temperature	• 0-1800 m altitude: -5°C to +50°C	• 0-1800 m altitude: -5°C to +50°C	• 0-1800 m altitude: -5°C to +50°C

Item	CloudEngine S5735-L24PN4XE-A-V2	CloudEngine S5735-L48LPN4XE-A-V2	CloudEngine S5735-L48PN4XE-A-V2
	• 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.	• 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.	• 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.
Storage temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C
Relative humidity	5% to 95% (non-condensing)	5% to 95% (non-condensing)	5% to 95% (non-condensing)
Surge protection specification (power port)	• Differential mode: ± 6 kV • Common mode: ± 6 kV	• Differential mode: ± 6 kV • Common mode: ±6 kV	• Differential mode: ± 6 kV • Common mode: ±6 kV
Heat dissipation	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment	Air-cooled heat dissipation and intelligent speed adjustment
Physical security	One Kensington lock slot, can be used to lock the device to mounting bracket		

Service Features

Item	Description
MAC address table	MAC address learning and aging
	32K MAC entries (MAX)
	Static, dynamic, and blackhole MAC address entries
	Packet filtering based on source MAC addresses
	Interface-based MAC learning limiting
VLAN features	4K VLANs simultaneously
	1K VLANif interface simultaneously
	Voice VLAN
	MUX VLAN
	VLAN Stacking, VLAN Mapping
	LNP, VCMP, GVRP
Ethernet loop protection	Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover
	ERPS (G.8032)
	STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)
	BPDU protection, root protection, and loop protection
	BPDU tunnel
	LLDP, LLDP-MED
	SEP(Smart Ethernet Protection)
Probe protocol	LBDT/ L2PT/ DLDP

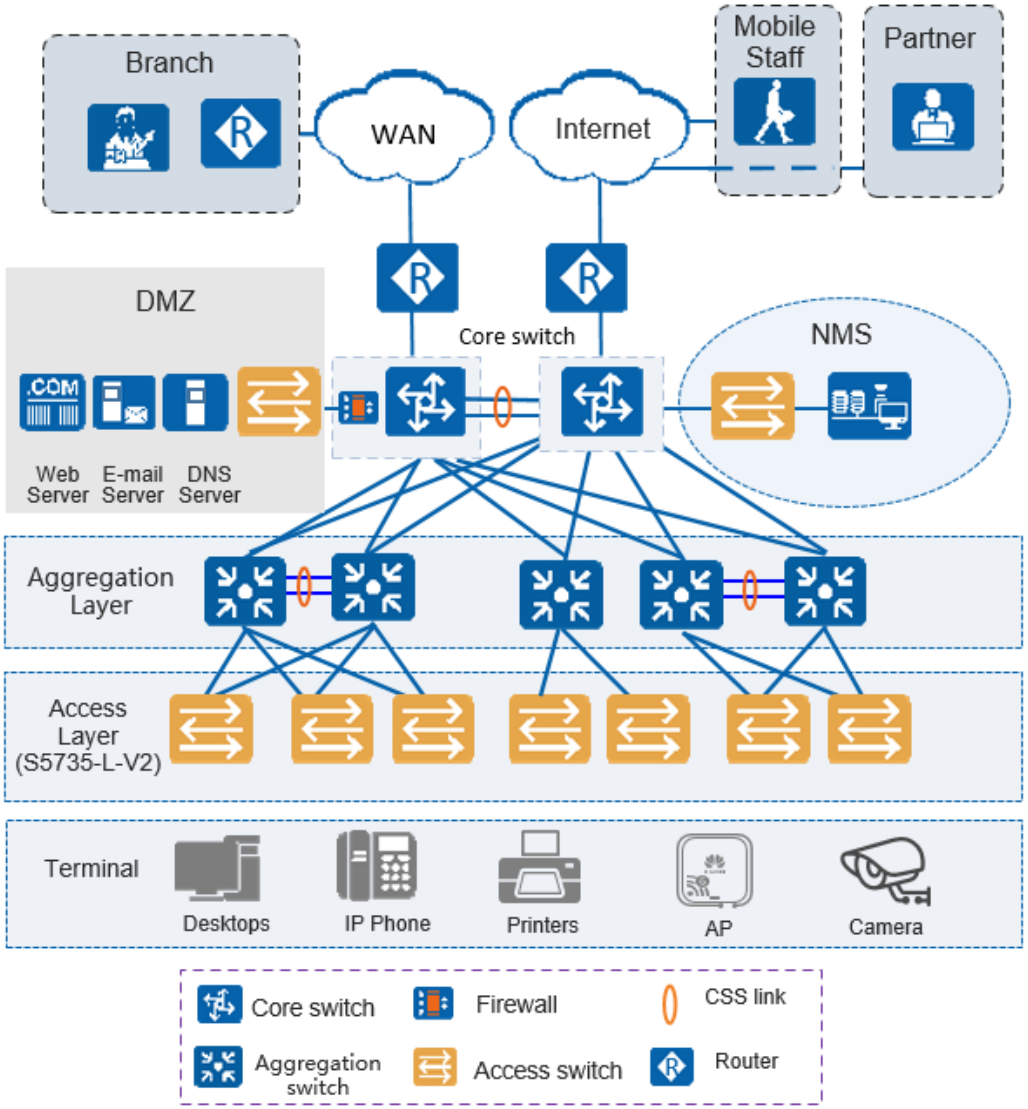
Item	Description
	SmartLink/ MonitorLink
	802.1ag/ 802.3ah/ Y.1731
Multicast	PIM DM, PIM SM, PIM SSM
	IGMPv1/v2/v3, IGMPv1/v2/v3 snooping, MLD snooping
	Multicast load balancing among member ports of a trunk
	Interface-based multicast traffic statistics
	Multicast VLAN, Multicast Static MAC
IP routing	RIP/RIPng/OSPFv2/OSPFv3/VRRPv4/VRRPv6
	Static route/Routing Policy/Policy-Based Routing
	Up to 4096 FIBv4 entries (MAX)
	Up to 1024 FIBv6 entries (MAX)
IPv6 features	Up to 1024 ND entries (MAX)
	Path MTU (PMTU)
	IPv6 ping, IPv6 tracert, and IPv6 Telnet
Reliability	LACP
	VRRP
	BFD
	LLDP
QoS/ACL	2K rules per IPv4 ACL
	2K rules per IPv6 ACL
	Rate limiting on packets sent and received by an interface
	Packet redirection
	Interface-based traffic policing and two-rate and three-color CAR
	Eight queues on each interface
	DRR, SP, and DRR+SP queue scheduling algorithms
	Re-marking of the 802.1p priority and DSCP priority
	Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID
	Rate limiting in each queue and traffic shaping on interfaces
	Network Slicing（VLAN）
Security	Hierarchical user management and password protection
	DoS attack defense, ARP attack defense, and ICMP attack defense
	Binding of the IP address, MAC address, interface number, and VLAN ID
	Port isolation, port security, and sticky MAC

Item	Description
	Blackhole MAC address entries
	Limit on the number of learned MAC addresses
	IEEE 802.1x authentication and limit on the number of users on an interface
	Portal authentication
	AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC
	SSH V2.0
	Hypertext Transfer Protocol Secure (HTTPS)
	CPU defense
	Blacklist and whitelist
	DHCP client, DHCP relay, DHCP server, DHCP snooping
	DHCPv6 client, DHCPv6 relay
Management and maintenance	iStack, stack bandwidth: 80Gbps
	Fast stack upgrade
	Cloud management based on Netconf/Yang
	Virtual Cable Test (VCT)
	Remote configuration and maintenance using Telnet
	SNMPv1/v2/v3
	RMON
	eSight and web-based NMS
	HTTPS
	LLDP/LLDP-MED
	System logs and multi-level alarms
	802.3az EEE
	IFIT
	Port Mirroring
	Registration Center Deployment
	GVRP
	iPCA、sFlow、NQA、Telemetry
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)

Networking and Applications

Medium or Large-Scale Enterprise Campus Network

CloudEngine S5735-L-V2 series 2.5GE switches can be deployed at the access layer of a campus network to build a high-performance and highly reliable enterprise network.



Ordering Information

Model	Product Description
CloudEngine S5735-L24PN4XE-A-V2	CloudEngine S5735-L24PN4XE-A-V2 (24*10/100/1000/2.5GBASE-T ports(PoE+), 4*10GE SFP+ ports, 2*12GE stack ports, 400W PoE, built-in AC power)
CloudEngine S5735-L48LPN4XE-A-V2	CloudEngine S5735-L48LPN4XE-A-V2 (48*10/100/1000/2.5GBASE-T ports(PoE+), 4*10GE SFP+ ports, 2*12GE stack ports, 360W PoE, built-in AC power)
CloudEngine S5735-L48PN4XE-A-V2	CloudEngine S5735-L48PN4XE-A-V2 (48*10M/100M/1/2.5GE BASE-T ports, 4*10GE SFP+ ports, 2*12GE stack ports, PoE+, 828W PoE, 1*1000W AC power)
N1-S57L-M-Lic	S57XX-L Series Basic SW, Per Device
N1-S57L-M-SnS1Y	S57XX-L Series Basic SW, SnS, Per Device, 1Year
N1-S57L-F-Lic	N1-CloudCampus, Foundation, S57XX-L Series, Per Device
N1-S57L-F-SnS	N1-CloudCampus, Foundation, S57XX-L Series, SnS, Per Device
N1-S57L-A-Lic	N1-CloudCampus, Advanced, S57XX-L Series, Per Device
N1-S57L-A-SnS	N1-CloudCampus, Advanced, S57XX-L Series, SnS, Per Device

Model	Product Description
N1-S57L-FToA-Lic	N1-Upgrade-Foundation to Advanced, S57XX-L, Per Device
N1-S57L-FToA-SnS	N1-Upgrade-Foundation to Advanced, S57XX-L, SnS, Per Device

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

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