

CloudEngine S5735-L Platform Specification & Architectural Whitepaper

PRODUCT IDENTIFICATION

The Huawei CloudEngine S5735-L series represents a portfolio of next-generation, simplified gigabit Ethernet access switches engineered for the modern enterprise campus network. Designed to deliver gigabit to the desktop, these switches provide flexible all-GE downlink ports with high-speed GE or 10GE uplink capabilities . Built on a foundation of high-performance hardware and Huawei's Versatile Routing Platform (VRP), the CloudEngine S5735-L series is ideally positioned for a wide range of industries, including healthcare, retail, mining, and education, providing a seamless balance of performance, security, and simplified operations .



SYSTEM HARDWARE TOPOLOGY

The CloudEngine S5735-L series is defined by its versatile hardware architecture, catering to diverse deployment scenarios with a focus on flexible connectivity and robust performance. The platform is segmented into distinct sub-series to optimize for specific operational requirements:

* **Standard Access Models (S5735-L, S5735-L-V2):** These are the foundational models, featuring 8, 16, 24, or 48 x 10/100/1000BASE-T downlink ports with 4 x GE or 10GE SFP/SFP+ uplink ports. Higher-end models in this category include dedicated stack ports for iStack virtual clustering, offering a switching capacity of up to 520 Gbps .

* **2.5GE Multi-Gigabit Models (S5735-L-V2 2.5GE):** Designed for next-generation Wi-Fi 6 and high-bandwidth desktop access, these models provide 24 or 48 x 10/100/1000/2.5GE Base-T ports and 4 x 10GE SFP+ uplink ports, enabling a smooth migration to multi-gigabit speeds .

* **All-Optical Models (S5735-L-V2 All-Optical):** For environments requiring long-distance transmission or high-density fiber connectivity, these models offer 24 or 48 x GE SFP downlink ports and 4 x 10GE SFP+ uplink ports, with select models featuring dedicated stack ports .

* **Extended-Temperature Models (S5735-L-I):** Built for harsh outdoor environments, the ruggedized 'I' series boasts an industrial-grade operating temperature range of -40°C to +70°C and enhanced surge protection, making

them ideal for smart city and ETTx applications .

* **Quiet Models (S5735-L-Q):** Engineered for noise-sensitive areas like open offices and classrooms, these fanless models provide silent operation while supporting key PoE+ functionality .

DATA & CONTROL PLANE CAPABILITIES

The architecture of the CloudEngine S5735-L series is characterized by its non-blocking switching architecture and comprehensive protocol support, ensuring efficient and reliable network operations.

* **High Availability:** The platform supports Huawei's proprietary Intelligent Stack (iStack), which virtualizes multiple switches into a single logical device, simplifying management and increasing reliability . It also implements industry-standard protocols such as Ethernet Ring Protection Switching (ERPS) as defined in ITU-T G.8032 for millisecond-level network convergence and Smart Link for uplink redundancy .

* **Advanced Security:** A robust security framework is at the core of the series. It supports a variety of authentication mechanisms, including 802.1X, MAC address, and Portal authentication, enabling dynamic user policy delivery (VLAN, QoS, ACL). The platform provides comprehensive defense mechanisms against a wide range of DoS attacks, ARP spoofing, and bogus DHCP server

attacks, complemented by DHCP Snooping and strict ARP learning features .

* ****Simplified Operations & Maintenance:**** The CloudEngine S5735-L series simplifies network operations with features like Super Virtual Fabric (SVF), which virtualizes core, aggregation, and access switches into a single logical device . It also supports Huawei Easy Operation, enabling zero-touch provisioning (ZTP), batch configuration, and remote upgrades, significantly reducing operational overhead .

COMPONENT BREAKDOWN

For precise deployment planning, the following table delineates the key hardware specifications by model variant.

Parameter	Specification
Port Configurations	8, 16, 24, 48 x GE RJ45 (PoE+ optional); 24, 48 x GE SFP; 24, 48 x 2.5GE RJ45; 4 x GE/10GE SFP+ uplinks.
Forwarding Performance	18 Mpps to 276 Mpps, depending on model.
Switching Capacity	Device capacity from 24 Gbps to 368 Gbps; system capacity of up to 520 Gbps for all models.

Stacking	iStack supported on select V2 models with dedicated 2 x 12GE stack ports.
PoE+	Supported on specific models (e.g., -P-, -LP-), compliant with IEEE 802.3at.
Power Supply	Built-in AC power supply (standard); DC power supply options on select models (e.g., -D-).
Form Factor	1RU compact chassis.
Extended Temperature Range	-40°C to +70°C (S5735-L-I series) and -5°C to +50°C (standard series).

REGULATORY COMPLIANCE

The CloudEngine S5735-L series is designed and certified to meet a comprehensive suite of international and industry standards, ensuring seamless integration and compliance in global deployments.

* ****Hardware Standards:**** The platform adheres to IEEE 802.3, IEEE 802.1D, and IEEE 802.1Q standards for Ethernet, MAC, and VLAN operations .

* ****Environmental Compliance:**** The ruggedized 'I' series models are specifically designed to meet stringent environmental standards with an

extended temperature range (-40 °C to +70 °C) and industrial-grade surge protection, complying with standards for outdoor cabinet deployments .

* ****Security & Interoperability:**** The switches support VBST (compatible with PVST/PVST+/RPVST) and LNP (similar to DTP), ensuring interoperability in mixed-vendor environments. They also support SSH V2.0 and HTTPS for secure management access .

