Cisco SFE2000 24-Port 10/100 Ethernet Switch
Cisco Small Business Managed Switches

For Small Business

Secure, Flexible Switches for Small Business Network Foundations

Highlights

- Designed for small businesses that require speed, flexibility, and performance
- Resilient clustering provides the ability to manage several switches as a single switch to support growing businesses
- 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
- Limited lifetime warranty

Figure 1. Cisco SFE2000 24-Port 10/100 Ethernet Switch

Product Overview

The Cisco® SFE2000 24-Port 10/100 Ethernet Switch (Figure 1) is optimized to maximize system availability, with fully redundant stacking, redundant power options, and dual images for resilient firmware upgrades. The Cisco SFE2000 is able to 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 QoS and traffic management features help ensure clear and reliable voice and video communications.

The Cisco SFE2000 provides an intuitive, secure management interface, enabling you to better utilize the switch's comprehensive feature set, resulting in a better-optimized, more secure network.

Features

- Twenty-four 10/100 Ethernet ports plus four 10/100/100 copper ports
- Two Small Form-Factor Pluggable (SFP) slots (shared with two copper ports) for fiber Gigabit Ethernet expansion
- Dual images for resilient firmware upgrades
- Up to 12.8-Gbps nonblocking, store-and-forward switching capacity
- Simplified quality of service (QoS) management using 802.1p, Differentiated Services (DiffServ), or type of service (ToS) traffic prioritization specifications
- Fully resilient stacking provides 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 Secure Sockets Layer (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
- Mini jumbo frame support (1600 bytes)
- Simple Network Management Protocol (SNMP) v1, v2c, v3 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 SFE2000P 24-Port 10/100 Ethernet Switch.

Table 1. Specifications for the Cisco SFE2000 24-Port 10/100 Ethernet Switch

Feature	Description
Specifications	
Ports	• 24 RJ-45 connectors for 10BASE-T/100BASE-TX • Four 10BASE-T/100BASE-TX/1000BASE-T with 2 Gigabit combo ports • Shared between mini Gigabit Interface Converter (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 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 12.8 Gbps, nonblocking
Forwarding rate (based on 64-byte packets)	Up to 9.5 mpps
Stacking	
Stack operation	• 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

Feature	Description
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 • Private VLAN Edge (PVE) • GVRP
Head-of-line (HOL) blocking	HOL blocking prevention
Layer 3	
Layer 3 options	• 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, SNTP, 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 version 1, 2c, 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, 9 only), RFC2737 entity MIB • RFC3621 Power Ethernet MIB, RFC 2618 RADIUS client MIB, RFC 1215 traps
RMON	Embedded RMON software agent supports four RMON groups (history, statistics, alarms, and events) for enhanced traffic management, monitoring, and analysis
Firmware upgrade	• 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	• Traceroute • Single IP management • SSL security for web user interface • SSH • RADIUS • Port mirroring • TFTP upgrade • Dynamic Host Configuration Protocol (DHCP) client • BOOTP • Simple Network Time Protocol (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
Access control	• ACLs – drop or rate limit based on: ◦ 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	• 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	IEEE 802.1D Spanning Tree, IEEE 802.1w Rapid Spanning Tree, IEEE 802.1s Multiple Spanning Tree, Fast Linkover
IGMP snooping	IGMP (v1/v2) 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	• Port based • 802.1p VLAN priority based • IPv4 IP precedence/ToS/DSCP based • DiffServ • Classification and remarking ACLs
Rate limiting	• Ingress policer • Egress rate control

Feature	Description
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 Power over Ethernet (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 14.7 x 1.73 in. (440 x 375 x 44 mm)
Unit weight	9.68 lb (4.39 kg)
Certification	UL (UL 60950), CSA (CSA 22.2), CE Mark, FCC Part 15 (CFR 47) Class A
Operating temperature	32º to 104ºF (0 to 40ºC)
Storage temperature	–4º to 158ºF (–20 to 70ºC)
Operating humidity	10% to 90% relative humidity,
Storage humidity	10% to 95% relative humidity, noncondensing
Number of fans	1
Acoustic noise	50 dB max.
Power	100–240V AC, 50–60 Hz, internal, universal; also equipped with redundant power supply connector for external power supply, 48V DC
Power consumption	12V@4.5A (54W)
Package Contents	
• Cisco SFE2000 24-Port 10/100 Ethernet Switch • Console cable • AC power cord • Rack-mount kit • Quick installation guide	
Minimum Requirements	
• Web-based utility: web browser (Mozilla Firefox 1.5 or later, Internet Explorer 5.5 or later, Netscape 7.01 or later) • Category 5 Ethernet network cables • Operating system: Windows 2000, XP, or later	
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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