

Cisco SGE2010 48-Port Gigabit Switch Cisco Small Business Managed Switches



Performance and Reliability to Support Small Business Networks

Highlights

- 48 high-speed ports optimized for the network core or to support bandwidth-intensive applications
- Resilient clustering provides the ability to manage several switches as a single switch to support growing businesses
- Advanced 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 SGE2010 48-Port Gigabit Switch



Product Overview

The Cisco® SGE2010 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 SGE2010 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.

The Cisco SGE2010 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 SGE2010 can coexist in a stack with the Cisco SGE2000 and SGE2000P 24-Port Gigabit Switches and the Cisco SGE2010P 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.

An intuitive, highly secure management interface provides access to the comprehensive feature set of the Cisco SGE2010, for a better-optimized, more secure network.

Features

- Forty-eight 10/100/1000 Ethernet ports
- Four mini Gigabit Interface Converter (mini-GBIC) slots (shared with four Ethernet ports) for fiber Gigabit Ethernet expansion
- · 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 and security
- Private VLAN Edge (PVE) simplifies 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)
- User/network port-level security via 802.1X authentication and MAC-based filtering
- Increased bandwidth and added link redundancy with Link Aggregation Control Protocol (LACP)
- Enhanced rate-limiting capabilities, including back pressure and multicast, broadcast, and flood control
- · Port mirroring for noninvasive monitoring of switch traffic
- Jumbo frame support up to 10 KB
- Simple Network Management Protocol (SNMP) versions 1, 2c, and 3 and Remote Monitoring (RMON) support
- Fully rack mountable using included rack-mounting hardware

Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SGE2010 48-Port Gigabit Switch

Table 1. Specifications for the Cisco SGE2010 48-Port Gigabit Switch

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 MDI/ 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 5 Ethernet or better for 1000BASE-T	
LEDs	PWR, Fan, Link/Act, PoE, Speed, RPS, Master, Stack ID 1 through 8	
Performance		
Switching capacity	96 Gbps nonblocking	
Forwarding capacity	71.4 mpps (64-byte packets)	
Stacking		

Head-of-line (HOL) blocking HOL blocking prevention Layer 3 Layer 3 options Static routing: classifies interdomain routing (CIDR); 60 static routes; IPv4 and IPv6; forwarding in silicon—wire-speed forwarding of Layer 3 traffic IPv6 IPv6 over Ethernet, dual stack, IPv6 over IPv4 network with Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnel, IPv6 neiphor discovery, VEB, SSE, Teinet, Pign, Traceroute, Simple Mork Time Protocol (ISATAP) tunnel, IPv6 neiphor discovery, VEB, SSE, Teinet, Pign, Traceroute, Simple Mork Time Protocol (ISATAP) tunnel, IPv6 neiphor discovery, VEB, SSE, Teinet, Pign, Traceroute, Simple Mork Time Protocol (ISATAP), SMMP, RADIUS, ACLs, QoS, protocol-based VLANs Management Web user interface Bull-in web user interface for easy browser-based configuration (HTTP/HTTPS) SMMP SMMP Wersions 1, 2c, and 3 with support for traps **RFC1213 MIB-2** **RFC1213 MIB-2** **RFC2283 interface MIB* **RFC2483 interface MIB* **RFC2484 Sended MIB (P-bridge, Q-bridge) **RFC2474 attended bridge MIB (P-bridge, Q-bridge) **RFC2475 antity MIB* **RFC2476 attended bridge MIB (P-bridge, Q-bridge) **RFC2476 attended Bridge	Feature	Description
Ring and chain stacking options	Stack operation	Up to 192 ports in a stack
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MAC table size 8000 Number of VLANs 256 active VLANs (4006 range) VLAN POEL SAMP Port-based and 802.10 tap-based VLANs, protocol-based VLAN, management VLAN, multicast TV VLAN POEL GVRP Head-of-line (HOL) blocking HOL blocking prevention Layer 3 options Static routing, classeless interdomain routing (CIDR); 60 static routes; IPv4 and IPv6; forwarding in silicon -wire-speed forwarding of Layer 3 traffic IPv6 PV6 IPv6 options Protocol (SSTAP) turnel, IPv6 over IPv4 network with Intra-Site Automatic Turnel Addressing Protocol (SSTAP) turnel, IPv6 neighbor discovery, stateless address configuration, maximum transmission until (NTV) discovery, VEE, SSL, Tainer, Pring, Traceroute, Simple Newtork Time Protocol (SNTP), Triving Hor Terrotocol (SNTP), Danish Hor Terrotocol		·
MAC table size 8000 Number of VLANs 256 active VLANs (4096 range) Port-based and 802.10 tag-based VLANs, protocol-based VLAN, management VLAN, multicast TV VLAN, PVE, GVRP VLAN, PVE, GVRP Head-of-line (HOL) blocking Hold blocking prevention Layer 3 Layer 3 options Static routing: classiess interdomain routing (CIDR): 60 static routes; IPv4 and IPv6; forwarding in silicon— vivie-speed forwarding of Layer 3 traffic IPv6 IPv6 over Ethernet, dual stack, IPv6 over IPv4 network with Intra-Site Automatic Tunnel Addressing protocol (SISTR) This number, IPv6 neighbor discovery, stateless address configuration, maximum transmission unit (MTIU) discovery, WEB, SSL, Telnet, Pipg, Traceroute, Simple Network Time Protocol (SISTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, ACLs, CoS, protocol-based VLANs Management Web user interface Bullicin web user interface for easy browser-based configuration (HTTP/HTTPS) SNMP SNMP Postons 1, 2c, and 3 with support for traps * RFC2131 MIB-2, RFC2683 interface MIB RFC2439 bridge (D-bridge) RFC2439 bridge MIB RFC2439 bridge MIB RFC2439 bridge MIB RFC2439 response MIB (RFC2439 bridge MIB RFC2437 extended bridge MIB (P-bridge, O-bridge) RFC2317 snttly MIB RFC2431 RMON MIB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON MIB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON MIB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 only) RFC2373 entity MIB RFC2431 RMON RMB (groups 1, 2, 3, and 9 onl		Auto-numbering or manual configuration of units in stack
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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, 802.1 priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, Internet Group Management Protocol (IGMP) packets, Internet Group Management Protocol (IGMP) packets, DHCP snooping, Address Resolution Protocol (IARP) inspection, and IP source address guard • Up to 1018 rules Advanced Security • IP Source Guard • STP Root Guard • STP Root Guard • Dynamic ARP Inspection • DHCP Snooping Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast		RFC 2618 RADIUS client MIB,
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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 • 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 LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast		Dual images for resilient firmware upgrades
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 • 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 • STP Root Guard • Dynamic ARP Inspection • DHCP Snooping Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Broadcast, multicast, and unknown unicast	Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe.
IEEE 802.1X 802.1X RADIUS authentication, MD5 hash; guest VLAN; single/multiple host mode • 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 LACP, up to 8 ports in up to 8 groups Broadcast, multicast, and unknown unicast	Other management	TFTP upgrade, Dynamic Host Configuration Protocol (DHCP) client, BOOTP, SNTP, Xmodem upgrade,
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 LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast	Security	
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STP Root Guard Dynamic ARP Inspection DHCP Snooping Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Broadcast, multicast, and unknown unicast	ACLs	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
Dynamic ARP Inspection DHCP Snooping Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast	Advanced Security	IP Source Guard
DHCP Snooping Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast		STP Root Guard
Availability Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast		
Link aggregation Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups Storm control Broadcast, multicast, and unknown unicast		DHCP Snooping
Storm control Broadcast, multicast, and unknown unicast	Availability	
	Link aggregation	Using IEEE 802.3ad LACP, up to 8 ports in up to 8 groups
DoS prevention DoS attack prevention	Storm control	Broadcast, multicast, and unknown unicast
	DoS prevention	DoS attack prevention

Feature	Description
Spanning Tree	IEEE 802.1D Spanning Tree
	IEEE 802.1w Rapid Spanning Tree
	IEEE 802.1s Multiple Spanning Tree and Fast Linkover
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
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; 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 H x D	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, –48V DC
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47)
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 SGE2010 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, or 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.

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.

For More Information

For more information on Cisco Small Business products and solutions, visit: http://www.cisco.com/smallbusiness



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