Cisco Catalyst 2960-L Series Switches

Product Overview

Cisco Catalyst® 2960-L Series Switches are fixed-configuration, Gigabit Ethernet switches that provide entry-level enterprise-class Layer 2 access for branch offices, conventional workspaces, and out-of-wiring closet applications. Designed for operational simplicity to lower total cost of ownership, they enable secure, and energy-efficient business operations with a range of Cisco IOS® Software features.

Product Highlights

Cisco Catalyst 2960-L switches feature:

- 8, 16, 24, or 48 Gigabit Ethernet ports with line-rate forwarding
- 2 or 4 Gigabit Small Form-Factor Pluggable (SFP) uplinks
- Power over Ethernet Plus (PoE+) support with up to 370W of power budget
- Fanless operation and operational temperature up to 45°C for deployment outside the wiring closet
- Higher mean time between failure (MTBF) because they have no moving mechanical parts
- Less than 11.5-inch depth fit in use cases with space limitation
- Reduced power consumption and advanced energy management features
- RJ45 and USB console access for simplified operations
- Intuitive web UI for easy deployment and management
- Cisco IOS® Software features
- Enhanced limited lifetime warranty (E-LLW) offering next-business-day hardware replacement

Switch Models and Configurations

Cisco Catalyst 2960-L switches include a single fixed power supply. Table 1 shows configuration information.

Table 1. Cisco Catalyst 2960-L Configurations

Product ID	10/100/1000 Ethernet Ports	Uplink Interfaces	Available PoE Power	Fanless	Dimensions (H x D x W)	Weight
WS-C2960L-8TS-LL	8	2 SFP	–	Y	1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm)	4.45 lb (2.02 kg)
WS-C2960L-8PS-LL	8	2 SFP	67W	Y	1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm)	5.64 lb (2.56 kg)
WS-C2960L-16TS-LL	16	2 SFP	–	Y	1.73 x 8.45 x 10.56 in. (4.4 x 21.5 x 26.8 cm)	4.53 lb (2.06 kg)

Product ID	10/100/1000 Ethernet Ports	Uplink Interfaces	Available PoE Power	Fanless	Dimensions (H x D x W)	Weight
WS-C2960L-16PS-LL	16	2 SFP	120W	Y	1.73 x 9.45 x 10.56 in. (4.4 x 24 x 26.8 cm)	5.73 lb (2.6 kg)
WS-C2960L-24TS-LL	24	4 SFP	–	Y	1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm)	6.61 lb (3.0 kg)
WS-C2960L-24PS-LL	24	4 SFP	195W	Y	1.73 x 10.45 x 17.5 in. (4.4 x 26.5 x 44.5 cm)	7.63 lb (3.46 kg)
WS-C2960L-48TS-LL	48	4 SFP	–	Y	1.73 x 9.45 x 17.5 in. (4.4 x 24 x 44.5 cm)	7.21 lb (3.27 kg)
WS-C2960L-48PS-LL	48	4 SFP	370W	N	1.73 x 11.5 x 17.5 in. (4.4 x 29.2 x 44.5 cm)	10.25 lb (4.65 kg)

Features and Benefits

All Cisco Catalyst 2960-L Series Switches feature a LAN Lite Cisco IOS Software image, providing basic functionality for small-scale deployments.

For more information about the features included in the LAN Lite feature sets, refer to the Cisco Feature Navigator: http://tools.cisco.com/ITDIT/CFN/jsp/index.jsp.

Network Security

The Cisco Catalyst 2960-L Series Switches provide a range of security features to limit access to the network and mitigate threats, including:

- **Comprehensive 802.1x** features to control access to the network, including flexible authentication, 802.1x monitor mode, and RADIUS change of authorization.
- **Multidomain Authentication** allows an IP phone and a PC to authenticate on the same switch port while placing them on appropriate voice and data VLANs.
- **Access Control Lists (ACLs)** for IPv6 and IPv4 for security and QoS ACEs:
  - **Port-based ACLs** for Layer 2 interfaces allow security policies to be applied on individual switch ports.
- **Secure Shell (SSH) Protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3)** provide network security by encrypting administrator traffic during Telnet and SNMP sessions. SSH Protocol, Kerberos, and the cryptographic version of SNMPv3 require a special cryptographic software image because of U.S. export restrictions.
- **Switched Port Analyzer (SPAN),** with bidirectional data support, allows Cisco Intrusion Detection System (IDS) to take action when an intruder is detected.
- **TACACS+ and RADIUS authentication** facilitates centralized control of the switch and restricts unauthorized users from altering the configuration.
- **MAC address notification** allows administrators to be notified about users added to or removed from the network.
- **Multilevel security on console access** prevents unauthorized users from altering the switch configuration.
- **Bridge Protocol Data Unit (BPDU) guard** shuts down spanning-tree port fast–enabled interfaces when BPDUs are received to avoid accidental topology loops.
- **Spanning-tree Root Guard (STRG)** prevents edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes.
- **IGMP filtering** provides multicast authentication by filtering out nonsubscribers and limits the number of concurrent multicast streams available per port.

- **Dynamic VLAN assignment** is supported through implementation of VLAN membership policy server client capability to provide flexibility in assigning ports to VLANs. Dynamic VLAN facilitates the fast assignment of IP addresses.

Redundancy and Resiliency

Cisco Catalyst 2960-L Series Switches offer a number of redundancy and resiliency features to prevent outages and help ensure that the network remains available:

- **IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP)** provide rapid spanning-tree convergence independent of spanning-tree timers and also offer the benefits of Layer 2 load balancing and distributed processing.
- **Per-VLAN Rapid Spanning Tree (PVRST+)** allows rapid spanning-tree reconvergence on a per-VLAN spanning-tree basis, without requiring the implementation of spanning-tree instances.
- **Switch-port autorecovery (error disable)** automatically attempts to reactivate a link that is disabled because of a network error.

Enhanced Quality of Service

The Cisco Catalyst 2960-L Series Switches offers intelligent traffic management that keeps everything flowing smoothly. Flexible mechanisms for marking, classification, and scheduling deliver superior performance for data, voice, and video traffic, all at wire speed. Primary QoS features include:

- Up to **four egress queues** and two thresholds per port supporting bandwidth control, shaping, and priority queuing so that the high priority packets are serviced ahead of other traffic.
- **Weighted Round Robin** (WRR) scheduling and **Weighted Tail Drop** (WTD) congestion avoidance.
- **802.1p class of service** (CoS) classification, with marking and reclassification on a per-packet basis by source and destination IP address, MAC address, or Layer 4 TCP/UDP port number.

Intelligent Power over Ethernet Plus

Cisco Catalyst 2960-L Series Switches support both IEEE 802.3af Power over Ethernet (PoE) and IEEE 802.3at PoE+ (up to 30W per port) to deliver lower total cost of ownership for deployments that incorporate Cisco IP Phones, Cisco Aironet® wireless access points, or other standards-compliant PoE/PoE+ end devices. PoE removes the need to supply wall power to PoE-enabled devices and eliminates the cost of adding electrical cabling and circuits that would otherwise be necessary in IP phone and WLAN deployments.

The Cisco Catalyst 2960-L Series PoE power allocation is dynamic, and power mapping scales up to a maximum of 370W PoE+ power. Intelligent power management allows flexible power allocation across all ports.

Cisco Catalyst SmartOperations

Cisco Catalyst SmartOperations is a comprehensive set of capabilities that simplify LAN planning, deployment, monitoring, and troubleshooting. Deploying SmartOperations tools reduces the time and effort required to operate the network and lowers TCO.

- **Cisco AutoConfig** services determine the level of network access provided to an endpoint based on the type of the endpoint device. This feature also permits hard binding between the end device and the interface.

- **Cisco Smart Install** services enable minimal-touch deployment by providing automated Cisco IOS Software image installation and configuration when new switches are connected to the network. This enables network administrators to remotely manage Cisco IOS Software image installs and upgrades.
- **Cisco Auto SmartPorts** services enable automatic configuration of switch ports as devices connect to the switch with settings optimized for the device type resulting in zero-touch port-policy provisioning.
- **Cisco Smart Troubleshooting** is an extensive array of diagnostic commands and system health checks in the switch, including Smart Call Home. The Cisco Generic Online Diagnostics (GOLD) and Cisco online diagnostics on switches in live networks help predict and detect failures more quickly.
- **PnP (Plug and Play)** with Cisco APIC – EM (Application Policy Infrastructure Controller Enterprise Module) support for simple, secure, unified, and integrated new branch or campus device deployments or for provisioning updates to an existing network.

For more information about Cisco Catalyst SmartOperations, visit cisco.com/go/SmartOperations.

Operational Simplicity Features

- **Cisco AutoSecure provides** a single-line command-line interface (CLI) to enable baseline security features (Port Security, DHCP snooping, Dynamic ARP Inspection (DAI)). This feature simplifies security configurations with a single touch.
- **Dynamic Host Configuration Protocol (DHCP)** autoconfiguration of multiple switches through a boot server eases switch deployment.
- **Autonegotiation** on all ports automatically selects half- or full-duplex transmission mode to optimize bandwidth.
- **Dynamic Trunking Protocol (DTP)** facilitates dynamic trunk configuration across all switch ports.
- **Port Aggregation Protocol (PAgP)** automates the creation of Cisco Fast EtherChannel groups or Gigabit EtherChannel groups to link to another switch, router, or server.
- **Link Aggregation Control Protocol (LACP)** allows the creation of Ethernet channeling with devices that conform to IEEE 802.3ad. This feature is similar to Cisco EtherChannel technology and Port Aggregation Protocol (PAgP).
- **Automatic media-dependent interface crossover (MDIX)** automatically adjusts transmit and receive pairs if an incorrect cable type (crossover or straight-through) is installed.
- **Unidirectional Link Detection Protocol (UDLD)** and aggressive UDLD allow unidirectional links caused by incorrect fiber-optic wiring or port faults to be detected and disabled on fiber-optic interfaces.
- **Local Proxy Address Resolution Protocol (ARP)** works in conjunction with private VLAN edge to minimize broadcasts and maximize available bandwidth.
- **VLAN1 minimization** allows VLAN1 to be disabled on any individual VLAN trunk.
- **Internet Group Management Protocol (IGMP)** snooping for IPv4 and IPv6 MLD v1 and v2 snooping provide fast client joins and leaves of multicast streams and limit bandwidth-intensive video traffic to only the requestors.
- **Per-port broadcast, multicast, and unicast storm control** prevents faulty end stations from degrading overall system performance.
- **Voice VLAN** simplifies telephony installations by keeping voice traffic on a separate VLAN for easier administration and troubleshooting.

- **Cisco VLAN Trunking Protocol (VTP)** supports dynamic VLANs and dynamic trunk configuration across all switches.
- For enhanced traffic management, monitoring, and analysis, the embedded **remote monitoring (RMON)** software agent supports four RMON groups (history, statistics, alarms, and events).
- **Layer 2 trace route** eases troubleshooting by identifying the physical path that a packet takes from source to destination.
- **Trivial File Transfer Protocol (TFTP)** reduces the cost of administering software upgrades by downloading from a centralized location.
- **Network Timing Protocol (NTP)** provides an accurate and consistent timestamp to all intranet switches.

Power Management

The 2960-L switches offer a range of industry-leading features for effective energy efficiency and energy management.

- **IEEE 802.3az Energy Efficient Ethernet (EEE)** enables ports to dynamically sense idle periods between traffic bursts and quickly switch the interfaces into a low- power idle mode, reducing power consumption.
- **Cisco EnergyWise**® policies can be used to control the power consumed by PoE-powered endpoints, desktop and data-center IT equipment, and a wide range of building infrastructure. Cisco EnergyWise technology is included on all Cisco Catalyst 2960-L Series Switches. For more information about Cisco EnergyWise technology, visit cisco.com/go/energywise.

Network Management

The Cisco Catalyst 2960-L Series Switches offer a superior CLI for detailed configuration and administration. 2960-L Series Switches are also supported in the full range of Cisco network management solutions.

- **Cisco Prime**® **Infrastructure** provides comprehensive network lifecycle management, including an extensive library of easy-to-use features to automate the initial and day-to-day management of your Cisco network. Cisco Prime technology integrates hardware and software platform expertise and operational experience into a powerful set of workflow-driven configuration, monitoring, troubleshooting, reporting, and administrative tools.
- **Cisco Network Plug and Play** provides a simple, secure, unified, and integrated offering for enterprise network customers to ease new branch or campus device rollouts or for provisioning updates to an existing network with a near zero-touch deployment experience.
- **Web UI** on the 2960-L allows for easy and quick installation, configuration management, and monitoring of the switch.

Product Specifications

Product specifications (Table 2) apply to both PoE and non-PoE models.

Table 2. Specifications

	8 Port	16 Port	24 Port	48 Port
Console Ports				
RJ45 Ethernet	1	1	1	1
USB mini-B	1	1	1	1

	8 Port	16 Port	24 Port	48 Port
USB-A port for storage and Bluetooth console	1	1	1	1
Memory and Processor				
CPU	ARMv7 800 MHz	ARMv7 800 MHz	ARMv7 800 MHz	ARMv7 800 MHz
DRAM	512 MB	512 MB	512 MB	512 MB
Flash memory	256 MB	256 MB	256 MB	256 MB
Performance				
Forwarding bandwidth	10 Gbps	18 Gbps	28 Gbps	52 Gbps
Switching bandwidth	20 Gbps	36 Gbps	56 Gbps	104 Gbps
Forwarding rate (64-byte L3 packets)	14.88 Mpps	26.78 Mpps	41.67 Mpps	77.38 Mpps
Unicast MAC addresses	8K	8K	8K	8K
Maximum active VLANs	64	64	64	64
VLAN IDs available	4094	4094	4094	4094
Maximum STP instances	64	64	64	64
Maximum SPAN sessions	1	1	1	1
MTU-L3 packet	9198 bytes	9198 bytes	9198 bytes	9198 bytes
Jumbo Ethernet frame	10,240 bytes	10,240 bytes	10,240 bytes	10,240 bytes
MTBF in hours (Data)	2,448,133	2,416,689	2,412,947	1,370,769
MTBF in hours (PoE)	315,044	313,496	909,838	437,970
Environment				
Operating temperature				
Up to 5,000 ft	23ºF to 113ºF (–5ºC to 45ºC)	23ºF to 113ºF (–5ºC to 45ºC)	23ºF to 113ºF (–5ºC to 45ºC)	23ºF to 113ºF (–5ºC to 45ºC)
	WS-C2960L-16PS-LL has maximum operating temperature of 40°C (up to 5,000 ft) and 35°C (up to 10,000 ft)			
Up to 10,000 ft	23ºF to 104ºF (–5ºC to 40ºC)	23ºF to 104ºF (–5ºC to 40ºC)	23ºF to 104ºF (–5ºC to 40ºC)	23ºF to 104ºF (–5ºC to 40ºC)
Operating altitude	10,000 ft (3000m)	10,000 ft (3000m)	10,000 ft (3000m)	10,000 ft (3000m)
Operating relative humidity	5% to 90% at 40ºC	5% to 90% at 40ºC	5% to 90% at 40ºC	5% to 90% at 40ºC
Storage temperature	–13º to 158ºF (–25º to 70ºC)	–13º to 158ºF (–25º to 70ºC)	–13º to 158ºF (–25º to 70ºC)	–13º to 158ºF (–25º to 70ºC)
Storage altitude	15,000 ft (4500m)	15,000 ft (4500m)	15,000 ft (4500m)	15,000 ft (4500m)
Storage relative humidity	5% to 95% at 65ºC	5% to 95% at 65ºC	5% to 95% at 65ºC	5% to 95% at 65ºC
Storage altitude	**Note:** Minimum ambient temperature for cold start is 0°C (32°F)			

Electrical	**Data**	**PoE**	**Data**	**PoE**	**Data**	**PoE**	**Data**	**PoE**
Voltage (autoranging)	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in	110 to 220V AC in
Frequency	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz	50 to 60 Hz
Current	0.13A to 0.22A	0.22A to 0.27A	0.16A to 0.26A	0.24A to 0.28A	0.20A to 0.33A	0.21A to 0.26A	0.29A to 0.48A	0.37A to 0.64A
Power rating (maximum consumption)	0.04 kVA	0.11 kVA	0.05 kVA	0.19 kVA	0.06 kVA	0.24 kVA	0.09 kVA	0.48 kVA

	8 Port		16 Port		24 Port		48 Port	
Power consumption (watts)								
0% traffic	13.0	19.9	14.9	21.9	19.4	25.9	29.7	68.4
10% traffic	14.8	22.0	19.3	27.1	26.5	32.9	41.1	81.6
100% traffic	14.9	22.0	19.3	27.1	26.5	32.9	41.1	81.9
Weighted average	14.2	21.3	17.8	25.4	24.1	30.6	37.3	77.3
	Note: The wattage rating on the power supply does not represent actual power draw. It indicates the maximum power draw possible by the power supply. This rating can be used for facility capacity planning. For PoE switches, cooling requirements are smaller than total power draw because a significant portion of the load is dissipated in the endpoints.							
Acoustic Noise (48 Port PoE only)								
Sound Pressure	LpA (Typical)							35dB
	LpAD (Maximum)							39dB
Sound Power	LwA (Typical)							4.8B
	LwAD (Maximum)							5.2B
	Note: Bystander positions operating mode at 25°C ambient.							
Safety and Compliance								
Safety	UL 60950-1 Second Edition, CAN/CSA-C22.2 No. 60950-1 Second Edition, EN 60950-1 Second Edition, IEC 60950-1 Second Edition, AS/NZS 60950-1							
EMC: emissions	47CFR Part 15 (CFR 47) Class A, AS/NZS CISPR22 Class A, CISPR22 Class A, EN55022 Class A, ICES003 Class A, VCCI Class A, EN61000-3-2, EN61000-3-3, KN22 Class A, CNS13438 Class A							
EMC: immunity	EN55024, CISPR24, EN300386, KN24							
Environmental	Reduction of Hazardous Substances (RoHS) including Directive 2011/65/EU							
Telco	Common Language Equipment Identifier (CLEI) code							
U.S. government certifications	USGv6 and IPv6 Ready Logo							
Connectors and Interfaces								
Ethernet interfaces	10BASE-T ports: RJ-45 connectors, 2-pair Category 3, 4, or 5 unshielded twisted-pair (UTP) cabling							
	100BASE-TX ports: RJ-45 connectors, 2-pair Category 5 UTP cabling							
	1000BASE-T ports: RJ-45 connectors, 4-pair Category 5 UTP cabling							
	1000BASE-T SFP-based ports: RJ-45 connectors, 4-pair Category 5 UTP cabling							
SFP and SFP+ interfaces	For information about supported SFP/SFP+ modules, refer to the Transceiver Compatibility matrix tables at cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html							
Indicator LEDs	Per-port status: link integrity, disabled, activity, speed, and full duplex							
	System status: system, PoE, and link speed							
Console cables	CAB-CONSOLE-RJ45 Console cable 6 ft. with RJ-45							
	CAB-CONSOLE-USB Console cable 6 ft. with USB Type A and mini-B connectors							
Power	Use the supplied AC power cord to connect the AC power connector to an AC power outlet							
Management								
	BRIDGE-MIB CISCO-CABLE-DIAG-MIB CISCO-CDP-MIB CISCO-CLUSTER-MIB CISCO-CONFIG-COPY-MIB CISCO-CONFIG-MAN-MIB CISCO-DHCP-SNOOPING-MIB CISCO-ENTITY-VENDORTYPE-OID-MIB CISCO-ENVMON-MIB CISCO-ERR-DISABLE-MIB CISCO-FLASH-MIB			CISCO-PORT-QOS-MIB CISCO-PORT-SECURITY-MIB CISCO-PORT-STORM-CONTROL-MIB CISCO-PRODUCTS-MIB CISCO-PROCESS-MIB CISCO-RTTMON-MIB CISCO-SMI-MIB CISCO-STP-EXTENSIONS-MIB CISCO-SYSLOG-MIB CISCO-TC-MIB CICSO-TCP-MIB			IF-MIB INET-ADDRESS-MIB OLD-CISCO-CHASSIS-MIB OLD-CISCO-FLASH-MIB OLD-CISCO-INTERFACES-MIB OLD-CISCO-IP-MIB OLD-CISCO-SYS-MIB OLD-CISCO-TCP-MIB OLD-CISCO-TS-MIB RFC1213-MIB RMON-MIB RMON2-MIB	

	8 Port	16 Port	24 Port	48 Port
	CISCO-FTP-CLIENT-MIB CISCO-IGMP-FILTER-MIB CISCO-IMAGE-MIB CISCO-IP-STAT-MIB CISCO-LAG-MIB CISCO-MAC-NOTIFICATION-MIB CISCO-MEMORY-POOL-MIB CISCO-PAGP-MIB CISCO-POE-EXTENSIONS-MIB	CISCO-UDLDP-MIB CISCO-VLAN-IFTABLE CISCO-VLAN-MEMBERSHIP-MIB CISCO-VTP-MIB ENTITY-MIB ETHERLIKE-MIB IEEE8021-PAE-MIB IEEE8023-LAG-MIB	SNMP-FRAMEWORK-MIB SNMP-MPD-MIB SNMP-NOTIFICATION-MIB SNMP-TARGET-MIB SNMPv2-MIB TCP-MIB UDP-MIB	
	For an updated list of supported MIBs, refer to the MIB Locator at cisco.com/go/mibs.			
Standards				
	IEEE 802.1D Spanning Tree Protocol IEEE 802.1p CoS Prioritization IEEE 802.1Q VLAN IEEE 802.1s IEEE 802.1w IEEE 802.1X IEEE 802.1ab (LLDP)	IEEE 802.3ad IEEE 802.3af and IEEE 802.3at IEEE 802.3ah (100BASE-X single/multimode fiber only) IEEE 802.3x full duplex on 10BASE-T, 100BASE-TX, and 1000BASE-T ports IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX	IEEE 802.3ab 1000BASE-T IEEE 802.3z 1000BASE-X RMON I and II standards SNMP v1, v2c, and v3 IEEE 802.3az IEEE 802.3ae 10Gigabit Ethernet IEEE 802.1ax	
RFC Compliance				
	RFC 768 - UDP RFC 783 - TFTP RFC 791 - IP RFC 792 - ICMP RFC 793 - TCP RFC 826 - ARP RFC 854 - Telnet RFC 951 - Bootstrap Protocol (BOOTP) RFC 959 - FTP RFC 1112 - IP Multicast and IGMP RFC 1157 - SNMP v1 RFC 1166 - IP Addresses	RFC 1256 - Internet Control Message Protocol (ICMP) Router Discovery RFC 1305 - NTP RFC 1492 - TACACS+ RFC 1493 - Bridge MIB RFC 1542 - BOOTP extensions RFC 1901 - SNMP v2C RFC 1902-1907 - SNMP v2 RFC 1981 - Maximum Transmission Unit (MTU) Path Discovery IPv6 FRC 2068 - HTTP RFC 2131 - DHCP RFC 2138 - RADIUS RFC 2233 - IF MIB v3	RFC 2373 - IPv6 Aggregatable Addrs RFC 2460 - IPv6 RFC 2461 - IPv6 Neighbor Discovery RFC 2462 - IPv6 Autoconfiguration RFC 2463 - ICMP IPv6 RFC 2474 - Differentiated Services (DiffServ) Precedence RFC 2597 - Assured Forwarding RFC 2598 - Expedited Forwarding RFC 2571 - SNMP Management RFC 3046 - DHCP Relay Agent Information Option RFC 3376 - IGMP v3 RFC 3580 - 802.1X RADIUS	

Ordering Information

Cisco Enhanced Limited Lifetime Hardware Warranty

Cisco Catalyst 2960-L Series Switches come with an enhanced limited lifetime warranty (E-LLW). The E-LLW provides the same terms as the Cisco standard limited lifetime warranty but adds next-business-day delivery of replacement hardware, where available, and 90 days of 8 x 5 Cisco Technical Assistance Center (TAC) support.

Your formal warranty statement, including the warranty applicable to Cisco software, appears in the Cisco information packet that accompanies your Cisco product. We encourage you to review carefully the warranty statement shipped with your specific product before use.

Cisco reserves the right to refund the purchase price as its exclusive warranty remedy. For more information about warranty terms, visit http://www.cisco.com/go/warranty and see Table 3.

Table 3. Warranty Terms

Cisco Enhanced Limited Lifetime Hardware Warranty	
Device covered	Applies to all Cisco Catalyst 2960-L Series Switches.
Warranty duration	As long as the original end user continues to own or use the product.
End-of-life policy	In the event of discontinuance of product manufacture, Cisco warranty support is limited to 5 years from the announcement of discontinuance.
Hardware replacement	Cisco or its service center will use commercially reasonable efforts to ship a Cisco Catalyst 2960-L replacement part for next business day delivery, where available. Otherwise, a replacement will be shipped within 10 working days after the receipt of the RMA request. Actual delivery times might vary depending on customer location.
Effective date	Hardware warranty commences from the date of shipment to customer (and in case of resale by a Cisco reseller, not more than 90 days after original shipment by Cisco).
TAC support	Cisco will provide during customer's local business hours, 8 hours per day, 5 days per week basic configuration, diagnosis, and troubleshooting of device-level problems for up to 90 days from the date of shipment of the originally purchased Cisco Catalyst 2960-L product. This support does not include solution or network-level support beyond the specific device under consideration.
Cisco.com access	Warranty allows guest access only to Cisco.com.

Software Policy

Customers with Cisco Catalyst LAN Lite software feature sets are provided with maintenance updates and bug fixes designed to maintain the compliance of the software with published specifications, release notes, and industry standards compliance as long as the original end user continues to own or use the product or up to 1 year from the end-of-sale date for this product, whichever occurs earlier.

This policy supersedes any previous warranty or software statement and is subject to change without notice.

Technical Support and Services

Table 4 describes available technical services.

Table 4. Technical Services Available for Cisco Catalyst 2960-L Series Switches

Technical Services
Cisco Smart Net Total Care™ Service • Around-the-clock, global access to the Cisco TAC • Unrestricted access to the extensive Cisco.com knowledge base and tools • Next-business-day, 8x5x4, 24x7x4, or 24x7x2 advance hardware replacement and onsite parts replacement and installation available[1] • Ongoing operating system software updates within the licensed feature set[2] • Proactive diagnostics and real-time alerts on Smart Call Home–enabled devices
Cisco Smart Foundation Service • Next-business-day advance hardware replacement as available • Access to SMB TAC during business hours (access levels vary by region) • Access to Cisco.com SMB knowledge base • Online technical resources through Smart Foundation Portal • Operating system software bug fixes and patches
Cisco Smart Care Service • Network-level coverage for the needs of small and medium-sized businesses • Proactive health checks and periodic assessments of Cisco network foundation, voice, and security technologies • Technical support for eligible Cisco hardware and software through Smart Net Total Care portal • Cisco operating system and application software updates and upgrades[2] • Next-business-day advance hardware replacement as available, 24x7x4 option available[1]

Technical Services
Cisco SP Base Service • Around-the-clock, global access to the Cisco TAC • Registered access to Cisco.com • Next-business-day, 8x5x4, 24x7x4, and 24x7x2 advance hardware replacement; return to factory option available[1] • Ongoing operating system software updates[2]
Cisco Focused Technical Support Services Three levels of premium, high-touch services are available: • Cisco High-Touch Operations Management Service • Cisco High-Touch Technical Support Service • Cisco High-Touch Engineering Service Valid Cisco Smart Net Total Care or SP Base contracts are required on all network equipment.

[1] Advance hardware replacement is available in various service-level combinations. For example, 8x5xNBD indicates that shipment is initiated during the standard 8-hour business day, 5 days a week (the generally accepted business days within the relevant region), with next-business-day (NBD) delivery. Where NBD is not available, same day shipping is provided. Restrictions apply; for details, review the appropriate service descriptions.

[2] Cisco operating system updates include the following: maintenance releases, minor updates, and major updates within the licensed feature set.

Accessories

Table 5 describes accessories.

Table 5. Cisco Catalyst 2960-L Accessories

Part Numbers	Description	Compatibility
CAB-CONSOLE-RJ45	Console Cable 6 Feet with RJ45	All models
CAB-CONSOLE-USB	Console Cable 6 Feet with USB Type A and mini-B Connectors	All models
PWR-CLP	Power Cable Restraining Clip	All models
CMPCT-MGNT-TRAY	Magnetic Mounting Tray for 3560-CX, 2960-CX, and 2960-L Compact Switches	8-port and 16-port models only
CMPCT-CBLE-GRD	Cable Guard for 3560-CX, 2960-CX, and 2960-L Compact Switches	8-port and 16-port models only
CMPCT-DIN-MNT	DIN Rail Mount for 3560-CX, 2960-CX, and 2960-L Compact Switches	8-port and 16-port models only

Contact Cisco

For more information about Cisco products, contact:

- Phone: +1 800 553-NETS (6387)
- Worldwide Product Support
- Company website: cisco.com

Cisco Capital Financing Helps You Achieve Your Objectives

Cisco Capital® financing can help you acquire the technology you need to achieve your objectives and stay competitive. We can help you reduce capital expenditures (CapEx), accelerate your growth, and optimize your investment dollars and ROI. Cisco Capital financing gives you flexibility in acquiring hardware, software, services, and complementary third-party equipment. And there's just one predictable payment. Cisco Capital financing is available in more than 100 countries. Learn more.