BDCOM

Shanghai Baud Data Communication Co., Ltd.

Switches

BDCOM S3900-48S4C8X

10GE Routing Switch

BDCOM S3900-48S4C8X Switch

Product Overview

BDCOM S3900-48S4C8X is a new generation of aggregation 10GE switches introduced by Shanghai Baud Data Communication Co., LTD. It is targeted at the IP MAN (metropolitan area network), campus networks and enterprise networks. It is developed on the basis of high performance hardware and BDROS - a software platform with BDCOM own independent intellectual property rights. It supports multiple services like IPv6, MPLS, VPN and network security based on L2/L3/L4 wire-speed switching service. It also supports nonstop upgrade, continuous forwarding, graceful restarting and redundancy protection.



S3900-48S4C8X

Product Characteristics

➢ **Advanced Hardware Architecture and Industry-Leading Port Intensity**

- 1U box-shaped switch with 48 GE ports and 8 10GE ports with high-performance ASIC switch chip;
- 32K MAC and 32K routing items.
- 2KV surge protection.

➢ **Innovative Virtual Cluster Switching Technique**

- **Innovative BVSS** (BDCOM Virtual Switch System): virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones;
- **Improved Performance**: BVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent;
- **High Reliability**: Based on the advanced distribution mechanism and efficient cross-physical link aggregation link 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 the operating cost.

➢ Carrier-level High Reliability

- Based on HPS (Hitless Protection System), the key components of S3900-48S4C8X such as the power module support dual back-up, hot-swap, seamless switching in the downtime without manual intervention;
- Supports STP/RSTP/MSTP, VRRP protocol, Ethernet ring protection, dual master-slave uplink protection and LACP link aggregation;
- Supports ISSU (In-Service Software Upgrade);
- Supports BFD mechanism;
- Supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731;
- High reliability (99.999%): MTTR of S3900 Series is 50ms, meeting the requirement of the carrier-level service.

➢ Varied Service Characteristics

- Supports layer2 and layer3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference;
- Supports layer3 routing protocol and super-large routing table capacity, which enables the device is available in large campus networks, enterprise networks and industry networks;

➢ Versatile IPv6 Solution

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

➢ Complete Security Mechanism

- **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;
- **Security Authentication Mechanism**: IEEE 802.1x, Radius and BDTacacs+;
- **Enhanced Service Security Mechanism**: S3900 Series supports the plain-text or MD5 authentication of relevant routing protocol, URPF, deep inspection of hardware packet, control packet and data packet and filtering technology.

➢ Innovative Energy-saving Design

- Intelligent power management: The power system of S3900 Series supports real-time monitoring the device and the slow-start. It is also power-saving;
- Intelligent fan management system: The fan system of S3900 Series supports automatic speed regulation, which efficiently slow the fan speed and mitigate the noise;
- Comply with the international standard IEEE 802.3az.

Product Specifications

Item	S3900-48S4C8X
Backplane	176Gbps
Forwarding	132Mpps
MAC table	32K
Ports	44 GE SFP 4 GE SFP/TX combo 8 10GE/GE SFP+
Dimensions mm (W×D×H)	442×350×44
Power supply	AC: 100V-240V, 50Hz±10% DC: -36V~-72V (POE doesn't support the DC power supply.) Dual power supply (optional)
Environment	Operating temperature/humidity: 0℃-50℃; 10%-90% non-condensing Storage temperature/humidity: -20℃-70℃; 5%-95% non-condensing
MAC	Static configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list
VLAN	4K 802.1Q VLAN GVRP 1:1 VLAN mapping and N:1 VLAN mapping QinQ and flexible QinQ Private VLAN Voice VLAN
STP	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU protection, root protection, and loopback protection
Multicast	IGMP v1/v2/v3 IGMP Snooping

	IGMP Fast Leave Multicast group strategy and quantity limitation Multicast flow copying over VLANs PIM-SM and PIM-DM
IPv4	Static routing, RIP v1/v2, OSPF, BGP Strategy routing Load balance by equivalent routing BFD for OSPF, BGP
IPv6	IPv4/v6 dual stack ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbor discovery Path MTU discovery MLD V1 MLD snooping IPv6 Static Routing, RIPng, OSPFv3, BGP4+ Manual tunnel, ISATAP tunnel, 6-to-4 tunnel
MPLS VPN	MCE
QoS	Flow classification based on L2/L3/L4 protocols CAR rate-limit 802.1P/DSCP priority re-labeling SP, WRR, and “SP+WRR” Congestion avoidance mechanisms like Tail-Drop and WRED Flow monitoring and flow shaping
Security features	L2/L3/L4 ACL flow identification and filtration DDoS attack prevention, TCP-SYN/UDP/ARP Flood attack prevention Broadcast/multicast/unknown unicast storm-control Port isolation Port security, and “IP+MAC+port” binding DHCP snooping and DHCP option 82 DAI, IP source guard IEEE 802.1x authentication, multiple-user authentication, guest vlan Radius, BDTacacs+ authentication

	URPF Multiple user privilege
Reliability	Power 1+1 backup 802.3ad Static/LACP link aggregation EAPS G.8032 ERPS VRRP GR for OSPF and BGP BFD for OSPF and BGP ISSU BVSS virtual stacking system
Management	Console, Telnet, SSH 1.0/2.0 HTTP, HTTPS SNMP v1/v2/v3 TFTP, FTP, SFTP RMON Syslog sFLOW NTP SPAN/RSPAN
Energy saving	IEEE 802.3az

Ordering Information

Item	Description
S3900-48S4C8X	Ethernet routing switch with 48 gigabit optical ports, 4 gigabit SFP/Base-T combo ports and 8 10GE optical ports (1 Mini USB console port, 48 100M/1000M auto-adaptation SFP ports, 4 gigabit SFP/Base-T combo ports, 8 GE/10GE auto-adaptation SFP+ ports; the standard hot-swap AC220V power supply, the expanded dual power supply; the cooling fan, 1U, standard

	19-inch rack-mounted installation)
Power Supply	
PWR-150-AC	Hot-swap AC Power (Max Power 150W, AC100~240V input, the isolated cooling fan)
PWR-150-DC	Hot-swap DC Power (Max Power 150W, DC-36V ~ -72V input, the isolated cooling fan)
Optical Modules	
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-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-1310	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	GE SFP single-mode, single-core bidirectional (80Km, TX1490/RX1550, LC, DDM)

GSFP-LX-SM1550-80-BIDI	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)
10GE Optical Modules	
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-40-1310	10GE SFP+ single-mode (40Km, 1310nm, 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-core bidirectional (10Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-core bidirectional (10Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-20 SFP+LX-SM-1330-20	10GE SFP+ single-mode, single-core bidirectional (20Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-core bidirectional (20Km, TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40 SFP+LX-SM-1330-40	10GE SFP+ single-mode, single-core bidirectional (40Km, TX1270/RX1330, LC, DDM) 10GE SFP+ single-mode, single-core bidirectional (40Km, TX1330/RX1270, LC, DDM)

For More Information

For more information about BDCOM S3900-48S4C8X Switch, please contact your local BDCOM account representative.

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