S3900-P SERIES

Supports 48 Gigabit PoE+Ports and 6 10GE SFP+ Uplink Ports

Advanced Hardware Architecture and Industry-leading Port Density

Carrier-Level High Reliability Layer-3 Routing Functions

Varied Service Characteristics Versatile IPv6 Solution Complete Security Mechanism

Product Overview

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

BDCOM S3900-P Series has 2 model: S3900-24P6X and S3900-48P6X. It supports 24/48 gigabit PoE+ ports and 6 10GE ports.

Innovative Virtual Cluster Switching Technique

BVSS (BDCOM Virtual Switch System):

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.

Improved Performance:

virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones.

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 layer-3 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.

Product Characteristics

Carrier-Level QoS Policies

Supports priority retagging and complicated flow classification based on VLAN, MAC, source address, destination address, IP or priority to better streamline carrier's services. Supports flexible bandwidth control policies and supports port-/flow-based flow limit, and ensuring the line speed forwarding of each port to make sure the high quality of video, audio and data services. Supports 8 priority queues by each port. Supports multiple queue schedule algorithms such as SP, WRR, and SP+WRR.

Varied Service Characteristics

Supports layer-2 and layer-3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference. Supports layer-3 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. Supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc. Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4, ISATAPSupports IPv4 transits to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Industrial Ethernet Ring with Zero Delay and Zero Packet Loss

Supports industry-level EAPS and ERPS, and their protection recovery time is less than 50ms. Their high reliability is represented by the null packet loss, which has been proved by many years of application in the Grid, rail transportation and defense systems.

Intelligent PoE+

S3900-P series supports IEEE 802.3af/at PoE standard, and power mapping scales up to a maximum of 760W of PoE+ power; S3900-P series supports PoE non-stop power supply. The PoE+ power is maintained during a switch reload; S3900-P series supports manual and dynamic PoE power allocation; S3900-P series supports up to 6KV thunder-proof of the PoE port and power supply;

Complete Security Mechanism

Equipment-Level Se`curity: 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: supports the plaintext 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. Complies with the international standard IEEE 802.3a.

Flexible and Convenient Management and Maintenance

Supports management modes such as the console port, Telnet, SSH, etc.Supports the WEB management mode, which is easy and efficient so that it makes installation and debugging convenient.Supports TFTP-patterned file upload/download management.

Supports ISSU (In-Service Software Upgrade).
Supports SNMP and BDCOM NMS smart network management platform to realize automatic equipment discovery,network topology management, equipment configuration management, performance data statistics and analysis and trouble management.

Model Lists

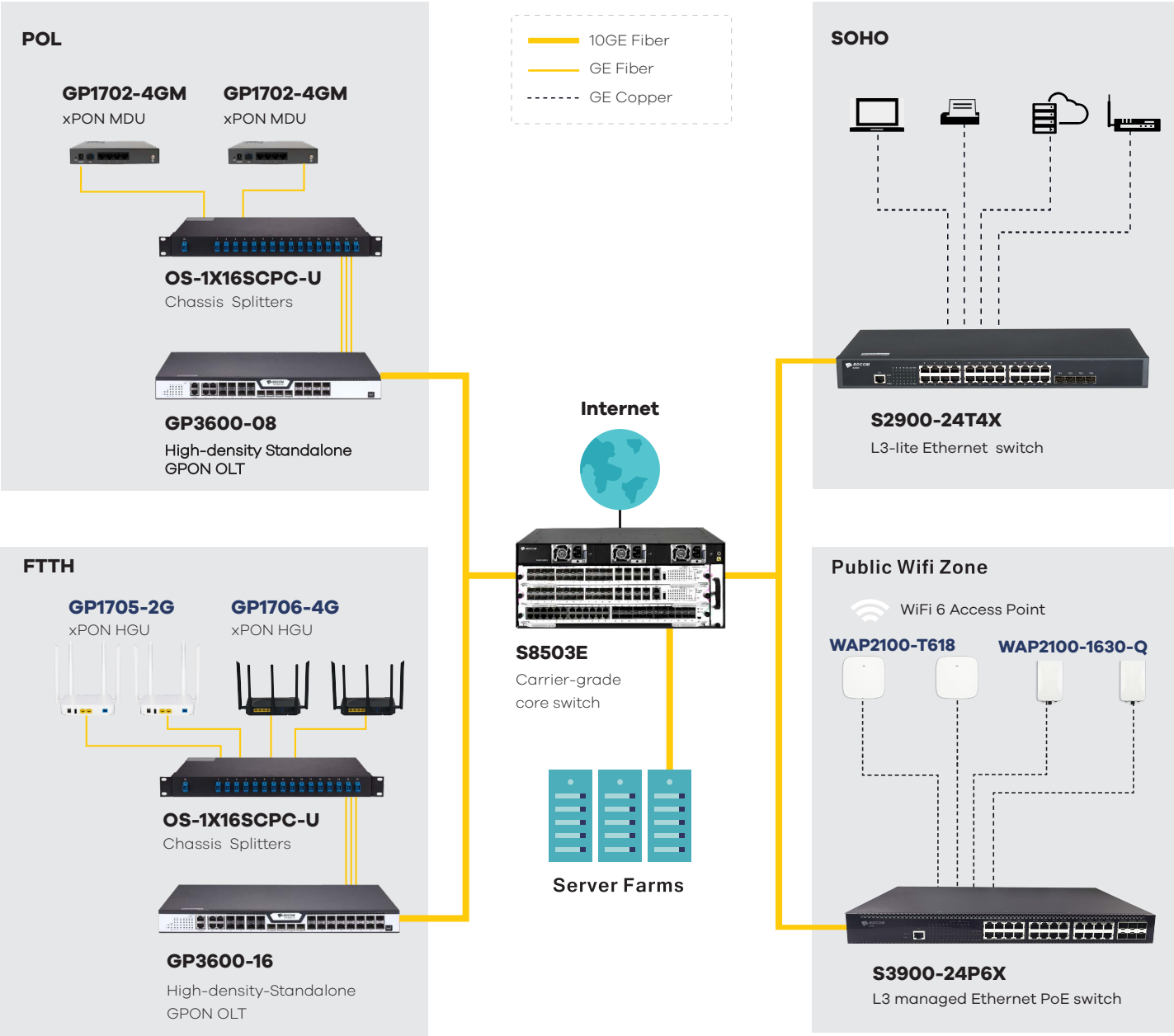
S3900-24P6X

- 24-Port Gigabit PoE+
- 6-Port 10G/GE SFP+

S3900-48P6X

- 48-Port Gigabit PoE+
- 6-Port 10G/GE SFP+

Application Diagram



Product Specifications

Item		S3900-24P6X	S3900-48P6X
Gigabit Interface	PoE+	24	48
	SFP	/	/
10G/GE SFP+		6	6
Console (RJ45)		1	1
Backplane (Gbps)		216	216
Forwarding rate (Mpps)		126	162
Physical Specifications			
Chassis	Dimensions (WxDxH)(mm)	442.5x335x44.6	442.5x355x44.6
Package	Dimensions (WxDxH)(mm)	576x448x94	576x448x94
Power			
Power supply (hot-swap)	AC: 100V-240V 50Hz±10%	≤1000W(POE)	≤1000W(POE)
Total output BTU (1000BTU/H=293W)		3412.96	3412.96
Noise@25°C（dBA)		45	53
MTBF(H)		>200,000	>200,000
Forwarding mode		Store-forward	Store-forward
Flash (MB)		64	16
DRAM (MB)		512	512
MAC		32K	32K
Buffer size(MB)		2	2
Jumbo frame		9K	9K
Routing table	IPv4	12K	12K
	IPv6	4K	4K
ARP table	IPv4	8K	8K
	IPv6	2K	2K
Total SVI		1K	1K

Features

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

DHCP
- DHCP server/relay/client
- DHCP snooping/option82

MCE
- Multi-VRF

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

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 sticky
- DHCP 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, LLDP
- ISSU
- VRRP
- 1+1 power backup

Management
- Console, Telnet, SSH v1/2, HTTP, HTTPS,SNMP v1/v2/v3, RMON
- TFTP, FTP, SFTP
- NTP, SPAN, RSPAN
- sFlow

Accessories
- Power cord,rackmount kits, console cable

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

Certification
- CE, FCC, ROHS

Ordering Information

Item	Description
S3900-P Series switch	
S3900-24P6X	24-Port Gigabit PoE+ 6-Port 10G/GE SFP+ L3 Stackable Managed PoE Switch (2 power slots with one hot-swap AC-220V power supply; with cooling fan; 1U; standard 19-inch rack-mounted installation)
S3900-48P6X	48-Port Gigabit PoE+ 6-Port 10G/GE SFP+ L3 Stackable Managed PoE Switch (2 power slots with one hot-swap AC-220V power supply; with cooling fan; 1U; standard 19-inch rack-mounted installation)
Optical modules	
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, 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-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	10GE 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 (40Km, 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 fiber (10Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI GSFP-LX-SM1550-20-BIDI	GE SFP single-mode, single fiber (20Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (20Km, TX1550/RX1310, LC, DDM)

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