Cisco SGE2010P 48-Port Gigabit Switch: PoE
Cisco Small Business Managed Switches

For Small Business

Performance and Reliability to Support Small Business Networks

Highlights

- 48 high-speed ports optimized for the network core or to support bandwidth-intensive applications
- Power over Ethernet easily and cost-effectively powers wireless access points, video cameras, and other network-connected endpoints
- Resilient clustering provides the ability to manage several switches as a single switch to support growing businesses
- Strong security protects network traffic to keep unauthorized users off the network
- Simplified, web-based management for easy installation and configuration
- Limited lifetime warranty

Figure 1. Cisco SGE2010P 48-Port Gigabit Switch: PoE

Product Overview

The Cisco® SGE2010P 48-Port Gigabit Switch (Figure 1) allows you to expand your network securely. Web-based configuration of the switch is secured using SSL. The Cisco SGE2010P is optimized for maximum system availability, with fully redundant stacking, redundant power options, and dual images for resilient firmware upgrades. The switch helps secure the network through IEEE 802.1Q VLANs, IEEE 802.1X port authentication, access control lists (ACLs), denial-of-service (DoS) prevention, and MAC-based filtering. The enhanced quality of service (QoS) and traffic-management features help ensure clear and reliable voice and video communications.

For wireless or voice over IP (VoIP) deployments, the Cisco SGE2010P supports the IEEE 802.3af standard for Power over Ethernet (PoE). Automatic load sensing enables the circuitry to detect PoE on the end device before providing power. For safety, each port has independent overload and short-circuit protection, along with LED indicators to show power status. It provides 15W of available PoE power on up to 24 of the Gigabit Ethernet ports for powering PoE-enabled wireless access points or VoIP handsets. The maximum PoE available per device for all ports is 360W.

The Cisco SGE2010P provides resilient stacking for up to four units, or 192 ports. A stack of units is managed as a single switch with one web management interface. The Cisco SGE2010P can coexist in a stack with the Cisco SGE2000 and SGE2000P 24-Port Gigabit Switches, and the Cisco SGE2010 48-Port Gigabit Switch, for a maximum of 192 ports in a

stack. The stacking capability includes master/backup unit behavior, ring and chain architecture, and hot insertion and removal of units.

Software running on the Cisco SGE2010P interacts with provisioning, management, and security software on both the site's services router and the service provider's equipment. This interaction provides a simple, one-step installation and access to web-administered features for the administrator and users. Simple, affordable network operations throughout the network's lifetime are the result.

Features

- Forty-eight 10/100/1000 Ethernet ports
- 4 mini Gigabit Interface Converter (mini-GBIC) slots (shared with 4 Ethernet ports) for fiber Gigabit Ethernet expansion
- IEEE 802.3af PoE delivered over any of the forty-eight 10/100/1000 ports
- 15.4W available power to a Gigabit Ethernet port for PoE-enabled wireless access point or VoIP handsets (maximum per-device PoE delivery of 360W available for all ports)
- Dual images for resilient firmware upgrades
- 96 Gbps nonblocking, store-and-forward switching capacity
- Simplified QoS management using 802.1p, differentiated services (DiffServ) or type of service (ToS) traffic prioritization
- Power redundancy when used with the Cisco RPS1000 380W Redundant Power Supply Unit
- Fully resilient stacking provides optimized growth with simplified management
- ACLs for granular security and QoS implementation
- Configuration and monitoring from a standard web browser
- Secure remote management of the switch via Secure Shell (SSH) and SSL encryption
- 802.1Q-based VLANs enable segmentation of networks for improved performance

Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SGE2010P 48-Port Gigabit Switch.

Table 1. Specifications for the Cisco SGE2010P 48-Port Gigabit Switch: PoE

Feature	Description
Specifications	
Ports	48 RJ-45 connectors for 10BASE-T/100BASE-TX/1000BASE-T with 4 Gigabit combo ports shared between mini-GBIC ports; console port; auto medium dependent interface (MDI) and MDI crossover (MDI-X); auto negotiate/manual setting; RPS port for connecting to redundant power supply unit
Buttons	Reset button
Cabling type	Unshielded twisted pair (UTP) Category 5 or better for 10BASE-T/100BASE-TX; UTP Category 5e or better for 1000BASE-T
LEDs	PWR, Fan, Link/Act, PoE, Speed, RPS, Master, Stack ID 1 through 8
PoE	• IEEE 802.3af PoE on delivered over any of the 48 10/100/1000 ports • Maximum power of 15.4W to an Ethernet port – 360W total available to all ports with regular AC power, 280W total available with RPS
Performance	
Switching capacity	96 Gbps nonblocking
Forwarding capacity	71.4 mpps (64-byte packets)
Stacking	

Feature	Description
Stack operation	• Up to 192 ports in a stack • Hot insertion and removal • Ring and chain stacking options • Master and backup master for resilient stack control • Auto-numbering or manual configuration of units in stack
Layer 2	
MAC table size	8000
Number of VLANs	256 active VLANs (4096 range)
VLAN	Port-based and 802.1Q tag-based VLANs; protocol-based VLAN; management VLAN; multicast TV VLAN; Private VLAN Edge (PVE); Generic VLAN Registration Protocol (GVRP)
Head-of-line (HOL) blocking	HOL blocking prevention
Layer 3	
Layer 3 options	Static routing; classless interdomain routing (CIDR); 60 static routes; IPv4; forwarding in silicon – wire-speed forwarding of Layer 3 traffic
IPv6	
IPv6 options	IPv6 over Ethernet, dual stack, IPv6 over IPv4 network with Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnel, IPv6 neighbor discovery, stateless address configuration, maximum transmission unit (MTU) discovery, WEB, SSL, Telnet, Ping, Traceroute, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), Simple Network Management Protocol (SNMP), RADIUS, access control lists (ACLs), QoS, protocol based VLANs
Management	
Web user interface	Built-in web user interface for easy browser-based configuration (HTTP/HTTPS)
SNMP	SNMP versions 1, 2c, and 3 with support for trap
SNMP MIBs	RFC1213 MIB-2, RFC2863 interface MIB, RFC2665 Ether-like MIB, RFC1493 bridge MIB, RFC2674 extended bridge MIB (P-bridge, Q-bridge), RFC2819 RMON MIB (groups 1, 2, 3, and 9 only), RFC2737 entity MIB, RFC 2618 RADIUS client MIB, RFC 1215 traps
Remote Monitoring (RMON)	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis)
Firmware upgrade	• Web browser upgrade (HTTP/HTTPS) and TFTP • Dual images for resilient firmware upgrades
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe.
Other management	Traceroute; single IP management; SSL security for web user interface; SSH; RADIUS; port mirroring; TFTP upgrade; Dynamic Host Configuration Protocol (DHCP) client; BOOTP; SNTP; Xmodem upgrade; cable diagnostics; Ping; syslog; Telnet client (SSH secure support)
Security	
IEEE 802.1X	802.1X—RADIUS authentication, MD5 hash; guest VLAN; single/multiple host mode
ACLs	• Drop or rate limit based on source and destination MAC or IP address, protocol, port, VLAN, differentiated services code point (DSCP)/IP precedence, TCP/ User Datagram Protocol (UDP) source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, Internet Group Management Protocol (IGMP) packets, DHCP snooping, Address Resolution Protocol (ARP) inspection, and IP source address guard • Up to 1018 rules
Advanced Security	• IP Source Guard • STP Root Guard • Dynamic ARP Inspection • DHCP Snooping
Availability	
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, and Fast Linkover
DoS prevention	DoS attack prevention
IGMP (version 1 and 2) snooping	Limits bandwidth-intensive multicast traffic to only the requestors; supports 256 multicast groups
Power redundancy	Connection to RPS unit for power redundancy

Feature	Description
Quality of service	
Priority levels	4 hardware queues
Scheduling	Priority queuing and weighted round-robin (WRR)
Class of service	Port-based; 802.1p VLAN priority-based; IPv4/v6 IP precedence/ToS/DSCP based; DiffServ; classification and re-marking ACLs
Rate limiting	Ingress policer; egress rate control; per VLAN
Statistics	16 meters
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, 802.3af PoE, 802.1D Spanning Tree Protocol (STP), 802.1Q/p VLAN, 802.1w Rapid STP, 802.1s Multiple STP, 802.1x port access authentication
Environmental	
Dimensions **W x D x H**	17.32 x 14.70 x 1.73 in. (440 x 375 x 44 mm)
Unit weight	10.89 lb (4.94 kg)
Power	100–240V 47–63 Hz, internal, universal; also equipped with external redundant power supply connector for external power supply, –48VDC
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
Operating temperature	32°to 104℉ (0°to 40℃)
Storage temperature	–4°to 158℉ (–20°to 70℃)
Operating humidity	10% to 90%, relative, noncondensing
Storage humidity	10% to 95%, relative, noncondensing
Package Contents	
• Cisco SGE2010P 48-Port Gigabit Switch • AC power adapter with power cord • Two rack-mounting kits with eight screws • CD-ROM with user documentation (PDF) included • Registration card • Console cable	
Minimum Requirements	
• Web browser: Mozilla Firefox version 1.5 or later, Microsoft Internet Explorer version 5.5 or later • Category 5 Ethernet network cable • TCP/IP, network adapter, and network operating system (such as Microsoft Windows, Linux, or Mac OS X) installed on each computer in the network	
Product Warranty	
Limited lifetime warranty with return to factory replacement, one year telephone support and software fixes for the warranty term.	

Service & Support

Cisco Small Business switches are backed by the Cisco Small Business Support Service, which provides affordable peace-of-mind coverage. This subscription-based service helps you protect your investment and derive maximum value from Cisco Small Business products. Delivered by Cisco and backed by your trusted partner, this comprehensive service includes software updates, access to the Cisco Small Business Support Center, and expedited hardware replacement.

Cisco Small Business products are supported by professionals in Cisco Small Business Support Center locations worldwide who are specifically trained to understand your needs. The Cisco Small Business Support Community, an online forum, enables you to collaborate with your peers and reach Cisco technical experts for support information.

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Cisco Limited Lifetime Hardware Warranty

This Cisco Small Business product offers a limited lifetime hardware warranty with return to factory replacement and a 1-year limited warranty for fans and power supplies. In addition, Cisco offers telephone technical support at no charge for the first 12 months following the date of purchase and software bug fixes for the warranty term. To download software updates, go to: http://www.cisco.com/cisco/web/download/index.html.

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

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