Cisco SPS208G 8-Port 10/100 + 2-Port Gigabit SP Switch
Cisco Small Business Gigabit SP Switches

Service Provider–Focused Metro Access Solution Suited for MTU/MDU Applications

Highlights

- Cost-effective access or customer premises equipment (CPE) switch for Metro Ethernet deployments
- Comprehensive security features for robust multitenant separation
- Optimized for triple-play (VoIP, video, and data) services
- Service provider provisioning and management features

Figure 1.   Cisco SPS208G 8-Port 10/100 + 2-Port Gigabit SP Switch

Product Overview

Cisco® SPS service provider switches deliver cost-effective Metro Ethernet access solutions. These products are optimized for multitenant units (MTUs) and multidwelling units (MDUs) in which the service provider delivers triple-play (voice over IP [VoIP], video, and data) services to multiple businesses or homes in close proximity.

The Cisco SPS208G 8-Port 10/100 + 2-Port Gigabit SP Switch (Figure 1), with its combination of intelligence and small size, is ideal for space-constrained environments in which security and uptime are important. It offers a Gigabit copper or Small Form-Factor Pluggable (SFP) module for an optional optical interface for connecting to the core network.

The Cisco SPS switches facilitate the delivery of multiple services over a Layer 2 network with support for Q-in-Q stacking. This feature allows customer VLANs to be kept separate across the service provider backbone. Also, for efficient delivery of multicast traffic (such as video) to multiple customers, these switches provide support for a variation of Multicast VLAN Registration (MVR).

Network security is a primary concern for service providers, and the SPS switches deliver a number of advanced features that alleviate this concern. Support for dynamic Address Resolution Protocol (ARP) inspection eliminates the man-in-the-middle attack. IP Source Guard prevents a subscriber (or malicious user) from using an IP address not assigned to them. DHCP Guard keeps rogue devices from behaving like Dynamic Host Configuration Protocol (DHCP) servers. Spanning Tree Protocol (STP) Root Guard prevents a rogue spanning tree device from advertising that it should be the root bridge, thereby having the spanning tree network compromised by an outside device. Unauthorized access to the network is protected through 802.1X port and multisession authentication and MAC filtering/port security. The 802.1X standard requires clients to authenticate themselves before the port will pass data for them. An additional security feature is access control lists (ACLs), which restrict network use to certain users,

groups, or applications. The SPS switches also secure management traffic, with support for Secure Shell (SSH) Protocol, SSL, and Simple Network Management Protocol (SNMP) version 3.

The management capabilities of the SPS switches include support for DHCP option 82, allowing for assignment of IP addresses to subscribers based on where they connect to the network. Management can be performed through a GUI or command-line interface (CLI). The switches also support SNMP for management from a network management station.

Features

- Eight 10/100 switched RJ-45 ports that deliver up to 200 Mbps of throughput per port
- One 10/100/1000 switched RJ-45 port
- One mini Gigabit Interface Converter (mini-GBIC) port delivering up to 1000 Mbps
- 5.6 Gbps nonblocking, store-and-forward switching mechanism
- Simplified quality of service (QoS) management enabled by advanced queuing techniques using 802.1p, Differentiated Services (DiffServ), or type of service (ToS) traffic prioritization
- Configuration and monitoring from a console port with the CLI or a standard web browser with WebView management
- Highly secure remote management of the switch via SSH and SSL secure channel network protocols
- 802.1Q-based VLANs, enabling segmentation of networks for improved performance and security
- Stacking Q-in-Q VLANs, allowing customer VLANs to transparently cross a service provider network and isolate traffic among customers
- Private VLAN Edge (PVE) for simplified network isolation of guest connections or autonomous networks
- Automatic configuration of VLANs across multiple switches through Generic VLAN Registration Protocol (GVRP) and Generic Attribute Registration Protocol (GARP)
- Automatic medium dependent interface (MDI) and MDI crossover (MDI-X) detection

Table 1 gives the specifications, package contents, and minimum requirements for the Cisco SPS208G switch.

Table 1.   Specifications for the Cisco SPS208G 8-Port 10/100 + 2-Port Gigabit SP Switch

Specifications	
Ports	• 8 RJ-45 connectors for 10BASE-T and 100BASE-TX, 1 RJ-45 connector for 10BASE-T/100BASE-TX/ 1000BASE-T, and 1 mini-GBIC/SFP port • Console port • Auto MDI/MDI-X • Auto-negotiate/manual setting
Cabling type	Unshielded twisted pair (UTP) category 5 (CAT5) or better for 10BASE-T/100BASE-TX, UTP CAT 5e or better for 1000BASE-T
LEDs	10/100 Link/Act, Giga Link/Act, Speed, Mini-GBIC Link/Act, Speed, System
Performance	
Switching capacity	5.6 Gbps nonblocking
Forwarding rate	4.17 Mpps wire-speed performance
Layer 2	
MAC table size	8000
Number of VLANs	256 active VLANs (4096 range)

VLAN	• Port-based and 802.1Q tag-based VLANs • Q-in-Q stacking VLANs • PVE • GVRP: dynamic VLAN registration • Management VLAN
HOL blocking	Head of Line (HOL) blocking prevention
MVR	Multicast VLAN Registration implementation, also known as Multicast TV VLAN
Management	
Web user interface	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)
CLI interface	CLI support via console port or Telnet
SNMP	SNMP versions 1, 2c, and 3, with support for traps
SNMP MIBs	RFC 1213 MIB-2, RFC 2863 Interface MIB, RFC 2665 Ether-like MIB, RFC 1493 Bridge MIB, RFC 2674 Extended Bridge MIB (P-bridge, Q-bridge), RFC 2819 Remote Monitoring (RMON) MIB (groups 1, 2, 3, and 9 only), RFC 2737 Entity MIB, RFC 2618 RADIUS Client MIB, RFC 215 Traps
RMON	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
Firmware upgrade	CLI upgrade and web browser upgrade (HTTP) and Trivial File Transfer Protocol (TFTP)
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe
Other management	• Traceroute • SSL • SSH • RADIUS • Port mirroring • TFTP upgrade • SSL security for web user interface • Management access list for IP address • DHCP client • BOOTP • Simple Network Time Protocol (SNTP) • Xmodem upgrade • Cable diagnostics • Ping • Telnet client (SSH secure support)
Security	
IEEE 802.1X	• RADIUS authentication; MD5 encryption • Multiple sessions authentication on a per-host basis • Guest VLAN

Access control	• ACLs: Permit, drop, or shut down based on:
	  ◦ Source and destination MAC address
	  ◦ Source and destination IP address
	  ◦ Protocol
	  ◦ ToS/differentiated services code point (DSCP)
	  ◦ Port
	  ◦ VLAN
	  ◦ Ether type

Access security	• DHCP snooping • IP Source Guard • Dynamic ARP inspection • Layer 2 DHCP relay and option 82 • STP Root Guard • MAC-based port security
Availability	
Link aggregation	• Link aggregation using IEEE 802.3ad Link Aggregation Control Protocol (LACP) • Up to 8 ports in up to 8 groups
Storm control	Broadcast, multicast, and unknown unicast

Spanning tree	IEEE 802.1D Spanning Tree, IEEE 802.1w Rapid Spanning Tree, IEEE 802.1s Multiple Spanning Tree, STP Root Guard
IGMP snooping	• IGMP (versions 1 and 2) snooping provides for fast client joins and leaves of multicast streams and limits bandwidth-intensive video traffic to requestors only • Supports 256 multicast groups
QoS	
Priority levels	4 hardware queues
Scheduling	Priority queuing and weighted round robin (WRR)
Class of Service	• Port based • 802.1p VLAN priority based
Per flow QoS	• VLAN ID • Ether type • Source/destination MAC address • IPv4/v6 IP precedence/ToS/DSCP based • Source/destination IPv4 address • Protocol • TCP/UDP port based • DiffServ • Classification and remarking DSCP
Rate limiting	• Per flow ingress policer • Per port ingress rate control and egress shaping
Standards	802.3 10BASE-T Ethernet, 802.3u 100BASE-TX Fast Ethernet, 802.3ab 1000BASE-T Gigabit Ethernet, 802.3z Gigabit Ethernet, 802.3x Flow Control, 802.3ad LACP, 802.1D STP, 802.1Q/p VLAN, 802.1w Rapid STP, 802.1s Multiple STP, 802.1X Port Access Authentication
Environmental	
Dimensions W x H x D	11 x 1.75 x 6.69 in. (279.4 x 44.5 x 170 mm)
Unit weight	2.20 lb (1 kg)
Power	External AC power adapter
Power consumption	100–240V, 50–60 Hz, 0.6A, 7.2W
Fan	No fan
Certification	FCC Part 15 Class A, CE Class A, UL, cUL, CE mark, CB
Operating temperature	32˚ to 104˚F (0˚ to 40˚C)
Storage temperature	–4˚ to 158˚F (–20˚ to 70˚C)
Operating humidity	10% to 90%
Storage humidity	10% to 95%
Package Contents	

• One Cisco SPS208G switch
• One AC power adapter
• Two rack-mounting kits/eight screws
• One CD with user guide in PDF format
• One registration card
• Console cable

Minimum Requirements

• Web-based utility: Microsoft Internet Explorer (version 5.5 or later) or Mozilla Firefox (version 2.0.0.1 or later)
• CAT5 Ethernet network cable

Product Warranty

5-year limited hardware warranty with return to factory replacement and 90-day limited software warranty.

Cisco Limited Warranty for Cisco Small Business Series Products

This Cisco Small Business product comes with a 5-year limited hardware warranty with return to factory replacement and a 90-day limited software warranty. In addition, Cisco offers software application updates for bug fixes and telephone technical support at no charge for the first 12 months following the date of purchase. To download software updates, go to: http://www.cisco.com/go/smallbiz.

Product warranty terms and other information applicable to Cisco products are available at http://www.cisco.com/go/warranty.

For More Information

For more information on the Cisco Small Business Gigabit SP Switches visit http://www.cisco.com/go/sps.