

High-Performance Core Switch

S9600 Series



100GE Data Center COR switches

Advanced Hardware Architecture and Industry-leading Port Density



Carrier-Level High Reliability



Varied Service Characteristics
Versatile IPv6 Solution
Complete Security Mechanism

Product Overview

BDCOM S9600 series is next-generation high-performance core switches launched by Shanghai BDCOM for high-performance cloud computing, data centers, and high-end campus networks.

The S9600 series features an advanced hardware architecture, delivering the industry's highest switching performance and a rich array of data center business features.

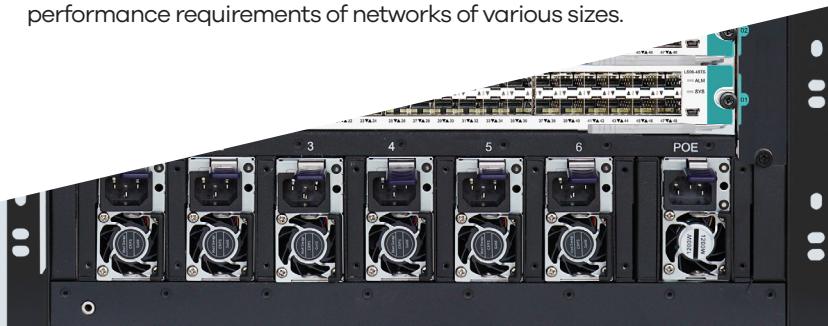
S9600 series supports up to 576 10G ports, 72 40G ports, and 72 100G ports.

S9600 series is equipped with BDCOM's proprietary BDROS 6 operating system, providing high-performance L2/L3/L4 line-rate switching services. It integrates multiple advanced network services, including IPv6, MPLS VPN, network security, traffic analysis, and virtualization.

Combined with high-reliability technologies such as non-stop upgrades, non-stop forwarding, graceful restart, and redundancy protection, S9600 series ensures maximum uptime for uninterrupted communication.

Built on BDCOM's advanced "GreenTouch" philosophy and industry-leading "Smart@CHIP" intelligent chip green energy-saving technology, S9600 series significantly reduces energy consumption, promoting low-carbon and environmentally friendly operations. This solution effectively lowers operational and maintenance costs, offering a perfect approach to sustainable network development.

S9600 series high-performance core switch comes in two models, S9608 and S9614, to meet the port density and performance requirements of networks of various sizes.



Product Characteristics

Advanced Hardware Architecture and & Industry-Leading Processing Capacity

Designed for 100G Platforms: Features an industry-leading distributed multi-stage switching matrix architecture, equipped with high-performance ASIC switching chips and multi-core processors, meeting the requirements for high performance, high capacity, high density, and scalability of carrier-grade core devices.

Supports High-Density 10G line cards: Enables full line-rate, non-blocking Layer 3 switching across cards.

Port Capacity: Supports up to 576 10G ports, 72 40G ports, and 72 100G ports.

Carrier-Grade Reliability

HPS (Hitless Protection System): Ensures redundancy for key components (system control unit, power system, fan system) and hot-swappable system modules, allowing seamless switching during failures without manual intervention.

Supports STP/RSTP/MSTP protocols, VRRP protocol, ring network protection, dual uplink master-slave link protection, and LACP link aggregation for efficient redundancy protection mechanisms.

Supports ISSU (In-Service Software Upgrade) for non-stop system upgrades, and GR (Graceful Restart) for OSPF/BGP routing protocols, ensuring uninterrupted user data forwarding during system upgrades and master control switching.

High-precision BFD bi-directional link detection mechanism provides millisecond-level fault detection and service recovery, greatly improving network system reliability.

Complete Ethernet OAM mechanism supports 802.3ah, 802.1ag, and ITU-Y.1731, enabling rapid fault detection and localization through real-time network status monitoring.

High-reliability design meets telecom-grade service recovery time requirements of 50ms, achieving carrier-grade core equipment's 99.999% high reliability.

Innovative VSS Technique

Supports BDCOM's Innovative BVSS (BDCOM Virtual Switch System): Enables virtualization of multiple physical devices into a single logical device. Compared to standalone physical devices, the virtual system offers unparalleled advantages in performance, reliability, flexibility, and management.

Performance Boost: The virtualization system fully utilizes every link between physical devices, eliminating the link blocking caused by the Spanning Tree Protocol in traditional network models. This maximizes the use of existing links, doubling performance and protecting original link investments to the greatest extent.

High Reliability: Based on advanced distributed processing technology, the system leverages efficient cross-device link aggregation to achieve three-plane separation: logical control plane, service control plane, and service data plane. This ensures uninterrupted Layer 3 routing and forwarding, avoiding service interruptions caused by single-point failures and significantly enhancing system reliability.

Ease of Management: The entire virtual system is managed through a single unified IP, making the underlying physical devices transparent to the user. This simplifies the management of network devices and topologies, greatly improving network operational efficiency and effectively reducing operational and maintenance costs.

Rich Business Features

Complete Layer 2 and Layer 3 multicast routing protocols meet the access needs of IPTV, multi-terminal HD video surveillance, and HD video conferencing.

Comprehensive Layer 3 routing protocols with large routing table capacity meet various network interconnection needs, enabling the construction of ultra-large campus networks, enterprise networks, and industry-specific private networks.

Product Characteristics

Comprehensive IPv6 Solutions

Fully supports IPv6 protocol suite, including IPv6 neighbor discovery, ICMPv6, Path MTU discovery, DHCPv6, and other IPv6 features.

Supports IPv6-based Ping, Traceroute, Telnet, SSH, ACL, and other management and service control needs for pure IPv6 network equipment.

Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3, BGP4+, and other IPv6 Layer 3 routing protocols, providing comprehensive IPv6 Layer 2 and Layer 3 solutions.

Supports rich IPv4 to IPv6 transition technologies, including IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel, ensuring smooth transition from IPv4 to IPv6 networks.

Comprehensive Security Mechanisms

Device-level security protection: Advanced hardware architecture design provides hierarchical scheduling and protection for packets, supports DoS, TCP SYN Flood, UDP Flood, broadcast storm, large traffic, and other attack prevention; supports 6KV port lightning protection; supports command line hierarchical protection with different management permissions for different level users.

Comprehensive security authentication mechanism: Supports IEEE 802.1x, Radius, BDTacacs+, providing a complete security authentication mechanism for users.

Enhanced service security mechanism: Supports plaintext or MD5 authentication for related routing protocols, supports uRPF reverse path forwarding technology for effective illegal service control; hardware-level deep packet inspection and filtering technology supports deep inspection of control and data packets, effectively isolating illegal data packets, and improving network system security.

Innovative Green Environmental Design

Intelligent power management system: Adopts an advanced power system architecture design for efficient power conversion, unique power monitoring, soft start, sequential power-on, and other functions, real-time monitoring of the whole machine operation status, intelligent adjustment, deep energy saving.

Intelligent fan management system: Intelligent fan design supports automatic speed adjustment and independent partition control, effectively reducing speed, noise, and extending fan life.

Supports Energy Efficient Ethernet function, compliant with international standard IEEE 802.3az, effectively reducing energy consumption.

Model Lists



S9608

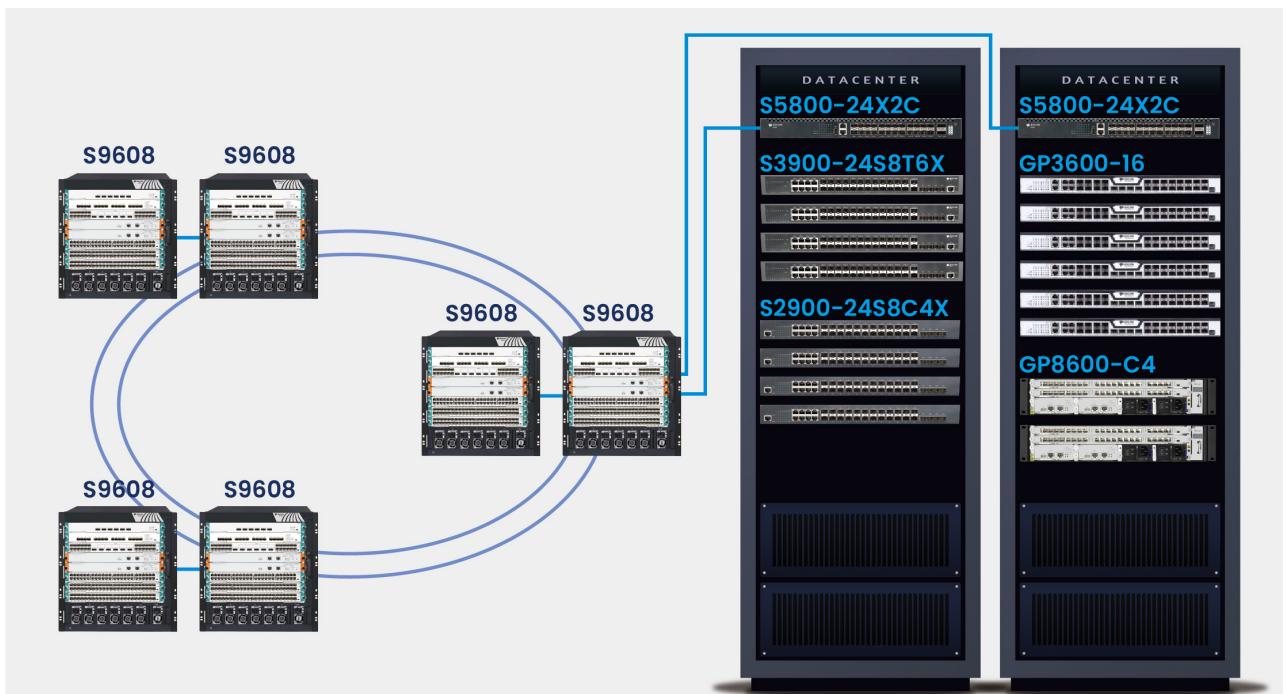
- 1 fan tray, 6 standard power supply slots, 1 PoE power slot, excluding a power supply by default; features 2 main control slots and 6 line card slots.



S9614

- 2 fan trays, 6 standard power supply slots, 1 PoE power slot, excluding a power supply by default; features 2 main control slots and 12 line card slots.

Application Diagram



Product Specifications

Item	S9608	S9614
Switching capacity	42Tbps/336Tbps	56Tbps/448Tbps
Forwarding rate	5400Mpps/43200Mpps	10800Mpps/86400Mpps
Slot number	8	14
Line card slot	6	12
Power supply	AC:100V-240V	
Power slots	7	7
Overall Weight	30.2Kg (Empty Configuration)	43Kg (Empty Configuration)
Dimensions (WxDxH)	485.7×482.6×370mm	755×482.6×370mm

Features

MAC Switching Capacity

- Static configuration and dynamically learning of MAC address
- Check and clear MAC address
- Configuring of MAC address aging time
- Limit on MAC address learning number
- MAC address filtering function
- Black-hole MAC items
- IEEE 802.1AE MacSec Security Control

VLAN

- 4K VLAN entries
- GVRP
- 1:1 and N:1 VLAN Mapping
- Basic QinQ and selective QinQ
- Private VLAN

STP

- 802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)
- BPDU protection, root protection and ring protection

Multicast

- IGMP v1/v2/v3
- IGMP Snooping
- IGMP Fast Leave
- Multicast group policy and multicast number limit
- Multicast traffic cross VLAN duplication
- PIM-SM and PIM-DM

Management and maintenance

- Console, Telnet and SSH
- SNMP v1/v2/v3
- Upload and download of TFTP files
- Remote Network Monitoring (RMON)
- Statistics analysis of sFLOW, Netflow

IPv4

- Static routing, RIP v1/v2, OSPF and BGP
- Policy routing
- Load balance through equal-cost routing
- Graceful Restart of OSPF and BGP
- BFD for OSPF and BGP

IPv6

- ICMPv6, DHCPv6, ACLv6, IPv6 Telnet
- IPv6 Neighbor Discovery
- Path MTU Discovery
- MLD and MLD Snooping
- IPv6 static routing, RIPng, OSPFv3 and BGP4+
- Manual tunnel, ISATAP tunnel and 6-to-4 tunnel

QoS

- Traffic classification of each field of L2/L3/L4 protocol headers
- CAR traffic control
- 802.1P/DSCP priority remark
- Multiple queuing algorithms such as SP, WRR or SP+WRR
- Tail-Drop, WRED
- Traffic supervision and traffic shaping
- Ingress and Egress ACL, and matching L2, L3, L4 and IP quintuples for copying, forwarding and discarding
- Hash algorithms and load balancing

Environment

- Operating temperature/humidity: 0°C-40°C; 10%-90% non-condensing
- Storage temperature/ humidity: -20°C-70°C; 5%-95% non-condensing

Security features

- Identification and filtering of L2/L3/L4 based ACL
- Defend against DOS or TCP attacks
- Suppression of broadcast, multicast and unknown unicast packet
- Port isolation
- Port security, IP+MAC+port binding
- DHCP Snooping, DHCP Option 82
- IEEE 802.1x authentication
- Radius and BDTacacs+ authentication
- uRPF
- Command line authority control based on user levels

Reliability

- Dual Master Control Redundancy
- Power M+N backup
- Master control, service card hot swap and service automatic recovery
- Static/LACP link aggregation and cross service card link aggregation Ring network protection including EAPS
- VRRP
- Ethernet OAM 802.3ah/802.1ag/ ITU-Y.1731
- GR for OSPF and BGP
- BFD for OSPF and BGP
- ISSU

Energy saving

- IEEE 802.3az green Efficient Ethernet

Value-added services

- VSS

Ordering Information

Item	Description
S9600 Series Chassis	
S9608	Integrated Chassis of S9608 switch (1 fan tray, 7 power slots, no power supply module, 2 main control slots, 6 line card slots)
S9614	Integrated Chassis of S9614 switch (2 fan tray, 7 standard power slots, no power supply module, 2 main control slots, 12 line card slots)
S9600 Series Power Supplies	
LS96-PWR-AC	S9600 Series AC Power Module 1300W
LS96-PWR-PoE	S9600 Series POE AC Power Module 1200W
Control Card of S9600 Series	
LS9608-MSU	S9608 Main Control Card
LS9614-MSU	S9614 Main Control Card
Line Card of S9600 Series	
Gigabit Line Card	
LS96-24GS24GT	24-Port Gigabit SFP + 24-Port Gigabit RJ45 Line Card
LS96-48GT	48-Port Gigabit RJ45 Line Card
LS96-48GS	48-Port Gigabit SFP Line Card
Gigabit POE Line Card	
LS96-48GT-POE	48 -Port Gigabit RJ45 Line Card, support POE/POE+
10G Line Cards	
LS96-24GS8TS	24-Port Gigabit SFP + 8-Port 10GE SFP+ Line Card
LS96-24GT8TS	24-Port Gigabit RJ45 + 8-Port 10GE SFP+ Line Card
LS96-16TS	16-Port 10GE SFP+ Line Card
LS96-48TS	48-Port 10GE SFP+ Line Card
40G/100G Line Cards	
LS96-4QS	4-port 40G QSFP+ Line Card
LS96-24TS6QS	24-Port 10GE SFP+ 6-Port 40GE QSFP+ Line card
LS96-6CF	6-port 100G QSFP28 Line Card
Optical Module	
Gigabit Optical Module	
GSFP-TX-B	Gigabit SFP-to-RJ45 module
GSFP-SX-D	Gigabit SFP multi-mode (500m, 850nm, LC, DDM)
GSFP-LX-10-D	Gigabit SFP single-mode (10Km, 1310nm, LC, DDM)
GSFP-LX-20-D	Gigabit SFP single-mode (20Km, 1310nm, LC, DDM)
GSFP-LX-SM1310-10-BIDI	Gigabit SFP single-mode, Single-Fiber Bi-Directional (10Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-10-BIDI	Gigabit SFP single-mode, Single-Fiber Bi-Directional (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI	Gigabit SFP single-mode, Single-Fiber Bi-Directional (20Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-20-BIDI	Gigabit SFP single-mode, Single-Fiber Bi-Directional (20Km, TX1550/RX1310, LC, DDM)

Ordering Information

Item	Description
10GE Optical Module	
SFP+SX	10GE SFP+ multi-mode (300m, 850nm, LC)
SFP+LX-10	10GE SFP+ single-mode (10Km, 1310nm, LC, DDM)
SFP+LX-20	10GE SFP+ single-mode (20Km, 1310nm, LC, DDM)
SFP+LX-40	10GE SFP+ single-mode (40Km, 1550nm, LC, DDM)
SFP+LX-80	10GE SFP+ single-mode (80Km, 1550nm, LC, DDM)
SFP+LX-SM-1270-10	10GE SFP+ single-mode, Single-Fiber Bi-Directional (10Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-10	10GE SFP+ single-mode, Single-Fiber Bi-Directional (10Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-20	10GE SFP+ single-mode, Single-Fiber Bi-Directional (20Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-20	10GE SFP+ single-mode, Single-Fiber Bi-Directional (20Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40	10GE SFP+ single-mode, Single-Fiber Bi-Directional (40Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-40	10GE SFP+ single-mode, Single-Fiber Bi-Directional (40Km, TX1330/RX1270, LC, DDM)
Optical Modules	
40GE optical modules	
QSFP+SR4-100m	40G multi-mode QSFP+ optical module (100m, 850nm, MPO, DDM, supports 1 to 4)
QSFP+LR4-10	40G single-mode QSFP+ optical module (10km, 1310nm, LC, DDM)
QSFP+LR4-20	40G single-mode QSFP+ optical module(20Km, 1310nm, LC, DDM)
QSFP+ER4-40	40G single-mode QSFP+ optical module(40Km, 1310nm, LC, DDM)
100G Optical Modules	
QSFP28-SR4-100m	100G multi-mode QSFP28 optical module(100m, 850nm, MPO, DDM)
QSFP28-LR4-10	100G single-mode QSFP28 optical module(10km, 1310nm, LC, DDM)
QSFP28-LR4-20	100G single-mode QSFP28 optical module(20Km, 1310nm, LC, DDM)

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