S5800 SERIES

Supports Maximum 48 10GE Ports and 4 100GE QSFP28 Uplink Ports

Advanced Hardware Architecture and Industry-leading Port Density

Carrier-Level High Reliability
Data-center TOR Switches
Full Layer-3 Functions

Varied Service Characteristics
Versatile IPv6 Solution
Complete Security Mechanism

Product Overview

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

S5800 Series (1U height) supports up to 2.56Tbps 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 converge data of 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, all which works efficiency withing the S5800 Series fabric for guaranteed maximum runtime.

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

S5800 Series has 4 models: S5828, S5832, S5864 and S5864H.

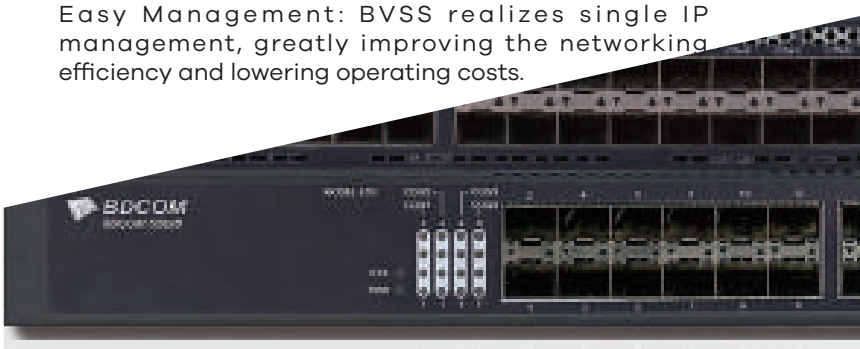
Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative BVSS (BDCOM Virtual Switch System):

virtualize multiple physical devices into one. The performance, reliability and management capabilities of the virtual system combine to outperform that of individual physical devices;

Improved Performance: BVSS makes full use of each link in the physical device cluster, which avoids STP blocking on links and protects the original link to the maximum;

High Reliability: Based on the advanced distribution mechanism and efficient cross-physical link aggregation function, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure;

Easy Management: BVSS realizes single IP management, greatly improving the networking efficiency and lowering operating costs.



Product Characteristics

Rich Data Center Services

BVSS (BDCOM Virtual Switch System)
S5800 Series supports BVSS, which can virtualize multiple physical devices into a single logical element. 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 blocking of STP to the links.
High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, , the S5800 Series provides non-stop layer-3 routing forwarding and avoids single points of failure.
Flexibility: The virtual cluster function of the S5800 allows the distance of a cluster system to expand over up to 80KM, breaking the geographic restrictions of traditional cluster techniques.
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 this technique, the network structure has become simplified and compact, which better enables access for 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.

Security+

Equipment-level security: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP- related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.

Perfect security authentication mechanisms: IEEE 802.1x, Radius and BDTacacs+.

S5800 series supports storm/multicast/unicast limits, ensuring normal running conditions of the equipment when deployed in harsh network conditions.

S5800 series supports perfect ring detection mechanisms, ensuring long-term network performance stability.

S5800 series supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

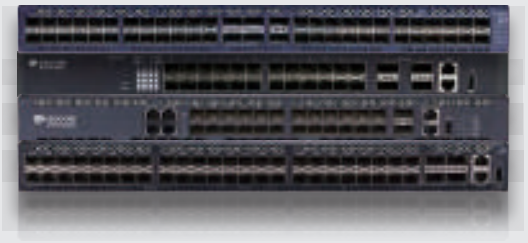
Versatile IPv6 Solution

S5800 Series supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.;
S5800 Series supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6;
S5800 Series supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.;
Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP;
S5800 Series supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Data Center Level High-reliability

S5800 Series adopts HPS (Hitless Protection System). The key components of he S5800 Series such as the power system and the fan system supports redundancy in design. All system modules support hot-swap and seamless switching without need of manual intervention.
S5800 Series supports redundancy protection mechanisms 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 non-stop forwarding of service data while 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 monitor the network operating state in real time and rapidly detect and locate the malfunction.
High Reliability (99.999%): The MTTR of the S5800 Series is 50ms, satisfying the requirement for reliable delivery of carrier-level service.

Model Lists A



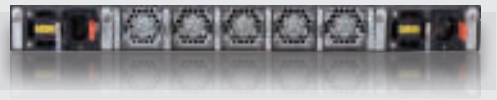
S5800 SERIES

S5828

- 24 10GE/GE SFP+ ports
- 4 100GE/40GE QSFP28 ports

S5832

- 4 GE TX ports
- 24 10GE/GE SFP+ ports
- 2 40GE QSFP+ ports



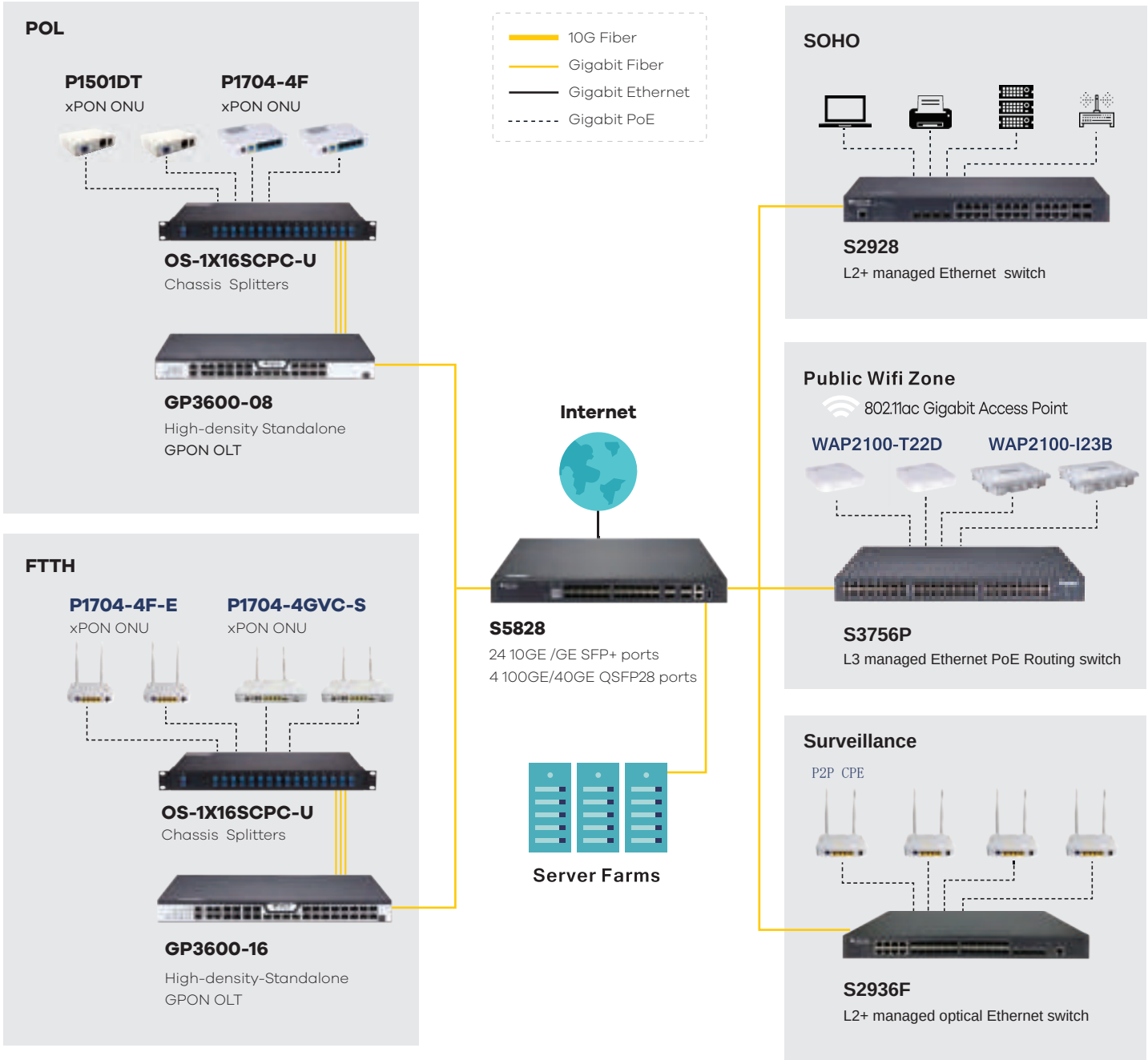
S5864

- 48 10GE/GE SFP+ ports
- 4 40GE QSFP+ ports

S5864H

- 48 10GE/GE SFP+ ports
- 2 40GE QSFP+ ports
- 4 100GE/40GE QSFP28 ports

Application Diagram



Product Specifications

Item		S5832	S5864	S5828	S5864H
Interface		4 GE TX ports, 24 10GE/GE SFP+ ports, 2 40GE QSFP+ ports	48 10GE/GE SFP+ ports, 4 40GE QSFP+ ports	24 10GE/GE SFP+ ports, 4 100GE/40GE QSFP28 ports	48 10GE/GE SFP+ ports, 2 40GE QSFP+ ports, 4 100GE/40GE QSFP28 ports
Console		1 RJ45 console, 1 MGMT	1 RJ45 console, 1 MGMT	1 RJ45 console, 1 MGMT	1 RJ45 console, 1 MGMT
Backplane		648Gbps	1280Gbps	800Gbps	1920Gbps
Forwarding rate		486Mpps	960Mpps	600 Mpps	1440 Mpps
Chassis	Dimensions (WxDxH)(mm)	442x404x44	442x404x44	440x350x44	442x404x44
	Weight (KG)(empty)	8.5	8.6	7.1	8.8
Package	Dimensions (WxDxH)(mm)	596x468x114	616x488x140	576x448x94	616x488x140
	Weight(KG)	9.7	9.8	8.3	10
Power consumption	no-load	81.5W	94W	45W	102W
	full-load	92W	131.5W	70W	147W
Power supply (hot-swap)	AC: 100V-240V, 50Hz±10%	2	2	2	2
Power status monitoring		Support	Support	Support	Support
Total output BTU (1000BTU/H=293W)		313.99	448.81	238.91	501.71
Fan number		5	5	4	4
Noise@25°C（dBA）		55	55	57	57
MTBF(H)		>100,000	>100,000	>100,000	>100,000
Forwarding mode		Store-forward	Store-forward	Store-forward	Store-forward
Flash (MB)		32	32	32	64
DRAM (MB)		2048	2048	1024	512
MAC		128K	128K	32K	64K
Jumbo frame		9K	9K	9K	9K
Routing table	IPv4	16K	16K	16K	8K
	IPv6	8K	8K	12K	4K
ARP table	IPv4	16K	16K	10K	4K
	IPv6	8K	8K	10K	4K
Total SVI		1K	1K	1K	1K

Features

VLAN

- 4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN

Spanning Tree

- 802.1D (STP)
- 802.1W (RSTP) and 802.1S (MSTP)
- BPDU guard,root guard and loopback guard

Multicast

- PIM-SM, PIM-DM,
- IGMP v1/v2/v3,
- IGMP Snooping,
- IGMP Fast Leave,
- MVR, IGMP filter

IPv4

- Static routing, RIP v1/v2,
- OSPF, BGP, PBR, ECMP
- BFD for OSPF, BGP

IPv6

- ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet
- IPv6 neighbor discovery, Path MTU discovery
- MLD V1/V2, MLD snooping
- IPv6 Static Routing, RIPng, OSPFv3, BGP4+
- Manual tunnel, ISATAP tunnel, 6 to 4 tunnel

MPLS

- Multi-VRF

QoS

- CAR, HQoS, MAC/IP/TCP/UDP/ VLAN/COS/DSCP/TOS based QoS,
- 802.1P/DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop,
- WRED, flow monitoring and traffic shaping

Security

- Port isolation, Port security, and "IP+MAC+port" binding, MAC
- stickyDHCP Snooping and option 82, DAI & IP source guard, PPPoE+,
- IEEE 802.1x, Radius and BDTacacs+ L2/L3/L4 ACL flow identification and filtrationAnti-attack from
- DDoS, TCP's SYN Flood, UDP Flood, etc.Broadcast/multicast/unknown
- unicast storm-control
- MD5, SHA-256, RSA-1024, AES256, etc.

Reliability

- Static/LACP link aggregation,
- Interface backup
- BVSS virtual-stacking
- EAPS and ERPS
- URPF, LLDPISSU
- VRRP
- 1+1 power backup
- Hot patch

Management

- Console, Telnet, SSH v1/2, HTTP
- HTTPSSNMP v1/v2/v3, RMON
- TFTP, FTP, SFTP
- NTP, SPAN, RSPAN
- Syslog
- NTP
- LLDP

Environment

- Operating temperature/humidity: 0℃ -50℃ ,10%-90% non-condensing
- Storage temperature/humidity: -20℃ -70℃ , 5%-95% non-condensing

Certification

- CE, FCC, ROHS

IEEE Standard

- IEEE 802.1D Media Access Control (MAC) Bridges
- IEEE 802.1D Media Access Control (MAC) Bridges
- IEEE Std 802.3 CSMA/CD
- IEEE Std 802.3ab 1000BASE-T specification
- IEEE Std 802.3ad Aggregation of Multiple Link Segments
- IEEE Std 802.3ae 10GE WEN/LAN Standard
- IEEE Std 802.3x Full Duplex and flow control
- IEEE Std 802.3z Gigabit Ethernet Standard
- IEEE802.1ax/IEEE802.3ad Link Aggregation
- IEEE 802.1ab Link Layer Discovery Protocol

Ordering Information

Item	Description
S5800 series switches	
S5832	Ethernet routing switch with 24 10GE ports, 2 40GE ports and 4 GE ports (1 console port, 1 out-band port, 24 10GE/GE SFP+ ports, 2 40GE QSFP+ ports (each 40GE port can expand to 4 10GE ports); 2 power slots with 2 hot-swap AC220V power supplies; 5 fan slots, including 5 fans; 1U, 19-inch rack-mounted installation)
S5864	Ethernet routing switch with 48 10GE ports, 4 40GE ports (1 console port, 1 out-band port, 1 USB2.0, 48 10GE/GE SFP+ ports, 4 40GE QSFP+ ports (each 40GE port can expand to 4 10GE ports); 2 power slots with 2 hot-swap AC220V power supplies; 5 fan slots, including 5 fans; 1U, 19-inch rack-mounted installation)
S5828	Ethernet routing switch with 24 10GE ports, 4 100GE ports (1 console port, 1 out-band port, 24 10GE/GE SFP+ ports, 4 100GE/40GE QSFP28 ports (can expand to 4 10GE ports); 2 power slots with 2 hot-swap AC220V power supplies; 4 fan slots, including 4 fans; 1U, 19-inch rack-mounted installation)
S5864H	Ethernet routing switch with 48 10GE ports, 2 40GE ports and 4 100GE ports (1 console port, 1 out-band port, 48 10GE/GE SFP+ ports, 2 40GE QSFP+ ports, 4 100GE (can expand to 4 10GE ports), 2 power slots with 2 hot-swap AC220V power supplies; 4 fan slots, including 4 fans; 1U, 19-inch rack-mounted installation)
Optical Modules	
40GE optical modules	
QSFP+40G-SR4-100m	40G QSFP+ optical module (100m, 850nm, MPO, DDM, supports 1 to 4)
QSFP+LR4-10	40G QSFP+ optical module (10Km, 1310nm, LC, DDM)
10GE optical modules	
SFP+TX	10GE SFP+-to-RJ45 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 SFP+LX-SM-1330-10	10GE SFP+ single-mode, single-fiber (10Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (10Km,TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-20 SFP+LX-SM-1330-20	10GE SFP+ single-mode, single-fiber (20Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (20Km,TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40 SFP+LX-SM-1330-40	10GE SFP+ single-mode, single-fiber (40Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-fiber (40Km,TX1330/RX1270, LC, DDM)
GE Optical Modules	
GSFP-TX-B	GE SFP-to- RJ45 module
GSFP-SX-D	GE SFP multi-mode (500m, 850nm, LC, DDM)
GSFP-LX-10-D	GE SFP single-mode (10Km, 1310nm, LC, DDM)
GSFP-LX-20-D	GE SFP single-mode (20Km, 1310nm, LC, DDM)
GSFP-LX-40-D	GE SFP single-mode (40Km, 1310nm, LC, DDM)
GSFP-ZX-80-D	GE SFP single-mode (80Km, 1550nm, LC, DDM)
GSFP-ZX-120-D	GE SFP single-mode (120Km, 1550nm, LC, DDM)
GSFP-LX-SM1310-10-BIDI GSFP-LX-SM1550-10-BIDI	GE SFP single-mode, single core bidirectional (10Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single core bidirectional (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI GSFP-LX-SM1550-20-BIDI	GE SFP single-mode, single core bidirectional (20Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single core bidirectional (20Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-40-BIDI GSFP-LX-SM1550-40-BIDI	GE SFP single-mode, single core bidirectional (40Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single core bidirectional (40Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1490-80-BIDI GSFP-LX-SM1550-80-BIDI	GE SFP single-mode, single core bidirectional (80Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single core bidirectional (80Km, TX1550/RX1490, LC, DDM)
GSFP-LX-SM1490-120 GSFP-LX-SM1550-120	GE SFP single-mode, single core bidirectional (120Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single core bidirectional (120Km, TX1550/RX1490, LC, DDM)

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