FS

S5800-8TF12S Switch

HIGH-PERFORMANCE 10G SWITCH FOR HYPER-CONVERGED INFRASTRUCTURE

The S5800-8TF12S is a high performance Ethernet switch to meet the next generation Metro, Data Center and Enterprise network requirements.

Overview

The S5800-8TF12S is a high-performance Ethernet switch to meet the next generation Metro, Data Center and Enterprise network requirements. The S5800-8TF12S comes with the complete system software with comprehensive protocols and applications to facilitate the rapid service deployment and management for both traditional L2/L3/IPv6 networks. With support for advanced features, including MLAG, SFLOW, SNMP etc, this switch is ideal for a traditional or fully virtualized data center.

The S5800-8TF12S which provides high availability port with 8-port 1Gb RJ45 combo and 8-port 1Gb SFP combo and 12-port 10Gb uplink in a compact 1RU form factor is cost-effective Ethernet access platform to Metro, Data Center and Enterprise application.

Benefits

- Support MLAG and VARP
- Support NVGRE
- MEF9/14 Service Compliant
- ITU-T G.8031, G.8032
- Ethernet OAM: IEEE 802.1ag (CFM)
- IEEE 802.1q VLANs and QinQ
- Static Link Aggregation/LACP
- Address Resolution Protocol (ARP)

Key Features

System Design for Green and Energy Saving

Intelligent FAN adjustment and real-time power consumption monitoring technology are provided for the cost of maintenance redundancy and help to build a green and energy saving data center.

Data Center Features

Support MLAG (Multi-Chassis Link Aggregation) to aggregate links across different devices.
Support overlay technology (NVGRE).
Support RPC-API

High Reliability

Support 1+1 load-sharing AC power supplies and 3+1 redundant variable-speed fans as standard features, protecting the switch from a single power supply or fan failure. DC power options are also available.
Support Real-time environment monitoring technology to detect the chipset temperature, status of fan and power, etc.
Support LACP/ECMP/RSTP, etc. to protect the network traffic all-around effectively.
Patented technology "Sysmon" for CPU status monitoring can take action when system is error.

Outstanding QoS Control

Provide 8 hardware queues per-port.
Support multi-stage scheduling technology such as WDRR (Weighted Deficit Round Robin) / SP (Strict Priority) and TD (Tail Drop) / WRED (Weighted Random Early Detection) to prevent congestion.
Support flexible queue scheduling mechanism to do the shaping for queue or port traffic.
Ingress and egress policer provide intelligent bandwidth monitoring, which support to adjust the granularity according to the port speed.
Support srTCM (Single Rate Three Color Marker) and trTCM (Two Rate Three Color Marker).

Triple-play Service Support

Offer high bandwidth for Triple-Play services such as IPTV, video monitoring. The built-in QoS capabilities and flexible queuing technologies guarantee high quality of services.
Support rich multicast protocol set (IGMP Snooping, IGMP v1/v2, PIM-SM).
Support up to 2K multicast groups and 4K logical replications per group.
Support IPTV service and multicast latency control.

Comprehensive Network Security Policy

Support subscriber-class/switch-class/network-class security control.
The ACL based on IPv4/IPv6/MAC can filter IPv4/IPv6/Non-IP packet respectively. Besides that, extended IPv4/IPv6 ACL which can match Layer 2/Layer 3/Layer 4 information in one rule is available. The ACLs can apply to physical ports/vlan/port group/vlan group.
The members of port group or vlan group share a set of ACLs and save the TCAM resource.
ARP Inspection and IP Source Guard features prevent network from malicious ARP attack.
Support CPU Traffic Protection, Storm Control and CPU load optimization features.
Support centralized 802.1x authentication feature to forbidden illegal user accessing network.

Convenient Management Features

Support varied management interfaces, including console port/inband network ports/outband network port/USB port.
Support CLI (Command Line Interface), web management, Telnet and FTP connection.
Support SNMPv1/v2/v3, SSH2.0, SSL and OAM.

Technical Specification

S5800-8TF12S switch comes with advanced hardware architecture design and abundant L2 and L3 features. Here's a look at the details.

CHARACTERISTICS

	S5800-8TF12S
Ports	
Ports	8x 1G RJ45/SFP, 12x 10G SFP+
Max. 10G Ports	12
Max. 1G Ports	20
Combo Ports	8 (RJ45/SFP)
Console Port	1
Ethernet Management Port	1
USB Port	1
Operating System	
OS	FSOS
Key Components	
CPU	Freescale PowerPC P1010 533MHz
Performance	
Layer Type	Layer 3
Switching Capacity	240 Gbps
Forwarding Rate	178.6 Mpps
Max./Min. Latency	2.37μs/0.88μs
DDRIII Capacity	1GB
Flash Memory	2GB

CHARACTERISTICS

	S5800-8TF12S
Performance	
System Memory	1GB
RAM	1GB
Packet Buffer	3MB
Jumbo Frame	9.6KB
MLAG	Support
MAC Address	65K
Number of VLANs	4K
MTBF (Hours)	131271
Authentication Methods	802.1X, AAA
Remote Management Protocol	SNMP, RMON, HTTP,Telnet、SSH
Status Indicators	System, LINK activity, PWR
Switching Method	Store and Forwarding
IPv4 ARP Entries	6K
IPv4 Multicast Routes and IGMP Snooping	2K
DDM	Support
Power	
Input Voltage	100-240VAC, 50-60Hz
Max. Power Consumption	<47W

CHARACTERISTICS

	S5800-8TF12S
Physical and Environmental	
Dimensions (H x W x D)	1.72"x17.32x13.39" (43.6x440x340mm)
Rack Space	1U
Hot-swappable Power Supplies	2 (1+1 Redundancy)
Fans	4 (3+1 Redundancy)
Airflow	Front-to-Back
Acoustic Noise	77dB
Operating Temperature	32°F to 113°F (0º to 45ºC) (Long term) 23°F to 131°F (-5 to 55 ºC) (Short term)
Storage Temperature	-40°F to 158°F (-40 to 70 ºC)
Operating Humidity	10 to 90% (Non-condensing)
Storage Humidity	10 to 90% (Non-condensing)
Weight	10.58 lbs (4.8kg)
Warranty	
Warranty	5 Years

FEATURES

Functionality	Description
Data Center and Metro Ethernet	• Support MLAG and VARP • Support NVGRE • Open API interfaces to achieve SDN • MEF9/14 Service Compliant • ITU-T G.8031, G.8032 • Ethernet OAM: IEEE 802.1ag (CFM)
L2/L3 Packet Processing	• STP/RSTP/MSTP (BPDU Filter/BPDU Guard/Root Guard) Partitioned STP and BPDU tunnel • IEEE 802.1q VLANs and QinQ • Static Link Aggregation/LACP • Address Resolution Protocol (ARP) • IGMP Snooping v1/v2/v3 • Full IPv4 & IPv6 Routing including RIP/OSPF/BGP/ECMP • Access Control List (ACL) L2-L4 classification • Up to 32K MAC/8K IP LPM • Flexible ingress/egress counter pools
Traffic Visibility and Trouble-shooting	• CPU Traffic Rate Limit • Integrated High Performance Smart Buffer Memory • Storm Control (unicast, broadcast, multicast) • IEEE 802.1AB Link Layer Discovery Protocol (LLDP) • Class of Service (CoS): 802.1p or DSCP • Telnet/SSH/FTP/TFTP/Ping (Fast Ping)/TraceRoute
Mac Table	• Automatic learning and aging of MAC addresses (Support HW learning) • Static, dynamic, and blackhole MAC address entries • Packet filtering based on source MAC addresses • Limitation on MAC address learning on interfaces (Port Security) • Limitation on MAC address learning on Vlans (VLAN Security)

FEATURES

Functionality	Description
Interface	• Ethernet interface operating modes: full duplex, half duplex, and auto-negotiation • Ethernet interface operating rates: 10 Mbit/s, 100 Mbit/s, 1000 Mbit/s, 10 Gbit/s, and auto-negotiation • Flow control on (TX and RX direction) • Jumbo frames (9.6KB) • Link aggregation (Static/LACP) • Load balancing among the links of a Link aggregation • Interface isolation and forwarding restriction • Storm Control (unicast, broadcast, multicast)
Link Aggregation	• Static Link Aggregation/LACP • Number of link aggregation groups (LAGs) supported: 55 • Maximum number of ports per LAG: 16 • Load Balance Mode: Hash • MLAG and VARP
VLAN	• Vlan access modes: access, trunk, and QinQ • MAC based VLAN Classification • IP based VLAN Classification • Prococol based VLAN Classification • Default VLAN • Selective QinQ • VLAN mapping • Voice VLAN/Private VLAN
Redundancy	• Smart Link/ SmartLink multi-instance/MonitorLink • VRRP (Virtual Router Redundancy Protocol) • MLAG
Network Reliability	• CFM (802.1ag/Y.1731) • EFM(802.3ah) • UDLD (Unidirectional Link Detection)

FEATURES

Functionality	Description
Loop Protection	• STP/RSTP/MSTP (BPDU Filter/BPDU Guard/Root Guard) Partitioned STP and BPDU tunnel • ERPS (Ethernet Ring Protection Switching) • Single ERPS ring, tangent ERPS rings, and intersecting ERPS rings • Hybrid networking of ERPS rings and other ring networks • G.8031(Linear network protection) • G.8032 (Ring network protection) • ERPS(RFC3619) • Port Error Disable when Loop detected
Network Monitor	• S-flow
DHCP	• DHCP Client • DNS • NTP • DHCP Server • DHCP Snooping • DHCP packet filtering (Option 82)
ARP	• Static and dynamic ARP entries • ARP Proxy • Gratuitous ARP • Dynamic ARP Inspection • Aging of ARP entries
IPv4 Route	• Static Route • RIP/OSPF/BGP/ECMP/ISIS • VRF • Up to 8 ways ECMP • uRPF check • Routing policies and policy-based routes

FEATURES

Functionality	Description
IPv6	• ND (Neighbor Discovery) • PMTU • ICMPv6 • IPv6 ACL • IPv6 Prefix-list • RIPng/OSPFv3 • DHCPv6 Relay/Snooping • Static Tunnel / ISTAP Tunnel / 6 to 4 Tunnel
IPv4 Multicast	• IGMP Snooping v1/v2/v3 • IGMP Snooping Fast-leave • IGMP Snooping Group-policy • IGMP v1/v2/v3 • IGMP Proxy • PIM-SM, PIM-SSM • MVR (Inter-VLAN multicast replication) • Static Multicast Group
IPv6 Multicast	• MLD v1/v2 • MLD Snooping v1/v2 • MVR6 • PIM-SMv6 • PIM-SSMv6
ACL	• Ingress/Egress ACL • Standard L3/L4 ACL and Extended L2/L3/L4 ACL • Permit/deny/redirect/remark
Mirror	• Ingress/egress port/flow mirror • RSPAN(mirror to vlan)

FEATURES

Functionality	Description
QoS	• Rx/Tx Policing (1R2C or 2R3C), Port/Flow Policing • Cos/Dscp remark • Traffic classification based on the combination of the MAC address, IPv4/IPv6 address, L2 protocol header, TCP, UTP, outgoing interface, and 802.1p field • Shapping based on Interfaces and queues
Security	• Multiple Level User management and Password protection • Switch Table Management (Flexible system profiles) • Hierarchical CLI protection to prevent unauthorized users from accessing Switch • 802.1x port security • AAA (Both Radius and TACACS+) • SSH v2.0 • Instruction lock (link detection) • IP Source guard • Prevent CPU DDoS attack (ICMP Flood/Smurf/Fraggle/LAND/SYN Flood) • BHM (Beat Heart Monitor) • CPU Traffic Rate Limit
Management and Trouble-Shooting	• CLI/WEB/SNMP • Telnet/SSH/FTP/TFTP/Ping (Fast Ping)/TraceRoute • Online upgrade software image • Online upgrade of the BootROM • Smart config • LLDP • Syslog/Trap/Online Diagnostic/Debug

Management Support for S5800-8TF12S Switch

Description	Specification	
Management	BGP4.mib	P-BRIDGE-MIB.mib
	BRIDGE-MIB.mib	PIM-BSR-MIB.mib
	DIFFSERV-DSCP-TC.mib	PIM-STD-MIB.mib
	DIFFSERV-MIB.mib	Q-BRIDGE-MIB.mib
	IANA-ADDRESS-FAMILY-NUMBERS-MIB.mib	RIPv2-MIB.mib
	IANAifType-MIB.mib	RMON2.mib
	IANA-RTPROTO-MIB.mib	RMON-MIB.mib
	IEEE8021-PAE-MIB.mib	RSTP-MIB.mib
	ieee8023-lag.mib	SFLOW-MIB.mib
	IF-MIB.mib	SNMP-FRAMEWORK-MIB.mib
	INET-ADDRESS-MIB.mib	SNMP-MPD-MIB.mib
	INTEGRATED-SERVICES-MIB.mib	SNMP-NOTIFICATION-MIB.mib
	IP-FORWARD-MIB.mib	SNMP-TARGET-MIB.mib
	IP-MIB.mib	SNMP-USM-MIB.mib
	LAG-MIB.mib	SNMPv2-MIB.mib
	lldp.mib	SNMP-VACM-MIB.mib
	lldp_dot1.mib	TOKEN-RING-RMON.mib
	lldp_dot3.mib	VRRP-MIB.mib
	MGMD-STD-MIB.mib	
	OSPF-MIB.mib	
	OSPF-TRAP-MIB.mib	

Accessories

Console Cable*1

Power Cords*2

Rack Mount Brackets*2

Bracket Screws*10

Rubber Pads*4

Cat5e Cable *1

Grounding Cable*1

User Manual*1

Power Cord Ties *2

Ordering Information

ID	Description
#70287	Hot-swappable AC Power Module 150W, for S5850-32S2Q, S5800-8TF12S, S5850-24T16B, T5850-32S2Q and T5800-8TF12S
#72481	Hot-swappable DC Power Module 150W, for S5850-32S2Q, S5800-8TF12S, S5850-24T16B, T5850-32S2Q, T5800-8TF12S

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