BDCOM
Professional Network Technology



BDCOM S5800 Series Data Center TOR Switches

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Introduction

BDCOM S5800 Series is a new generation full-10GE TOR switches oriented for high-performance computing, data center and high-end campuses. S5800 Series adopts the advanced hardware architecture design.

S5800 Series (1U height) supports up to 1.28Tbps switching capacity and 48 10GE ports + 2 40GE ports + 4 100G ports or 72 10GE ports.

S5800 Series supports BVSS, TRILL, SDN and FCoE/FC. By cooperating with S9500 Series, S5800 Series can access to 15000+ 10GE servers.

Developed on the basis of BDROS 6 - a software platform BDCOM with its own independent intellectual property rights, S5800 Series provides high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6, MPLS VPN, network security, flow analysis, virtualization, with high reliable techniques including continuous forwarding, graceful restarting and loop network protection, the work efficiency of S5800 Series and its maximum running time are guaranteed.

S5800 Series supports the “GreenTouch” architecture and “Smart@CHIP”. Its power consumption is lower than 200W.

S5800 Series has two models: S5832, S5864 and S5864H.



S5832



S5864



S5864H

Product Characteristics

- **Advanced Hardware Architecture Design & Industry Leading Processing Capacity**

- It adopts the industry leading hardware architecture design. S5800 Series with 1U height supports 48 10GE ports + 2 40GE ports+ 4 100G ports or 72 10GE ports.
- With high-performance ASIC switch chip and multi-core processor, S5800 Series supports up to 1.28Tbps switching capacity.
- S5800 Series is designed with front/back wind tunnels of the data center. It supports wind tunnel to switch between front-back mode and back-front mode.

- **Rich Data Center Services**

- **BVSS (BDCOM Virtual Switch System)**
- S5800 Series supports BVSS, which can virtualize multiple physical devices into one in logic. The virtualized system is superior to the independent physical device in performance, reliability, flexibility and management.
- **Doubled Performance**: The virtualized system makes the best use of each link in the device and avoids the blocking of STP to the link.
- **High-reliability**: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, S5800 Series provides with non-stop layer-3 routing forwarding and avoids single points of failure.
- **Flexibility**: With the function of S5800 virtual clusters, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique.
- **Easy Management**: The whole virtual system realizes single IP unified management and simplifies the management of network device and network topology.
- **Large Layer-2 Network Technique**: S5800 Series adopts large layer-2 network technique which supports TRILL/SPB protocol. With the technique, the network structure has become simple and compress, which can access to data center large-scale servers.

- **Unified Architecture**: S5800 Series supports FCoE (FC over Ethernet) technique, which solves the problem of discrepancy between LAN network and FC storage network and integrates computing, data and storage networking.
- **SDN**: S5800 Series supports SDN (Software Defined Network), which can realize network virtualization and centralized management.

➢ **Data Center Level High-reliability**

- S5800 Series adopts HPS (Hitless Protection System). The key components of S5800 Series such as the power system and the fan system support redundancy design. All system modules support hot-swap and seamless switching without need of manual intervention.
- S5800 Series supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.
- S5800 Series supports ISSU (In-Service Software Upgrade), guaranteeing the user data non-stop forwarding when the system is upgrading.
- S5800 Series supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.
- S5800 Series has perfect Ethernet OAM, 802.3ah, 802.1ag and ITU-Y.1731 which can real time monitor the network operating state and rapidly detect and locate the malfunction.
- **High Reliability** (99.999%): MTTR of S5800 Series is 50ms, meeting the requirement of the carrier-level service.

➢ **Comprehensive Service**

- S5800 Series supports complete layer-2 and layer-3 multicast routing protocol and meets the access requirement of IPTV, multi-terminal high-definition video monitoring and high-definition video meeting.
- S5800 Series supports complete layer-3 routing protocol and a super-large routing table capacity, which make super-large data center network, campus network, enterprise network and industry private networks available.
- S5800 Series supports complete MPLS VPN of layer-2 and layer-3, which meets the requirement of industry private VPN users and enterprise network VPN users.

➢ **Comprehensive IPv6 Solutions**

- S5800 Series comprehensively supports IPv6 Neighbor Discovery, ICMPv6, Path MTU Discovery and DHCPv6.

- S5800 Series supports IPv6 based Ping, Traceroute, Telnet, SSH, ACL, meeting the need of IPv6 network equipment management and service control.
- S5800 Series supports IPv6 multicast characteristics including MLD, MLD Snooping and IPv6 layer-3 routing protocols including IPv6 static routing, RIPng, OSPFv3 and BGP4+.
- S5800 Series supports IPv4-to-IPv6 technologies including IPv6 manual/automatic tunnel, auto tunnel, IPv6-to-IPv4 tunnel, and ISATAP tunnel.

➢ **Comprehensive Security Mechanisms**

- S5800 Series adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet. It provides multiple security measures to defend attacks from SYN Flood, UDP Flood, broadcast storm and large flow of DoS or TCP and supports command line authority control based on user levels.
- **Comprehensive Security Certification**: S5800 Series complies with IEEE 802.1x, Radius, and BDTacacs+.
- **Enhanced Service Security Mechanism**: S5800 Series supports the plaintext or MD5 authentication of relevant routing protocol; uRRF; DPI (Deep Packet Inspection) and (Deep Packet Filtration); DPI for control packets and data packets.

➢ **Innovative Green Environmental Design**

- S5800 Series supports the “GreenTouch" architecture.
- **Smart Power Management System**: S5800 Series adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving.
- **Smart Fan Management System**: S5800 Series is designed with the intelligent fan and supports switching between front-back mode and back-front mode and fan automatic speed regulation.
- S5800 Series supports efficient Ethernet and complies with International standard IEEE 802.3az.

Product Specifications

Item	S5832	S5864	S5864H
Switching Capacity	2.56Tbps/23.04Tbps	2.56Tbps/23.04Tbp	2.56Tbps/23.04Tbp

Packet Forwarding Rate	960Mpps	1080Mpps	1440Mbps
Power Slots	2	2	2
Fan Slots	5	5	5
Ports	24 10GE SFP+ ports and 2 40GE QSFP+ ports + 4 gigabit Base-T ports or 32 10GE ports	48 10GE SFP+ ports and 4 40GE QSFP+ ports or 64 10GE ports	48 10GE SFP+ ports and 2 40GE QSFP+ ports + 4 100GE QSFP28 ports or 72 10GE ports
Dimensions (mm) (W×D×H)	442.5×404×44	442.5×404×44	442.5×404×44
Data Center Characteristics	BVSS TRILL/SPB large layer-2 technique FCoE technique SDN		
MAC Switching Capacity	Static Configuration and Dynamically Learning of MAC Address Check and Delete MAC Address MAC Address Aging Time Limit on MAC Address Learning Number MAC Address Filtering Function Black-Hole MAC Items		
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
IPv4	Static Routing, RIP V1/V2, OSPF and BGP Policy Routing Load Balance through Equal-Cost Routing 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
MPLS VPN	LDP protocol MCE P/PE of MPLS VPN MPLS Traffic Engineering (TE) MPLS Operations, Administration, and Maintenance (OAM)
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
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
Reliability	Power 1+1 Backup Power and Fan Hot-swap 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
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
Energy saving	IEEE 802.3az green Efficient Ethernet
Environment	Operating temperature/humidity: 0℃-50℃, 10%-90% non-condensing Storage temperature/ humidity: -20℃-70℃; 5%-95% non-condensing
Power supply	AC: 100V-240V,50Hz±10% DC: -36V~-72V

Ordering Information

Item	Description
Hosts of S5800 Series	
S5832	24 10GE SFP+ ports and 2 40GE QSFP+ ports + 4 gigabit Base-T ports or 32 10GE ports Ethernet routing switch with 24 10GE SFP+ ports, 2 40GE QSFP+ ports and 4 gigabit Base-T ports (1 console port, 1 out-band gigabit Base-T port, 24

	GE/10GE auto-adaptation SFP+ ports, 2 40GE QSFP+ ports (each 40GE port can expand to 4 10GE ports); 2 power slots, 2 AC220V power supplies; 5 fan slots, including 5 fans; the cooling fan, standard front/back wind channel design, air-in from the front of the chassis and air-out from the back of the chassis; 1U, 19-inch rack-mounted installation)
S5864	Ethernet routing switch with 48 10GE SFP+ ports, 4 40GE QSFP+ ports (1 console port, 1 out-band gigabit Base-T port, 1 USB2.0 interface, 48 GE/10GE auto-adaptation SFP+ ports, 4 40GE QSFP+ ports (each 40GE port can expand to 4 10GE ports); 2 power slots, 2 AC220V power supplies; 5 fan slots, including 5 fans; the cooling fan, standard front/back wind channel design, air-in from the front of the chassis and air-out from the back of the chassis; 1U, 19-inch rack-mounted installation)
S5864-DC	Ethernet routing switch with 48 10GE SFP+ ports, 4 40GE QSFP+ ports (1 console port, 1 out-band gigabit Base-T port, 1 USB2.0 interface, 48 GE/10GE auto-adaptation SFP+ ports, 4 40GE QSFP+ ports (each 40GE port can expand to 4 10GE ports); 2 power slots, 2 DC-48V power supplies; 5 fan slots, including 5 fans; the cooling fan, standard front/back wind channel design, air-in from the front of the chassis and air-out from the back of the chassis; 1U, 19-inch rack-mounted installation)
S5864H	Ethernet routing switch with 48 10GE SFP+ ports, 2 40GE QSFP+ ports and 4 100GE QSFP28 ports (1 console port, 1 out-band GE MGMT RJ45 port, 48 10GE SFP+ ports, 2 40GE SFP+ ports, 4 100GE (QSFP28 encapsulation, 40GE auto-adaptation ports or 4 10GE ports), 2 power slots, 4 fan slots, the cooling fan; standard front/back wind channel design, air-in from the front of the chassis and air-out from the back of the chassis; 1U, 19-inch rack-mounted installation)

Optical Modules	
Gigabit Optical Modules	
GSFP-TX-B	GE 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-40-D	Gigabit SFP single mode (40Km, 1310nm, LC, DDM)
GSFP-ZX-80-D	Gigabit SFP single mode (80Km,1550nm, LC, DDM)
GSFP-LX-SM1310-10-BIDI GSFP-LX-SM1550-10-BIDI	Gigabit SFP single mode, single-core bidirectional (10Km, TX1310/RX1550, LC, DDM) Gigabit SFP single mode, single-core bidirectional (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI GSFP-LX-SM1550-20-BIDI	Gigabit SFP single mode, single-core bidirectional (20Km, TX1310/RX1550, LC, DDM) Gigabit SFP single mode, single-core bidirectional (20Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-40-BIDI GSFP-LX-SM1550-40-BIDI-1310	Gigabit SFP single mode, single-core bidirectional (40Km, TX1310/RX1550, LC, DDM) Gigabit SFP single mode, single-core bidirectional (40Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1490-80-BIDI GSFP-LX-SM1550-80-BIDI	Gigabit SFP single mode, single-core bidirectional (80Km, TX1490/RX1550, LC, DDM) Gigabit SFP single mode, single-core bidirectional (80Km, TX1550/RX1490, LC, DDM)
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 core bidirectional (10Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-10	10GE SFP+ single mode, single core bidirectional (10Km, TX1330/RX1270, LC, DDM)

SFP+LX-SM-1270-20	10GE SFP+ single mode, single core bidirectional (20Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-20	10GE SFP+ single mode, single core bidirectional (20Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40	10GE SFP+ single mode, single core bidirectional (40Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-40	10GE SFP+ single mode, single core bidirectional (40Km, TX1330/RX1270, LC, DDM)
40GE Optical Modules	
QSFP+LX-20	40GE QSFP+ single mode (20Km, 1310nm, LC, DDM)

For More Information

For more information about the **BDCOM S5800 Series**, please contact your local BDCOM account representative.

Shanghai Baud Data Communication Co., LTD.
No.123, Juli Road,
Pudong Zhangjiang High-Tech Park,
Shanghai 201203, P.R.China
www.bdcom.cn
Tel:+86-21-50800666

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