DEVRAY
Born to Shine...

S5612 SWITCH

Product Overview

DevRay S5612 is a new generation of aggregation 10GE switch 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 software platform with DevRay 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.

It supports 8 GE ports and 12 10GE ports.

Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative DVSS (DevRay Virtual Switch System):

S5612 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:
DVSS 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:
DVSS realizes single IP management, greatly improving the networking efficiency and lowering operating costs.

Supports 8GE Ports and 12 10GE SFP+ Ports

Advanced Hardware Architecture and Industry-leading Port Density

Varied Service Characteristics Versatile IPv6 Solution Complete Security Mechanism

Carrier-Level High Reliability Full Layer-3 Functions

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Product Characteristics

Carrier-level High Reliability

S5612 supports STP/RSTP/MSTP, VRRP protocol, Ethernet ring protection, dual master-slave uplink protection and LACP link aggregation;

S5612 supports ISSU (In-Service Software Upgrade);
S5612 supports BFD mechanism;

S5612 supports Ethernet OAM mechanism, 802.3ah, 802.1ag and ITU-Y.1731;

High Reliability (99.999%): The MTTR of the S5612 Series is 50ms, satisfying the requirement for reliable delivery of carrier-level service.

Varied Service Features

S5612 supports layer2 and layer3 multicast routing protocol, which enable the device can access to IPTV, HD video surveillance and HD video conference;

S5612 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;

S5612 supports layer2 MPLS VPN.

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 Tacacs+.
S5612 series supports storm/multicast/unicast limits, ensuring normal running conditions of the equipment when deployed in harsh network conditions.
S5612 series supports perfect ring detection mechanisms, ensuring long-term network performance stability.
S5612 supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

Versatile IPv6 Solution

S5612 supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc;

S5612 supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6;

S5612 supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc;

S5612 supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP;
S5612 supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Innovative Energy-saving Design

Intelligent power management: The power system of S5612 supports real-time monitoring the device and the slow-start. It is also power-saving;

Intelligent fan management system: The fan system of S5612 supports automatic speed regulation, which efficiently slow the fan speed and mitigate the noise;

Comply with the international standard IEEE 802.3az

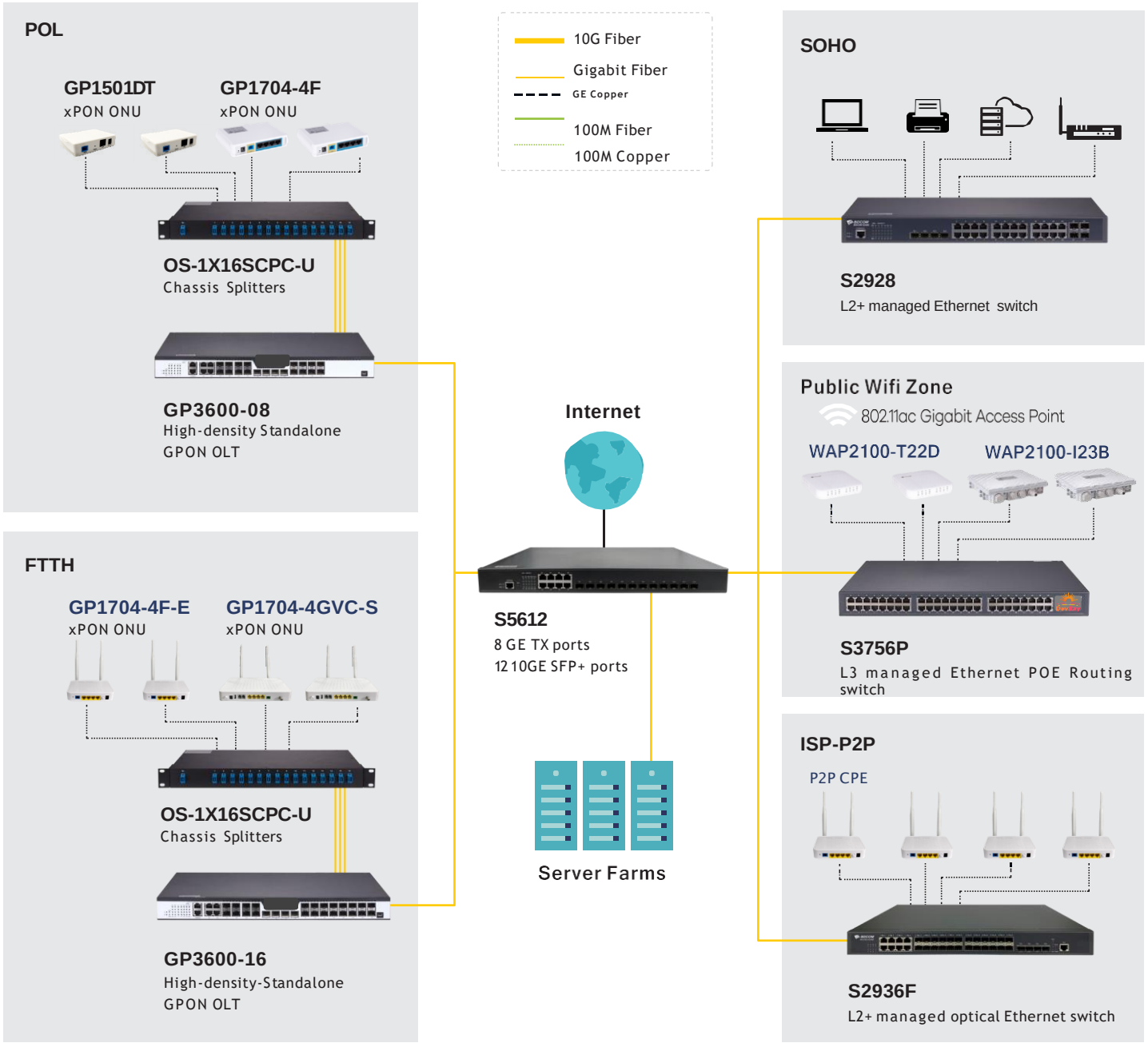
Model Lists

S5612

Full 10GE Ethernet Routing Switch

- 1console port
- 8 GE TX ports
- 12 10GE/GE SFP+ ports

Application Diagram



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Features

VLAN	· 4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN, Voice- VLAN · Manual tunnel, ISATAP tunnel, 6
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+
MPLS	LDP protocol, Multi-VRF, MPLS L2 VPN
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 Tacacs+ L2/L3/L4 ACL flow identification and filtration Anti-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 ,DVSS 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

Certificates	• CE Marking • EN 300 386 V2.2.1:2022 Telecommunication network equipment - Harmonized Standard for Electromagnetic Compatibility (EMC) requirements • EN 50121-4:2016+A1:2019 Railway applications. Electromagnetic compatibility Emission and immunity of the signaling and telecommunications apparatus • EN 50155:2021, Railway applications. Rolling stock. Electronic equipment • EN 55011:2016+A2:2021 Industrial, scientific and medical equipment. Radiofrequency disturbance characteristics. Limits and methods of measurement • EN 55022:2010 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement • EN 60950-1:2005 Information technology equipment – Safety – Part 1: General requirements • EN IEC 61000-3-2:2019, EN 61000-3-3:2013, EN 61000-4-2:2009, EN 61000-4-3:2006+A2:2010, EN 61000-4-4:2012, EN 61000-4-5:2014+A1:2017, EN 61000-4-6:2014, EN 61000-4-8:2010, EN 61000-4-11:2004+A1:2017, EN 61000-6-4:2007 Electromagnetic compatibility (EMC) Testing and measurement techniques • IEC 60068-2-27:2008 Environmental testing-part2-27:test- test ea. and guidance: shock • IEC 60068-2-31:2008 Environmental testing-part2-31: Test- test Ec: Rough handling shocks, primarily for equipment-type specimens • IEC 60068-2-64:2008 Environmental testing-part2-64:2008 Test- test Fh: Vibration, broadband random and guidance IEC 60215:2016 Safety requirements for radio transmitting • equipment-General requirements and terminology • IEC 61967-1:2018 Integrated circuits- Measurement of electromagnetic emissions-Part 1: General conditions and definitions • IEC 62151: 2000 Safety of equipment electrically connected to a telecommunication network • Directive 2002/95/EC (RoHS 1), • CFR Part 15, Su voltage 2014/35/EU Directive • UL (UNDERWRITERS LABORATORIES)

Product Specifications

Interface	8GE TX ports, 12 10GE/GE SFP+ ports	
Console	1 RJ45 port	
Backplane	176Gbps	
Forwarding rate	132 Mpps	
Chassis Dimensions(WxDxH)(mm)	440x315x44	
Package	Weight(KG)(empty)	3.6
	Dimensions(WxDxH)(mm)	576x448x94
Power consumption	Weight(KG)	4.8
	no-load	< 35W
Power supply	full-load	50W
	AC: 100V-240V,50Hz±10%	Single AC, (optional for Dual Power)
Total output BTU (1000BTU/H=293W)	170.65	
Fan number	2	
Noise@25°C（dBA)	**57**	
MTBF(H)	>100,000	
Forwarding mode	**Store-forward .3af/at**	
Flash (MB)	**16**	
DRAM (MB)	**512**	
MAC	**32K**	
Buffer size(MB)	**3**	
Jumbo frame	**9K**	
Routing table IPv4	**32K**	
Routing table IPv6	**8K**	
ARP table IPv4	**10K**	
ARP table IPv6	**5K**	
Total SVI	**1K**	

Ordering Information

Item	Description
S5612 switches	
S5612	Full 10GE Ethernet Routing Switch with 12 10GE ports and 8 GE ports (1 Console port, 12 10GE/GE SFP+ ports, 8 GE TX ports; AC220V single power supply; the cooling fan, 1U, 19-inch rack-mounted installation)
S5612-2AC	Full 10GE Ethernet Routing Switch with 12 10GE ports and 8 GE ports (1 Console port, 12 10G/GE SFP+ ports, 8 GE TX ports; AC220V dual power supply; the cooling fan, 1U, 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, 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 (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)
GSFP-LX-SM1310-40-BIDI GSFP-LX-SM1550-40-BIDI	GE SFP single-mode, single fiber (40Km, TX1310/RX1550, LC, DDM) GE SFP single-mode, single fiber (40Km, TX1550/RX1310, LC, DDM)
GSFP-LX-SM1490-80-BIDI GSFP-LX-SM1550-80-BIDI	GE SFP single-mode, single fiber (80Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single fiber (80Km, TX1550/RX1490, LC, DDM)
GSFP-LX-SM1490-120 GSFP-LX-SM1550-120	GE SFP single-mode, single fiber (120Km, TX1490/RX1550, LC, DDM) GE SFP single-mode, single fiber (120Km, TX1550/RX1490, LC, DDM)

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