

Cisco SGE2000 24-Port Gigabit Switch Cisco Small Business Managed Switches



High-Performance, Reliable, Stacking Switch for Small Businesses

Highlights

- 24 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
- Basic QoS helps ensure a consistent network experience and supports networked applications including voice, video, and data storage
- Strong security protects network traffic to keep unauthorized users off the network

Figure 1. Cisco SGE2000 24-Port Gigabit Switch



Product Overview

The Cisco SGE2000 24-Port Gigabit Switch (Figure 1) helps maximize system availability, with fully redundant stacking 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 SGE2000 includes an intuitive, secure management interface, enabling you to take advantage of the comprehensive feature set for a better-optimized, more secure network.

Features

- Twenty-four 10/100/1000 Ethernet ports
- Four Small Form-Factor Pluggable (SFP) slots (shared with four copper ports) for fiber Gigabit Ethernet expansion
- Dual images for resilient firmware upgrades
- Up to 48-Gbps, nonblocking, store-and-forward switching capacity
- Simplified QoS management using 802.1p, differentiated services (DiffServ), or (ToS) traffic prioritization specifications

- Fully resilient stacking for optimized growth with simplified management
- ACLs for granular security and QoS implementation
- Can be configured and monitored 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) 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)
- User/network port-level security via 802.1X authentication and MAC-based filtering
- Increased bandwidth and added link redundancy with link aggregation
- Enhanced rate-limiting capabilities, including back pressure, multicast, and broadcast flood control
- Port mirroring for noninvasive monitoring of switch traffic
- Jumbo frame support up to 10KB
- Simple Network Management Protocol (SNMP) versions 1, 2c, and 3 and Remote Monitoring (RMON) support
- Fully rack mountable using the included rack-mounting hardware
- Simple, one-step automated installation and initial configuration

Specifications

Table 1 contains the specifications, package contents, and minimum requirements for the Cisco SGE2000 24-Port Gigabit Switch.

Table 1. Specifications for the Cisco SGE2000 24-Port Gigabit Switch

Feature	Description
Specifications	
Ports	<ul style="list-style-type: none"> • 24 RJ-45 connectors for 10BASE-T/100BASE-TX/1000BASE-T with 4 shared Gigabit SFP slots • 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	<ul style="list-style-type: none"> • 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, Speed, RPS, Master, Stack ID 1 through 8
Performance	
Switching capacity	Up to 48 Gbps, nonblocking
Forwarding rate (based on 64-byte packets)	Up to 35.7 mpps
Stacking	
Stack operation	<ul style="list-style-type: none"> • Up to 8 units in a stack (192 ports) • 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)

Feature	Description
VLAN	<ul style="list-style-type: none"> • Port-based and 802.1Q tag-based VLANs • Protocol-based VLAN • Management VLAN • Private VLAN Edge (PVE) • GVRP
Head-of-line (HOL) blocking	HOL blocking prevention
Layer 3	
Layer 3 options	<ul style="list-style-type: none"> • Static routing • Classless interdomain routing (CIDR) • 128 static routes • IPv4 • Forwarding in silicon – wire-speed forwarding of Layer 3 traffic
IPv6	
IPv6	IPv6 Host Mode IPv6 over Ethernet Dual IPv6/IPv4 stack IPv6 Neighbor and Router Discovery (ND) IPv6 Stateless Address Autoconfiguration Path MTU Discovery Duplicate Address Detection (DAD) ICMPv6 IPv6 over IPv4 network with ISATAP tunnel support
IPv6 QoS	Prioritize IPv6 packets in hardware
IPv6 ACL	Drop or Rate Limit IPv6 packets in hardware
MLD Snooping	Deliver IPv6 multicast packets only to the required receivers
IPv6 Applications	Web/SSL, Telnet Server/SSH, Ping, Traceroute, SNMP, TFTP, Radius, Syslog, DNS Client
IPv6 RFCs Supported	RFC2463 – ICMPv6 RFC3513 – IPv6 Address architecture RFC 4291 – IP Version 6 Addressing Architecture RFC 2460 – Internet Protocol v6 (IPv6) Specification RFC 2461 – Neighbor Discovery for IPv6 RFC 2462 – IPv6 Stateless Address Auto-configuration RFC 1981 – Path MTU Discovery RFC 4007 – IPv6 Scoped Address Architecture RFC3484 – Default address selection mechanism is described by RFC3484 RFC4214 – ISATAP tunneling RFC4293 – MIB IPv6: Textual Conventions and General Group RFC 3595 – Textual Conventions for IPv6 Flow Label
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 traps
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, RFC3621 Power Ethernet MIB, RFC 2618 RADIUS client MIB, RFC 1215 traps
RMON	Embedded RMON software agent supports 4 RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
Firmware upgrade	<ul style="list-style-type: none"> • Web browser upgrade (HTTP) and Trivial File Transfer Protocol (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

Feature	Description
Other management	<ul style="list-style-type: none"> • Traceroute • Single IP management • SSL security for web user interface • SSH • RADIUS • Port mirroring • TFTP upgrade • DHCP client • BOOTP • Simple Network Time Protocol (SNTP) • Xmodem upgrade • Cable diagnostics • Ping • Syslog • Telnet client (SSH secure support)
Security	
IEEE 802.1X	<ul style="list-style-type: none"> • 802.1X – RADIUS authentication; MD5 hash • Guest VLAN • Single/multiple host mode
Access control	ACLs – drop or rate limit based on: <ul style="list-style-type: none"> • Source and destination MAC-based • Source and destination 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 • Up to 1018 rules
Availability	
Link aggregation	<ul style="list-style-type: none"> • Link aggregation using IEEE 802.3ad Link Aggregation Control Protocol (LACP) • Up to 8 ports in up to 8 groups
Storm control	Broadcast and multicast storm protection
DoS prevention	DoS attack prevention
Spanning Tree	<ul style="list-style-type: none"> • IEEE 802.1D Spanning Tree • IEEE 802.1w Rapid Spanning Tree • IEEE 802.1s Multiple Spanning Tree, Fast Linkover
IGMP snooping	IGMP (versions 1 and 2) snooping limits bandwidth-intensive video traffic to only the requestors. Supports 256 multicast groups.
QoS	
Priority levels	4 hardware queues
Scheduling	Priority queuing and weighted round-robin (WRR)
Class of service	<ul style="list-style-type: none"> • Port based • 802.1p VLAN priority based • IPv4 IP precedence/ToS/DSCP based • DiffServ • Classification and re-marking ACLs
Rate limiting	<ul style="list-style-type: none"> • Ingress policer • Egress rate control
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 Spanning Tree Protocol (STP), 802.1Q/p VLAN, 802.1w Rapid STP, 802.1s Multiple STP, 802.1x port access authentication

Feature	Description
Environmental	
Dimensions W x H x D	17.32 x 14.70 x 1.73 in. (440 x 375 x 44 mm)
Unit weight	14.09 lb (6.39 kg)
Certification	UL (UL 60950), CSA (CSA 22.2), CE mark, FCC Part 15 (CFR 47) Class A
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% relative humidity, noncondensing
Storage humidity	10% to 95% relative humidity, noncondensing
Number of fans	2
Acoustic noise	55 dB max.
Power	100–240V AC, 50–60Hz, internal, universal; also equipped with redundant power supply connector for external power supply 48V DC
Power consumption	12V at 7.5A (90W)
Package Contents	
<ul style="list-style-type: none"> • Cisco SGE2000 24-Port Gigabit Switch • Console cable • AC power cord • Rack-mounting kit • Quick installation guide 	
Minimum Requirements	
<ul style="list-style-type: none"> • Web browser: Mozilla Firefox 1.5 or later, Internet Explorer 5.5 or later, Netscape 7.01 or later • Category 5 Ethernet network cable • TCP/IP installed on each computer within the network • Network adapter installed in each computer • Network operating system 	
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>.

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