

Huawei S9300 Switch Product Brochures



Huawei S9300 Switch Product

Product Overview

Huawei S9300 series (S9300 for short) terabit routing switches are next-generation high-end smart switches tailored for multiservice networks. The S9300 uses Huawei's intelligent multilayer switching concept to provide high-performance L2/L3 switching services as well as rich network applications such as High-Definition (HD) video, elastic cloud computing, hardware IPv6, unified security, and H-QoS. Secure, reliable, and scalable, and providing converged, end-to-end routing and switching functions, the S9300 switches are widely used in Wide Area Networks (WANs), Metropolitan Area Networks (MANs), and data centers to help carriers build application-centric networks.

The S9300 is available in three models: S9303, S9306, and S9312. All S9300 models use interchangeable modules and components for inexpensive switching capacity and port expansion. In addition, S9300 models use innovative energy saving technologies that greatly reduce energy consumption and noise without compromising performance or stability.



S9303



S9306



S9312

Product Features

Agile Switch, Enabling Networks to Be More Agile for Services

- The high-speed ENP is tailored for Ethernet networks. The ENP's flexible packet processing and traffic control capabilities can meet current and future service requirements and help build a highly scalable network. The ENP has a fully programmable architecture, in which customers can define their own forwarding models, forwarding behaviors, and lookup algorithms. Microcode programmability enables new services to be provisioned within six months, without the need of replacing the hardware. In contrast, with traditional ASIC chips, new services cannot be provisioned until new hardware is developed to support the services, which may take 1 to 3 years, because ASIC chips use a fixed forwarding architecture and follow a fixed forwarding process.
- By using an ENP board, the S9300 supports the unified user management function to authenticate both wired and wireless users, ensuring a consistent user experience regardless of whether they use wired or wireless access devices to connect to the network. The unified user management function supports various authentication methods, including 802.1x, MAC, and Portal authentications, and is capable of managing users based on user groups, domains, and time ranges. This function visualizes user and service management and enables the transformation from device-centric management to user-centric management.
- The ENP board supports the Packet Conservation Algorithm for Internet (iPCA) function, which changes the traditional method of using simulated traffic for fault location. iPCA technology can monitor network quality for any service flow at any network node, at any time, and without extra costs. It can detect temporary service interruptions in a very short time and precisely identify faulty ports. This cutting-edge fault detection technology turns "extensive management" to "fine granular management."
- Huawei's IEEE 1588v2 and Synchronous Ethernet (SyncE) solutions enable high-precision time synchronization between network devices. Compared with the Global Positioning System (GPS) time synchronization solution, Huawei's solutions enhance security while reducing costs.

Innovative CSS Technology

- S9300 switches can set up a clustering switch system (CSS) through cluster cards or service ports. The CSS provides

industry-leading 320 Gbps inter-chassis bandwidth due to Huawei's novel approach of using the switching fabric clustering technology in CSS. Member switches can be connected through the service ports on LPUs. These service ports can be configured as stack member ports and added to a logical stack port to enable connection through SFP+ optical modules and fibers, or direct connection through SFP+ stack cables. Virtualization technology improves link use efficiency and prevents single-point failures through inter-chassis link aggregation.

- The S9300 uses route hot backup technology to back up and uninterruptedly forward all data of the control and data planes at Layer 3. This technology significantly improves reliability and performance of the S9300. The inter-chassis links in a CSS can be bundled to improve link use efficiency and eliminate single-point failures.
- The S9300 can use common service ports as cluster ports, and member switches can be connected through optical fibers. This increases the permitted distance between switches in the CSS.
- All member switches in a CSS are managed through a single IP address, which simplifies network device and topology management, improves network operation efficiency, and reduces maintenance costs.

Carrier-Class Reliability

- The S9300's key components, such as MPUs, power supplies, and fans trays, use a redundant design, and all modules are hot swappable to ensure stable network running.
- The S9300 supports 3.3 ms hardware-based BFD for static routes and routing protocols such as RIP, OSPF, BGP, IS-IS, VRRP, PIM, and MPLS. Hardware-based BFD significantly improves network reliability.
- The S9300 supports High-speed Self Recovery (HSR) technology. Using Huawei's ENP cards, the S9300 is the industry's only switch that implements end-to-end IP MPLS bearer network protection switchover within 50 ms, improving network reliability.
- The S9300 supports hardware-based Ethernet OAM in compliance with IEEE 802.3ah, 802.1ag, and ITU-Y. 1731. Hardware-based Ethernet OAM can collect precise network parameters, such as transmission latency and jitter, to help customers monitor network operating status in real time and to realize fast fault detection, location, and failover.
- The S9300 supports Graceful Restart (GR) technology to implement nonstop forwarding (NSF) and ensure reliable and high-speed operation of the entire network.

Powerful Service Processing Capabilities

- The S9300 provides high-density 10GE ports and provide 4 x 100GE line card, Each S9312 chassis can provide a maximum of 576 x 10GE ports and 48 x 100GE ports, meeting the requirements of bandwidth-consuming applications, such as multimedia conferencing and data access.
- Based on a multi-service routing and switching platform, the S9300 provides wireless access, voice, video, and data services for network access, aggregation, and core layers, helping customers build a highly reliable, low-latency, and multi-service network.
- The S9300 supports distributed MPLS L2/L3VPN functions including MPLS, virtual private LAN service (VPLS), hierarchical VPLS (HVPLS), and virtual leased line (VLL), to provide secure access for VPN users.
- The S9300 supports comprehensive Layer 2 and Layer 3 multicast protocols, including Protocol Independent Multicast Sparse Mode (PIM SM), PIM Dense Mode (DM), PIM Source-Specific Multicast (SSM), Multicast Listener Discovery (MLD), and Internet Group Management Protocol (IGMP) snooping, to ensure high-quality HD video surveillance and video conferencing services.
- The Service Chain feature virtualizes the value-added service processing capabilities, such as firewall, so that campus networks can utilize these capabilities in an undifferentiated manner. That is, these capabilities can be used without location constraint.
- The software platform where the S9300 runs supports various routing protocols (including IPv6) to meet carriers' network requirements and allows carriers to smoothly upgrade their networks to IPv6.

Various Network Traffic Analysis Functions

- The S9300 supports NetStream, including V5/V8/V9 versions. The NetStream features involve aggregation traffic template, real-time traffic sampling, dynamic report generation, traffic attribute analysis, and traffic exception alarms. The S9300 sends traffic statistics logs to master and backup servers simultaneously to avoid data loss. NetStream helps monitor the operating status and traffic model on the entire network. It also provides fault pre-detection, effective fault rectification, fast problem handling, and security monitoring capabilities to help customers optimize network structure and adjust service deployment.

Comprehensive Security Measures

- The S9300 supports MAC security (MACSec) that enables hop-by-hop secure data transmission. The S9300 can be

applied to scenarios that pose high requirements on data confidentiality, such as government and finance sectors.

- NGFW is a next-generation firewall card installed on an S9300. In addition to the traditional defense functions, such as identity authentication and Anti-DDoS, the NGFW supports IPS, anti-spam, web security, and application control functions.
- The S9300 provides comprehensive network admission control (NAC) solutions, involving MAC, 802.1x, and Portal authentications as well as authentication triggered by DHCP snooping. These authentication methods ensure the security of various access users, such as dumb terminals, mobile users, and users allocated dynamic IP addresses.

Comprehensive IPv6 Solution

- The S9300 software and hardware platforms support IPv6. The Ministry of Industry and Information Technology (MIIT) has certified the S9300 as IPv6 network-access compliant and has awarded IPv6 Ready Logo Phase 2 certification.
- The S9300 supports IPv6 routing protocols such as RIPng, OSPFv3, IS-ISv6, as well as IPv6 static routes, and supports BGP4+, MLD v1/v2, MLD snooping, PIM-SM/DMv6, and PIM-SSMv6.
- The S9300 supports various IPv4-to-IPv6 technologies to ensure seamless network migration. The technologies include IPv6 manual tunnel, 6to4 tunnel, Intra-site Automatic Tunnel Addressing Protocol (ISATAP) tunnel, Generic Routing Encapsulation (GRE) tunnel, and IPv4-compatible automatic tunnel.

Innovative Energy Saving Design

- The S9300 uses a rotating ventilation channel to improve heat dissipation efficiency and a variable-current chip to dynamically adjust power according to traffic volume. These technologies reduce power consumption of the entire chassis by 11%. The S9300 supports port sleeping. Idle ports enter the sleeping state to reduce power consumption.
- The S9300 supports intelligent fan-speed adjustment, in which fans are grouped into multiple zones and fan speed in each zone is adjusted individually based on service loads. This technology lowers power consumption, reduces noise, and extends the service life of fans.
- The S9300 supports Energy Efficient Ethernet (EEE) in compliance with IEEE 802.3az. Transceivers on line cards can quickly transition to the lower power idle state to reduce power consumption when no traffic is being transmitted.

VXLAN

- VXLAN is used to construct a Unified Virtual Fabric (UVF). As such, multiple service networks or tenant networks can be deployed on the same physical network, and service and tenant networks are isolated from each other. This capability truly achieves 'one network for multiple purposes'. The resulting benefits include enabling data transmission of different services or customers, reducing the network construction costs, and improving network resource utilization. The S9300 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.

OPS

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

Big Data Security Collaboration

- Agile switches use NetStream to collect campus network data and then report such data to the Huawei Cybersecurity Intelligence System (CIS). 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 CIS delivers the security policies to the Agile Controller. The Agile Controller then delivers such policies to agile switches that will handle security events accordingly. All these ensure campus network security.

Intelligent Diagnosis

- Open Intelligent Diagnosis System (OIDS) integrates the device health monitoring and fault diagnosis functions – that are typically deployed on a Network Management System (NMS) – into the switch software to implement intelligent diagnosis on a single switch. After OIDS is deployed on a switch, the switch periodically collects and records the running information and automatically determines whether a fault occurs. If a fault occurs, the switch automatically locates the fault or helps locate the fault. All these merits increase fault locating efficiency of O&M staff while improving device maintainability.

Product Specifications

| Item | S9303 | S9306 / S9306 PoE | S9312 / S9312 PoE |
|------------------------|---|-------------------|-------------------|
| Switching capacity | 1.92Tbps | 3.84Tbps | 3.84Tbps |
| Packet forwarding rate | 1440Mpps | 2880Mpps | 2880Mpps |
| Service slot quantity | 3 | 6 | 12 |
| User management | Unified user management | | |
| | 802.1x, MAC, and Portal authentications | | |
| | Charging based on traffic volume and online duration | | |
| | User authorization based on user groups, domains, and time ranges | | |
| VLAN | Access, trunk, and hybrid | | |
| | Default VLAN | | |
| | VLAN switching | | |
| | QinQ and selective QinQ | | |
| | MAC-based VLAN assignment | | |
| VXLAN | VXLAN centralized gateway and distributed gateway | | |
| | BGP EVPN | | |
| | Configured through NETCONF protocol | | |
| MAC address | MAC address learning and aging | | |
| | Static, dynamic, and blackhole MAC address entries | | |
| | Packet filtering based on source MAC addresses | | |
| | MAC address limiting based on ports and VLANs | | |
| STP/ERPS | STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s) | | |
| | BPDU protection, root protection, and loop protection | | |
| | BPDU tunnel | | |
| | G.8032 Ethernet Ring Protection Switching (ERPS) | | |
| IP routing | IPv4 dynamic routing protocols, such as RIP, OSPF, IS-IS, and BGP | | |
| | IPv6 routing protocols, such as RIPng, OSPFv3, IS-ISv6, and BGP4+ | | |
| Multicast | IGMPv1/v2/v3 and IGMP v1/v2/v3 snooping | | |
| | PIM-DM, PIM-SM, and PIM-SSM | | |
| | MSDP and MBGP | | |
| | Prompt leave | | |
| | Multicast traffic control | | |
| | Multicast querier | | |
| | Multicast protocol packet suppression | | |
| | Multicast CAC | | |
| | Multicast ACL | | |
| MPLS | Basic MPLS functions | | |
| | MPLS OAM | | |
| | MPLS TE | | |
| | MPLS VPN/VLL/VPLS | | |
| Time synchronization | IEEE 1588v2 | | |
| | SyncE | | |

| Item | S9303 | S9306 / S9306 PoE | S9312 / S9312 PoE |
|-------------------------------|---|-------------------------|--------------------------|
| Reliability | LACP and inter-chassis E-Trunk | | |
| | VRRP and BFD for VRRP | | |
| | BFD for BGP/IS-IS/OSPF/static route | | |
| | NSF and GR for BGP/IS-IS/OSPF/LDP | | |
| | TE FRR and IP FRR | | |
| | Ethernet OAM in compliance with IEEE 802.3ah and 802.1ag (hardware-level) | | |
| | HSR | | |
| | ITU-Y.1731 | | |
| | DLDP | | |
| QoS | Traffic classification based on Layer 2 headers, Layer 3 protocols, Layer 4 protocols, and 802.1p fields | | |
| | ACL, CAR, and actions including Remark and Schedule | | |
| | Queuing algorithms, such as SP, WRR, DRR, SP+WRR, and SP+DRR | | |
| | Congestion avoidance mechanisms, including WRED and tail drop | | |
| | H-QOS | | |
| | Traffic shaping | | |
| Configuration and maintenance | iPCA, monitor network quality for any service flow at any network node, at any time, and without extra costs | | |
| | Terminal access services such as console port login, Telnet, and SSH | | |
| | Network management protocols, such as SNMPv1/v2/v3 | | |
| | File uploading and downloading through FTP and TFTP | | |
| | BootROM upgrade and remote in-service upgrade | | |
| | Hot patches | | |
| | User operation logs | | |
| | Open Programmability System (OPS) | | |
| Security and user management | 802.1x authentication and Portal authentication | | |
| | MACSec | | |
| | NAC | | |
| | RADIUS and HWTACACS authentication for login users | | |
| | Command line authority control based on user levels (unauthorized users cannot use commands) | | |
| | Defense against DoS attacks, TCP SYN Flood attacks, UDP Flood attacks, broadcast storms, and traffic flooding attacks | | |
| | Ping and traceroute | | |
| | RMON | | |
| | Secure Boot(need to use MPU that supports Secure Boot) | | |
| Security protection | Firewall | | |
| | Network Address Translation (NAT) | | |
| | IPSec, SSL VPN | | |
| | Intrusion Protection System (IPS) | | |
| | Load balancing Analog Digital Conversion (ADC) | | |
| Energy saving | Energy Efficient Ethernet (802.3az) | | |
| Dimensions (W x D x H) | 442 mm x 489 mm x 175 mm | 442 mm x 489mm x 442 mm | 442 mm x 489 mm x 664 mm |
| Weight (empty chassis) | 10 Kg | 15Kg | 25Kg |
| Operating environment | Operating temperature: 0 m to 1800 m: The long-term operating temperature is 0°C to 45°C and the short-term operating temperature is 0°C to 55°C. 1800 m to 4000 m: The operating temperature reduces by 1°C every time the altitude increases by 220 m. Storage temperature: -40°C to +70°C Relative humidity: 5% to 95% (noncondensing) | | |
| Operating voltage | DC: 40 V to -72 V AC: 90 V to 290 V | | |
| Total power capacity | 2200 W | 4400 W | 4400 W |

Product List

| Basic Configuration | |
|---------------------|---|
| LE0BN66EDC | N66E DC Assembly Rack (Four 40A outputs, maximum 1600W per output, 600X600X2200mm) |
| LE0BN66EAC | N66E AC Assembly Rack (Eight 10A Outputs, maximum 1600W per output, 600X600X2200mm) |
| LE2BN66EA000 | N66E AC Assembly Rack (Four 16A Outputs, maximum 2500W per output, 600X600X2200mm) |
| LE0KS9303 | S9303 Assembly Chassis |
| LE0KS9306 | S9306 Assembly Chassis |
| LE0KS9312 | S9312 Assembly Chassis |
| LE0BS9306P1 | S9306 POE Assembly Chassis |
| LE0BS9312P1 | S9312 POE Assembly Chassis |
| LE0M00FBXB00 | Wide Voltage 68 Fan Box |
| Monitoring Board | |
| LE0DCMUA0000 | Centralized Monitoring Board |
| Main Control Unit | |
| LE0MMCUA | S9303 Main Control Unit A |
| LE0DMCUA | S9303 Main Control Unit A(Optional Clock) |
| LE0MSRUA | S9306/S9312 Main Control Unit A |
| LE0DSRUA | S9306/S9312 Main Control Unit A(Optional Clock) |
| LE0D00SRUB00 | S9306/S9312 Main Control Unit B(Optional Clock) |
| LE1D2SRUE000 | S9306/S9312,Main Control Unit E |
| LE1D2SRUH000 | S9306/S9312,Main Control Unit H |
| LE1D2SRUH002 | S9306/S9312,Main Control Unit H(Support Secure Boot) |
| SRU Service Card | |
| LE0MFSUA | Enhanced Flexible Service Unit |
| LE0D0VSTSA00 | Cluster Switching System Service Unit |
| LE1D2VS04000 | 4-Port 10G Cluster Switching System Service Unit (SFP+) |
| LE0D00CKMA00 | Clock Pinch Board-1588 |
| Agile Card | |
| LE2D2L16QX2H | 16-Port 40GE QSFP+ Interface Card(X2H,QSFP+) |
| LE1D2L08QX2E | 8-Port 40GE QSFP+ Interface Card(X2E,QSFP+) |
| LE1D2X32SX2S | 32-Port 10GE SFP+ Interface Card(X2S,SFP+) |
| LE1D2X32SX2E | 32-Port 10GE SFP+ Interface Card(X2E,SFP+) |

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|--------------|--|
| LE1D2S24SX2S | 24-Port 10GE SFP+ Interface and 8-Port GE SFP Interface Card(X2S,SFP+) |
| LE1D2S24SX2E | 24-Port 10GE SFP+ Interface and 8-Port GE SFP Interface Card(X2E,SFP+) |
| LE1D2S16SX2S | 16-Port 10GE SFP+ Interface and 16-Port GE SFP Interface Card(X2S,SFP+) |
| LE1D2S16SX2E | 16-Port 10GE SFP+ Interface and 16-Port GE SFP Interface Card(X2E,SFP+) |
| LE2D2C08HX2H | 8-Port 100GE QSFP28 Interface Card(X2H,QSFP28) |
| LE1D2C04HX2S | 4-Port 100GE QSFP28 Interface Card(X2S,QSFP28) |
| LE1D2C04HX2E | 4-Port 100GE QSFP28 Interface Card(X2E,QSFP28) |
| LE1D2H02QX2S | 2-Port 100GE QSFP28 Interface and 2-Port 40GE QSFP+ Interface Card(X2S,QSFP28) |
| LE1D2H02QX2E | 2-Port 100GE QSFP28 Interface and 2-Port 40GE QSFP+ Interface Card(X2E,QSFP28) |
| LE1D2X48SX2S | 48-Port 10GE SFP+ Interface Card(X2S,SFP+) |
| LE1D2G48TX1E | 48-Port 10/100/1000BASE-T Interface Card(X1E,RJ45) |
| LE1D2G48SX1E | 48-Port 100/1000BASE-X Interface Card(X1E,SFP) |
| LE1D2S04SX1E | 4-Port 10GBASE-X and 24-Port 100/1000BASE-X and 8-Port 10/100/1000BASE-T Combo Interface Card(X1E,RJ45/SFP/SFP+) |
| LE1D2S08SX1E | 8-Port 10GBASE-X and 8-Port 100/1000BASE-X and 8-Port 10/100/1000BASE-T Combo Interface Card(X1E,RJ45/SFP/SFP+) |

10/100/1000BASE-T Interface Card

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|--------------|--|
| LE0DT24XEA00 | 24-Port 10/100/1000BASE-T and 2-Port 10GBASE-X Interface Card (EA,RJ45/XFP) |
| LE0DG24TFA00 | 24-Port 10/100/1000BASE-T Interface Card(FA,RJ45) |
| LE0DG48CEAT0 | 36-Port 10/100/1000BASE-T and 12-Port 100/1000BASE-X Interface Card(EA,RJ45/SFP) |
| LE0MG48TA | 48-Port 10/100/1000BASE-T Interface Card(EA,RJ45) |
| LE0DG48TFA00 | 48-Port 10/100/1000BASE-T Interface Card(FA,RJ45) |
| LE0MG48TC | 48-Port 100/1000BASE-T Interface Card(EC,RJ45) |
| LE0MG48TD | 48-Port 100/1000BASE-T Interface Card(ED,RJ45) |

100/1000BASE-X Interface Card

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|--------------|---|
| LE0MG24SA | 24-Port 100/1000BASE-X Interface Card(SA,SFP) |
| LE0MG24SC | 24-Port 100/1000BASE-X Interface Card(EC,SFP) |
| LE0MG24SD | 24-Port 100/1000BASE-X Interface Card(ED,SFP) |
| LE0MG24CA | 24-Port 100/1000BASE-X and 8-Port 10/100/1000BASE-T Combo Interface Card(SA,SFP/RJ45) |
| LE0DS24XEA00 | 24-Port 100/1000BASE-X and 2-Port 10GBASE-X Interface Card(EA,SFP/XFP) |
| LE0D0S24XC00 | 24-Port 100/1000BASE-X and 2-Port 10GBASE-X Interface Card(EC,SFP/XFP) |
| LE0MG48SA | 48-Port 100/1000BASE-X Interface Card(EA,SFP) |
| LE0DG48SFA00 | 48-Port 100/1000BASE-X Interface Card(FA,SFP) |

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|------------------------------------|---|
| LE0MG48SC | 48-Port 100/1000BASE-X Interface Card(EC,SFP) |
| LE0MG48SD | 48-Port 100/1000BASE-X Interface Card(ED,SFP) |
| 10GBASE-X Interface Card | |
| LE0MX2UXA | 2-Port 10GBASE-X Interface Card(EA,XFP) |
| LE0MX2UXC | 2-Port 10GBASE X Interface Card(EC,XFP) |
| LE0MX4UXA | 4-Port 10GBASE-X Interface Card(EA,XFP) |
| LE0MX4UXC | 4-Port 10GBASE-X Interface Card(EC,XFP) |
| LE0DX4UXED00 | 4-Port 10GBASE-X Interface Card(ED,XFP) |
| LE2D2X08SED4 | 8-Port 10GBASE-X Interface Card(ED,SFP+) |
| LE0DX12XSA00 | 12-Port 10GBASE-X Interface Card(SA,SFP+) |
| LE1D2X16SSC2 | 16-Port 10GBASE-X Interface Card(SC,SFP+) |
| LE1D2X32SSC0 | 32-Port 10GBASE-X Interface Card(SC,SFP+) |
| 100GE BASE-X Interface Card | |
| LE1D2C02FEE0 | 2-Port 100GBASE-X Interface Card(EE,CFP) |
| POE Interface Card | |
| LE0DG48VEA00 | 48-Port 10/100/1000BASE-T POE Interface Card(EA,RJ45,POE) |
| Service Processing Unit | |
| LE1D2FW00S01 | NGFW Module B,with HW General Security Platform Software |
| Optical Transceiver | |
| FE-SFP Optical Transceiver | |
| S-SFP-FE-LH40-SM1310 | Optical Transceiver,eSFP,FE,Single-mode Module(1310nm,40km,LC) |
| S-SFP-FE-LH80-SM1550 | Optical Transceiver,eSFP,FE,Single-mode Module(1550nm,80km,LC) |
| SFP-FE-SX-MM1310 | Optical Transceiver,SFP,100M/155M,Multi-mode Module(1310nm,2km,LC) |
| eSFP-FE-LX-SM1310 | Optical Transceiver,eSFP,100M/155M,Single-mode Module(1310nm,15km,LC) |
| GE-SFP Module | |
| SFP-1000BaseT | Electrical transceiver-SFP-GE-Electrical Interface Module (100m,RJ45) |
| eSFP-GE-SX-MM850 | Optical Transceiver-eSFP-GE-Multi-mode Module (850nm,0.5km,LC) |
| SFP-GE-LX-SM1310 | Optical Transceiver-SFP-GE-Single-mode Module (1310nm,10km,LC) |
| S-SFP-GE-LH40-SM1310 | Optical Transceiver,eSFP,GE,Single-mode Module(1310nm,40km,LC) |
| S-SFP-GE-LH40-SM1550 | Optical Transceiver-eSFP-GE-Single-mode Module (1550nm,40km,LC) |
| S-SFP-GE-LH80-SM1550 | Optical Transceiver-eSFP-GE-Single-mode Module (1550nm,80km,LC) |
| eSFP-GE-ZX100-SM1550 | Optical Transceiver-eSFP-GE-Single-mode Module (1550nm,100km,LC) |

10GE-XFP Optical Transceiver

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|-----------------------|---|
| XFP-SX-MM850 | Optical Transceiver-XFP-10G-Multi-mode Module (850nm,0.3km,LC) |
| XFP-STM64-LX-SM1310 | Optical Transceiver-XFP-10G-Single-mode Module (1310nm,10km,LC) |
| XFP-STM64-LH40-SM1550 | Optical Transceiver-XFP-10G-Single-mode Module (1550nm,40km,LC) |
| XFP-STM64-SM1550-80km | Optical Transceiver-XFP-10G-Single-mode Module (1550nm,80km,LC) |

10GE-SFP+ Optical Transceiver

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|------------------------|---|
| OMXD30000 | Optical Transceiver-SFP+-10G-Multi-mode Module (850nm,0.3km,LC) |
| SFP-10G-iLR | Optical Transceiver,SFP+,9.8G,Single-mode Module(1310nm,1.4km,LC) |
| OSX010000 | Optical Transceiver-SFP+-10G-Single-mode Module (1310nm,10km,LC) |
| OSX040N01 | Optical Transceiver-SFP+-10G-Single-mode Module (1550nm,40km,LC) |
| OSXD22N00 | Optical module, SFP+, 10G, Multi-mode module (1310nm, 0.22km, LC, LRM) |
| LE2MXSC80FF0 | Optical Transceiver,SFP+,10G,Single-mode Module(1550nm,80km,LC) |
| SFP-10G-USR | Optical Transceiver,SFP+,10G,Multi-mode Module(850nm,0.1km,LC) |
| SFP-10G-ZR | Optical Transceiver,SFP+,10G,Single-mode Module(1550nm,80km,LC) |
| SFP-10G-BXU1 | 10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1270nm/RX1330nm,10km,LC) |
| SFP-10G-BXD1 | 10GBase,BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1330nm/RX1270nm,10km,LC) |
| SFP-10G-BXU2 | 10GBase-BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1330nm/RX1270nm,20km,LC) |
| SFP-10G-BXD2 | 10GBase-BIDI Optical Transceiver,SFP,10G,Single-mode Module(TX1270nm/RX1330nm,20km,LC) |
| SFP-10G-ER-SM1330-BIDI | Optical Transceiver,SFP+,10G,BIDI Single-mode Module(TX 1330nm/RX 1270nm,40km,LC) |
| SFP-10G-ER-SM1270-BIDI | Optical Transceiver,SFP+,10G,BIDI Single-mode Module(TX 1270nm/RX 1330nm,40km,LC) |
| SFP-10G-AOC3M | AOC Optical Transceiver,SFP+,850nm,1G~10G,0.003km |
| SFP-10G-AOC10M | AOC Optical Transceiver,SFP+,850nm,1G~10G,0.01km |
| QSFP-4SFP10-AOC10M | Optical transceiver,QSFP+,40G,(850nm,10m,AOC)(Connect to four SFP+ Optical Transceiver) |
| QSFP-H40G-AOC10M | Optical transceiver,QSFP+,40G,(850nm,10m,AOC) |
| SFP-10G-ZCW1571 | Optical Transceiver,SFP+,10G,Single-mode Module(CWDM,1571nm,70km,LC) |
| SFP-10G-ZCW1591 | Optical Transceiver,SFP+,10G,Single-mode Module(CWDM,1591nm,70km,LC) |
| SFP-10G-ZCW1611 | Optical Transceiver,SFP+,10G,Single-mode Module(CWDM,1611nm,70km,LC) |

10GE-SFP+ Optical Transceiver

| | |
|--------------|--|
| QSFP-40G-LX4 | 40GBase-LX4 Optical Transceiver,QSFP+,40GE,Single-mode(1310nm,2km,LC),Multi-mode(1310nm,0.15km,LC) |
|--------------|--|

Huawei S9300 Switch Product

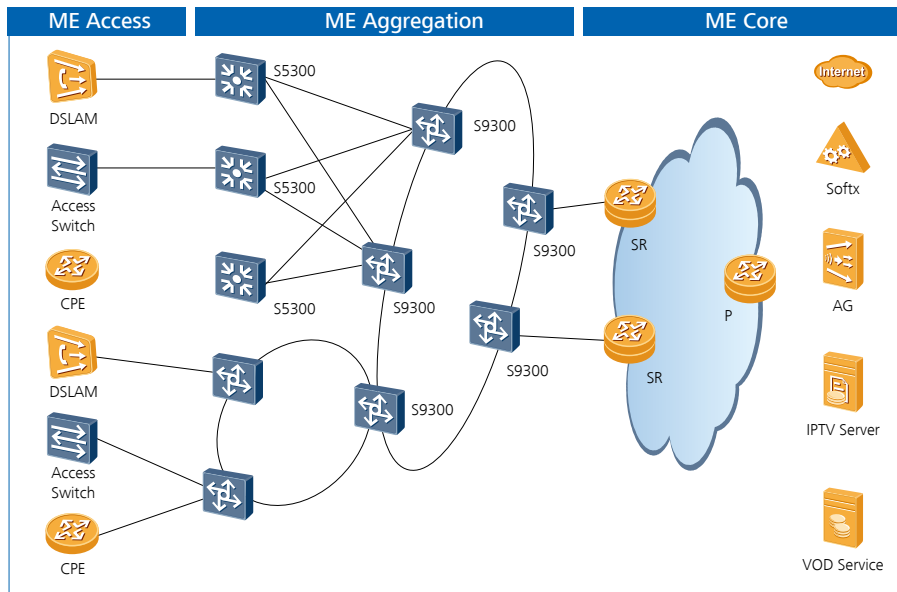
| | |
|---|---|
| QSFP-40G-iSM4 | 40GBase-iSM4 Optical Transceiver, QSFP+, 40G, Single-mode Module (1310nm, 1.4km, MPO) (Connect to four SFP+ Optical Transceiver) |
| QSFP-40G-eSM4 | 40GBase-eSM4 Optical Transceiver, QSFP+, 40G, Single-mode Module (1310nm, 10km, MPO) (Connect to four SFP+ Optical Transceiver) |
| QSFP-40G-iSR4 | 40GBase-SR4 Optical Transceiver, QSFP+, 40G, Multi-mode (850nm, 0.15km, MPO) (Connect to four SFP+ Optical Transceiver) |
| QSFP-40G-LR4 | 40GBase-LR4 Optical Transceiver, QSFP+, 40GE, Single-mode Module (1310nm, 10km, LC) |
| QSFP-40G-eSM4 | 40GBase-eSM4 Optical Transceiver, QSFP+, 40G, Single-mode Module (1310nm, 10km, MPO) (Connect to four SFP+ Optical Transceiver) |
| QSFP-40G-eiSR4 | 40GBase-eSR4 Optical Transceiver, QSFP+, 40G, Multi-mode (850nm, 0.3km, MPO) (Connect to four SFP+ Optical Transceiver) |
| QSFP-40G-ER4 | 40GBase-ER4 Optical Transceiver, QSFP+, 40G, Single-mode Module (1310nm, 40km, LC) |
| CFP-40G-ZR4 | High Speed Transceiver, CFP, 40G, Single-mode Module (1550nm band, 41.25G, 80km, straight LC) |
| CFP-40G-SR4 | High Speed Transceiver, CFP, 40G, Multimode Module (850nm, 4*10G, 0.1km, MPO) |
| CFP-40G-LR4 | High Speed Transceiver, CFP, 40G, Single-mode Module (1310nm band, 41.25G, 10km, straight LC) |
| CFP-40G-ER4 | High Speed Transceiver, CFP, 40G, Single-mode Module (1310nm band, 41.25G, 40km, straight LC) |
| CFP-40G-ZR4 | High Speed Transceiver, CFP, 40G, Single-mode Module (1550nm band, 41.25G, 80km, straight LC) |
| 100GE-QSFP28 & CFP Optical Transceiver | |
| QSFP-100G-SR4 | 100GBase-SR4 Optical Transceiver, QSFP28, 100G, Multi-mode (850nm, 0.1km, MPO) |
| QSFP-100G-PSM4 | 100GBase-PSM4 Optical Transceiver, QSFP28, 100G, Single-mode module (1310nm, 0.5km, MPO) |
| QSFP-100G-CLR4 | High Speed Transceiver, QSFP28, 1310nm, 4*25GBase, -6.5dBm, 2.5dBm, -10.7dBm, LC/PC, 2km |
| QSFP-100G-CWDM4 | High Speed Transceiver, QSFP28, 1310nm, 4*25GBase, -6.5dBm, 2.5dBm, -9.8dBm, LC/PC, 2km |
| QSFP-100G-LR4 | 100GBase-LR4 Optical Transceiver, QSFP28, 100G, Single-mode module (1310nm, 10km, LC) |
| CFP-100G-SR10 | 100GBase-SR4 Optical Transceiver, QSFP28, 100G, Multi-mode (850nm, 0.1km, MPO) |
| CFP-100G-LR4 | High Speed Transceiver, CFP, 100G, Single-mode Module (1310nm band, 4*25G, 10km, straight LC) |
| CFP-100G-ER4 | High Speed Transceiver, CFP, 100G, Single-mode Module (1310nm band, 4*25G, 40km, straight LC) |
| CFP-100GE-ZR4 | 100GBase, CFP Module, 100G, Single-mode Module (1310nm band, 4*25G, 80km, straight LC) |
| QSFP-100G-CU1M | High Speed Cable, 100G QSFP28 Passive High Speed Cable, 1m, QSFP28, CC8P0.254B(S), QSFP28, ETH 100GbE |
| QSFP-100G-CU3M | High Speed Cable, 100G QSFP28 Passive High Speed Cable, 3m, QSFP28, CC8P0.254B(S), QSFP28, ETH 100GbE |
| QSFP-100G-CU5M | High Speed Cable, 100G QSFP28 Passive High Speed Cable, 5m, QSFP28, CC8P0.4B(S), QSFP28, ETH 100GbE |
| QSFP-100G-ER4-Lite | 100GBase-ER4-Lite Optical Transceiver, QSFP28, 100G, Single-mode module (1310nm, 30km(FEC OFF), 40km(FEC ON), LC) |

| BIDI-SFP Optical Transceiver | |
|------------------------------|--|
| SFP-FE-LX-SM1310-BIDI | Optical Transceiver-eSFP-FE-BIDI Single-mode Module (TX1310/RX1550,15km,LC) |
| SFP-FE-LX-SM1550-BIDI | Optical Transceiver-eSFP-FE-BIDI Single-mode Module (TX1550/RX1310,15km,LC) |
| SFP-GE-LX-SM1310-BIDI | Optical Transceiver-eSFP-GE-BIDI Single-mode Module (TX1310/RX1490,10km,LC) |
| SFP-GE-LX-SM1490-BIDI | Optical Transceiver-eSFP-GE-BIDI Single-mode Module (TX1490/RX1310,10km,LC) |
| SFP-GE-BXU1-SC | 1000Base,BIDI Optical Transceiver,SFP,GE,Single-mode Module(TX1490nm/RX1310nm,10km,SC) |
| LE2MGSC40ED0 | Optical Transceiver,eSFP,GE,BIDI Single-mode Module(TX1490/RX1310,40km,LC) |
| LE2MGSC40DE0 | Optical Transceiver,eSFP,GE,BIDI Single-mode Module(TX1310/RX1490,40km,LC) |
| SFP-GE-ZBXD1 | Optical Transceiver,eSFP,GE,BIDI Single-mode Module(1570nm(Tx)/1490nm(Rx),80km,LC) |
| SFP-GE-ZBXU1 | Optical Transceiver,eSFP,GE,BiDi Single-mode Module(1490nm(Tx)/1570nm(Rx),80km,LC) |
| Power Module | |
| LE0MPSD16 | 1600W DC Power Module(Gray) |
| W2PSD2201 | 2200W DC Power Module(Gray) |
| LE0MPSA08 | 800W AC Power Module(Gray) |
| W0PSA2200 | 2200W AC Power Module(Gray) |
| PAC-2200WA | 2200W AC Power Module |
| LE0W01DPDB | DC Power Distribution Unit(Four 40A outputs,maximum 1600W per output,include power cable) |
| IN6W18L10A | AC Power Distribution Unit(Eight 10A Outputs,maximum 1600W per output,include power cable) |
| IM1W24APD | AC Power Distribution Unit(Four 16A outputs,maximum 2500W per output,include power cable) |
| EH1M00PDBS01 | DC Power Distribution Unit(Eight 60A Outputs,maximum 2200W per output,include power cable) |
| Software | |
| LE1SMS289300 | S9300 Basic SW,V200R008 |
| LE1SMS2A9300 | S9300 Basic SW,V200R010 |
| LE1SMS2C9300 | S9300 Basic SW,V200R012 |
| LE1SUPGR9300 | S9300 Rn To R(n+1) Software Enhanced Fee |
| LE0SMPLS9300 | MPLS Function License |
| LE0SNQAF9300 | NQA Function License |
| LE0SIPV69300 | IPV6 Function License |
| LE1SVXLAN000 | VXLAN enhanced function license(used in S9300 series) |
| LLE0SSP01 | Service Splitting Platform Function License |
| LE1SCSSLPU00 | CSSModelPU Function license |
| LE1SFIB128K0 | X-series LPU FIB Resource License-128K |
| LIC-SG-CUS02 | Software Customized Development Fee(Man/Day) |

Applications

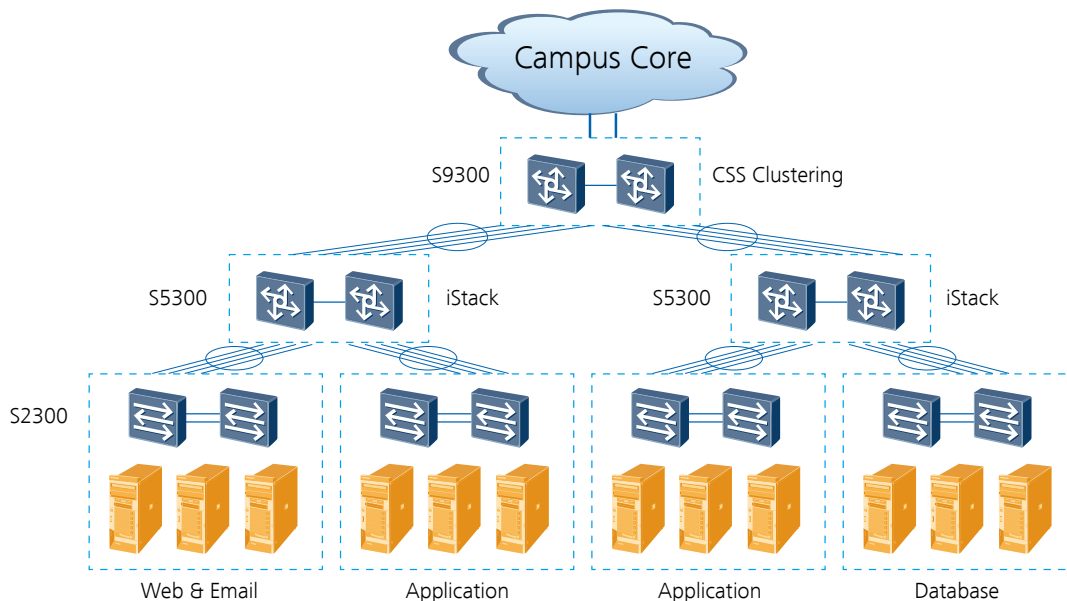
Applications in Carriers' MANs

The S9300 provides carrier-class reliability, security, and manageability. By converging DSLAM, LAN, and enterprise access services, the S9300 provides large-capacity switching and high-density 10G interfaces. At the convergence layer, the interface rate can be smoothly upgraded from 10GE to 40GE/100GE, meeting the increasing bandwidth requirements of ISP networks. The S9300 supports features such as RRPP, Ethernet OAM, VRRP, and MPLS L2/L3VPN, and satisfies the requirements for IPTV, high speed Internet (HSI), and enterprise leased lines.



Applications in Large-Scale Data Centers

The S9300 switches function as high-density 10G core and aggregation nodes in large-scale data centers, helping enterprises build highly reliable, non-blocking, and virtualized data center networks. The S9300 switches use various technologies, including IP FRR, hardware-level BFD, NSF, VRRP, and E-Trunk, to ensure uninterrupted services. In addition, the S9300 switches support the CSS function to improve network IT efficiency and reduce network maintenance costs.





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