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Managed WiFi
Cisco Catalyst 2960-X Series Switches

Stackable Gigabit Ethernet Switches

Product Overview

Cisco® Catalyst® 2960-X Series Switches are fixed configuration, stackable Gigabit Ethernet switches that provide enterprise-class access for campus and branch applications.

Models & Configurations

Catalyst 2960-X switches include a single fixed power supply and are available with either the Cisco IOS LAN Base or LAN Lite feature set.

Why Lightpath?

The Lightpath 100% fiber-optic network delivers best-in-class data, voice, Internet, security, and managed services with the unmatched reliability US businesses count on. Innovative technologies for what's next – we provide solutions to unlock the limitless potential of your business.

Product Highlights

- 24 or 48 Gigabit Ethernet ports with line-rate forwarding performance

- Gigabit Small Form-Factor Pluggable (SFP) or 10G SFP+ uplinks

- FlexStack Plus for stacking of up to 8 switches with 80 Gbps of stack throughput (optional)

- Power over Ethernet Plus (PoE+) support with up to 740W of PoE budget

- 24-port PoE fanless switch for deployment outside the wiring closet

- Reduced power consumption and advanced energy management features

- USB and Ethernet management interfaces for simplified operations

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Model	10/100/1000 Ethernet Ports	Uplink Interfaces	Uplink Interfaces	Available PoE Power Capability	FlexStack-Plus Capability
2960X-48FPD-L	48	2 SFP+	LAN Base	740W	Yes
2960X-48LPD-L	48	2 SFP+	LAN Base	370W	Yes
2960X-24PD-L	24	2 SFP+	LAN Base	370W	Yes
2960X-48TD-L	48	2 SFP+	LAN Base	-	Yes
2960X-24TD-L	24	2 SFP+	LAN Base	-	Yes
2960X-48FPS-L	48	4 SFP	LAN Base	740W	Yes
2960X-48LPS-L	48	4 SFP	LAN Base	370W	Yes
2960X-24PS-L	24	4 SFP	LAN Base	370W	Yes
2960X-24PSQ-L	24 (8PoE)	2 SFP, 2 10/100/1000BT	LAN Base	110W	-
2960X-48TS-L	48	4 SFP	LAN Base	-	Yes
2960X-24TS-L	24	4 SFP	LAN Base	-	Yes
2960X-48TS-LL	48	2 SFP	LAN Lite	-	-
2960X-24TS-LL	24	2 SFP	LAN Lite	-	-

Network Security

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

- MAC-based VLAN assignment
- Comprehensive 802.1X
- IPv6 First-Hop Security
- Private VLANs
- Unicast Reverse Path Forwarding (uRPF)
- Multi-domain Authentication
- Access Control Lists (ACLs)
- Secure Shell (SSH) Protocol, Kerberos, and SimpleNetwork Management Protocol Version 3 (SNMPv3)

- Switched Port Analyzer (SPAN)
- TACACS+ and RADIUS authentication
- MAC Address Notification
- Multilevel security on console access
- Bridge protocol data unit (BPDU) Guard
- Spanning Tree Root Guard (STRG)
- IGMP filtering
- Dynamic VLAN assignment

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Redundancy & Resiliency

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

- Cross-stack EtherChannel
- Flexlink
- IEEE 802.1s/w Rapid Spanning Tree Protocol (RSTP) and Multiple Spanning Tree Protocol (MSTP)

- Per-VLAN Rapid Spanning Tree (PVRST)
- Per-VLAN Rapid Spanning Tree (PVRST)
- Cisco Hot Standby Router Protocol (HSRP)
- Switch-port auto-recovery (Error Disable)
- Power redundancy

Hardware	
Flash Memory	128 MB for LAN Base & IP Lite SKUs, 64 MB for LAN Lite SKUs
DRAM	512 MB for LAN Base and 256 MB for LAN Lite
CPU	APM86392 600MHz dual core
Console Ports	USB (Type-B), Ethernet (RJ-45)
Storage Interface	USB (Type-A) for external flash storage
Network Management Interface	10/100 Mbps Ethernet (RJ-45)

Performance & Scalability			
	2960-X LAN Lite	2960-X LAN Base	2960-XR IP Lite
Forwarding bandwidth	50 Gbps	108 Gbps	108 Gbps
Switching bandwidth (full duplex capcity)	100 Gbps	216 Gbps	216 Gbps
Maximum active VLANs	64	1023	1023
VLAN IDs available	4096	4096	4096
Maximum transmission unit (MTU)-L3 packet	9198 bytes	9198 bytes	9198 bytes
Jumbo frame - Ethernet frame	9216 bytes	9216 bytes	9216 bytes

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Connectors & 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: http://www.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, RPS, Stack link status, link duplex, PoE, and link speed

Stacking Interfaces:

Cisco Catalyst 2960-XFlexStack-Plus stacking cables:

- CAB-STK-E-0.5M FlexStack-Plus stacking cable with a 0.5m length

- CAB-STK-E-1M FlexStack-Plus stacking cable with a 1.0m length

- CAB-STK-E-3M FlexStack-Plus stacking cable with a 3.0m length

Console:

Cisco Catalyst 2960-X 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:

- The internal power supply is an auto-ranging unit and supports input voltages between 100 and 240V AC

- Use the supplied AC power cord to connect the AC power connector to an AC power outlet

- The Cisco RPS connector offers connection for an optional Cisco RPS 2300 that uses AC input and supplies DC output to the switch

- Only the Cisco RPS 2300 (model PWR-RPS2300) should be attached to the redundant-power-system receptacle

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