BDCOM

S3900 SERIES

Supports Maximum 48 GE Ports and 6 10GE SFP+ Uplink Ports

Advanced Hardware Architecture and Industry-leading Port Density

Carrier-Level High Reliability
Full Layer-3 Functions

Varied Service Characteristics
Versatile IPv6 Solution
Complete Security Mechanism

Product Overview

BDCOM S3900 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 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.

BDCOM S3900 Series has 5 models: S3900-24T6X, S3900-24S8T6X, S3900-48T6X, S3900-48M6X and S3900-48P6X. It supports up to 48 gigabit ports and 6 10GE ports.

Innovative Virtual Cluster Switching Technique

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 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.
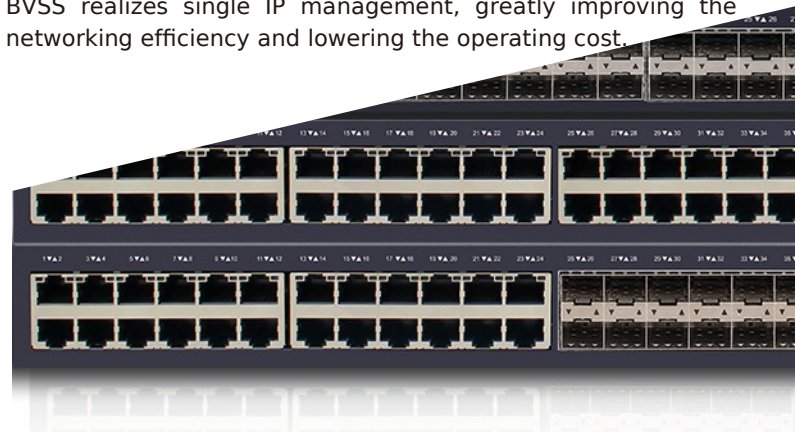
Product Characteristics

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, or "P plus 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. Supports MPLS multi-VRF and layer-2 VPN.

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+

S3900-48P6X supports IEEE 802.3af/at PoE standard, and power mapping scales up to a maximum of 760W of PoE+ power;
S3900-48P6X supports PoE non-stop power supply. The PoE+ power is maintained during a switch reload;
S3900-48P6X supports manual and dynamic PoE power allocation;
S3900-48P6X supports up to 6KV thunder-proof of the PoE port and power supply;

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: 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

S3900-24T6X

- 24 GE TX ports
- 6 10GE/GE SFP+ ports

S3900-24S8T6X

- 24 GE SFP ports
- 8 GE TX ports
- 6 10GE/GE SFP+ ports
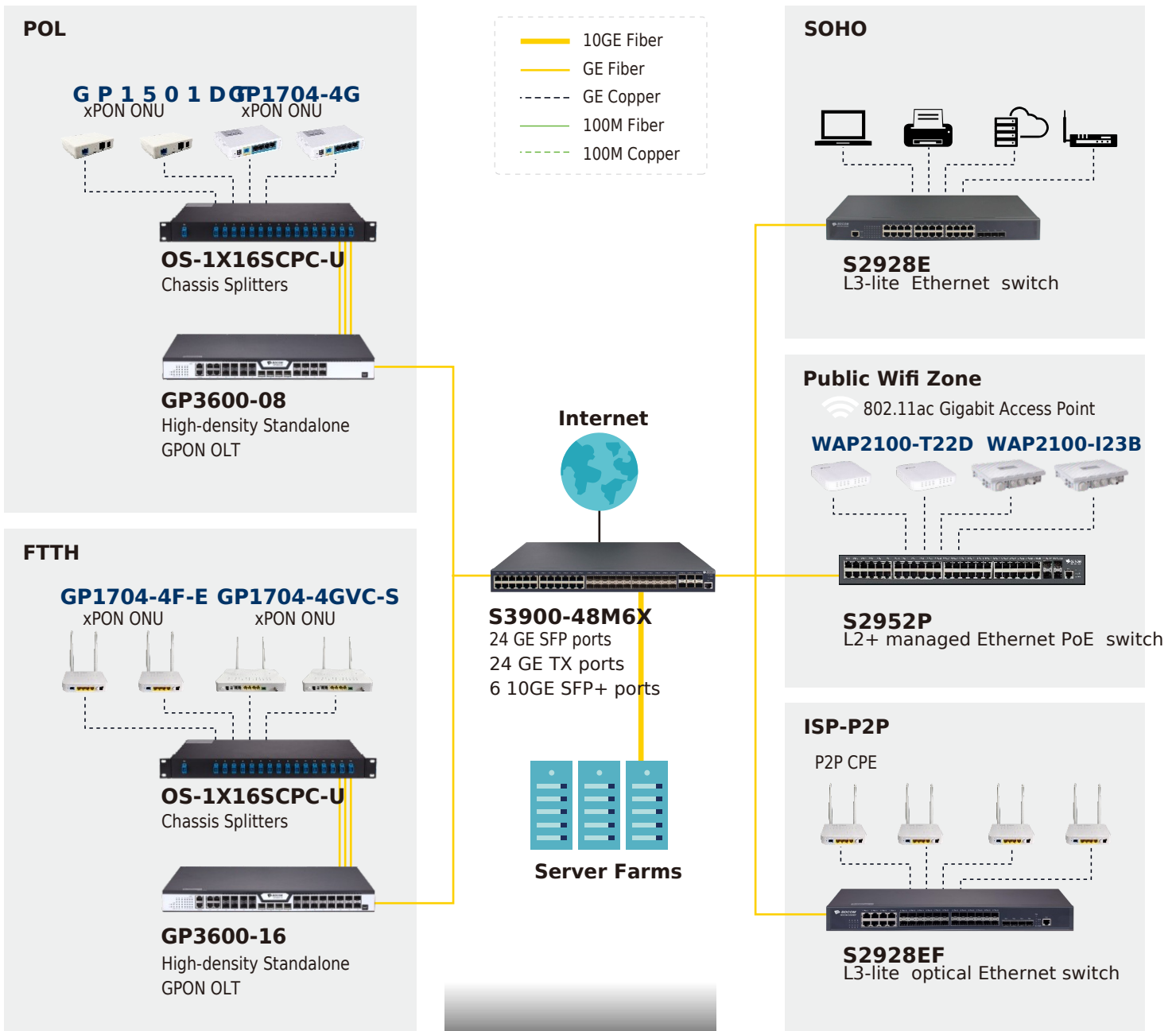
S3900-48T6X/48P6X

- 48 GE TX ports(48T6X)
- 48 GE POE ports(48P6X)
- 6 10GE/GE SFP+ ports

S3900-48M6X

- 24 GE SFP ports
- 24 GE TX ports
- 6 10GE/GE SFP+ ports

Application Diagram

POL

GP1501D GP1704-4G
xPON ONU   xPON ONU

OS-1X16SCPC-U
Chassis Splitters

GP3600-08
High-density Standalone
GPON OLT

FTTH

GP1704-4F-E GP1704-4GVC-S
xPON ONU   xPON ONU

OS-1X16SCPC-U
Chassis Splitters

GP3600-16
High-density Standalone
GPON OLT

Legend:
- 10GE Fiber
- GE Fiber
- GE Copper
- 100M Fiber
- 100M Copper

Internet

S3900-48M6X
24 GE SFP ports
24 GE TX ports
6 10GE SFP+ ports

Server Farms

SOHO

S2928E
L3-lite Ethernet switch

Public Wifi Zone

802.11ac Gigabit Access Point

WAP2100-T22D WAP2100-I23B

S2952P
L2+ managed Ethernet PoE switch

ISP-P2P

P2P CPE

S2928EF
L3-lite optical Ethernet switch

BDCOM S3900 Series

3

Specifications

Item			S3900-24T6X	S3900-24S8T6X	S3900-48T6X	S3900-48M6X	S3900-48P6X
GE interface	TX		24	8	48	24	48
	SFP		/	24	/	24	/
10GE interface	SFP+		6 10GE/GE				
Console			1 RJ45 port				
Backplane			216 Gbps				
Forwarding rate			126 Mpps	138 Mpps	162 Mpps	162 Mpps	162 Mpps
Physical Specifications							
Chassis	Dimensions(WxDxH mm)		440x350x44				
Package	Dimensions(WxDxH mm)		576x448x94				
Power							
Power supply (hot-swap)	AC: 100V-240V 50Hz±10%		75W	75W	75W	150W	≤1000W（POE）
Total output BTU (1000BTU/H = 293W)			255.97	255.97	255.97	511.94	3412.96
Noise@25℃(dBA)			45				
MTBF(H)			>100,000				
Forwarding mode			Store-forward				
Flash (MB)			32				
DRAM (MB)			256				
MAC			32K				
Buffer size(MB)			2				
Jumbo frame			9K				
Routing table	IPv4		12K				
	IPv6		6K				
ARP table	IPv4		12K				
	IPv6		2K				
Total SVI			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

MPLS
- LDP protocol, 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, 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, ups to 16 units per stack
- EAPS and ERPS
- URPF, LLDP
- ISSU
- VRRP
- 1+1 power backup, Dying gasp

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 series switch	
S3900-24T6X	Ethernet routing switch with 24 GE and 6 10GE ports (1 RJ45 console port, 24 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation)
S3900-24S8T6X	Ethernet routing switch with 32 GE and 6 10GE ports (1 RJ45 console port, 24 100M/ 1000M SFP ports, 8 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation)
S3900-48T6X	Ethernet routing switch with 48 GE and 6 10GE ports (1 RJ45 console port, 48 GE TX ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation)
S3900-48M6X	Ethernet routing switch with 48 GE and 6 10GE ports (1 RJ45 console port, 24 GE TX ports, 24 100M/1000M SFP ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation)
S3900-48P6X	Ethernet routing switch with 48 GE and 6 10GE ports (1 RJ45 console port, 48 GE POE ports, 6 10GE/GE SFP+ ports; 2 power slots with 1 hot-swap AC220V power supply; the cooling fan, 1U, standard 19-inch rack-mounted installation)

BDCOM S3900 Series

Ordering Information

Item	Description
S3900 series power modules	
S3900 Series Non-POE Power Modules	
PWR-75-AC	Hot-swap AC Power for S3900-24T6X/24S8T6X/48T6X Series (75W max, AC100~240V input)
PWR-75-DC	Hot-swap DC Power for S3900-24T6X/24S8T6X/48T6X Series (75W max, DC-36~-72V input)
PWR-150-AC	Hot-swap AC Power for S3900-48M6X Series (150W max, AC100~240V input), the isolated cooling fan
PWR-150-DC	Hot-swap DC Power for S3900-48M6X Series (150W max, DC-36~-72V input), the isolated cooling fan
S3900 Series POE Power Modules	
PWR-500-AC	Hot-swap power supply of S3900 POE switch series (500W max power, 380W max POE power, AC100~240V input, the isolated cooling fan)
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	10GE SFP+ single-mode, single-fiber (10Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-10	10GE SFP+ single-mode, single-fiber (10Km,TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-20	10GE SFP+ single-mode, single-fiber (20Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-20	10GE SFP+ single-mode, single-fiber (20Km,TX1330/RX1270, LC, DDM)
SFP+LX-SM-1270-40	10GE SFP+ single-mode, single-fiber (40Km, TX1270/RX1330, LC, DDM)
SFP+LX-SM-1330-40	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 (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	GE SFP single-mode, single fiber (10Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-10-BIDI	GE SFP single-mode, single fiber (10Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1310-20-BIDI	GE SFP single-mode, single fiber (20Km, TX1310/RX1550, LC, DDM)
GSFP-LX-SM1550-20-BIDI	GE SFP single-mode, single fiber (20Km, TX1550/RX1310, LC, DDM)

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