



Release Notes for Catalyst 2960L and Catalyst 2960L-Smart Managed Switches, Cisco IOS Release 15.2(6)E2b and Later

First Published: Dec 04, 2018

This release note describes the features and caveats for the Cisco IOS Release 15.2(6)E2b software on the Catalyst 2960L (C2960L) and Catalyst 2960L-Smart Managed (C2960L-SM) switches.

Verify that these release notes are correct for your switch:

- If you are installing a new switch, see the Cisco IOS release label on the rear panel of the switch.
- If your switch is on, use the **show version** privileged EXEC command. See the “[Upgrading the Switch Software](#)” section on page 4.
- If you are upgrading to a new release, see the software upgrade filename for the software version. See the “[Software Image](#)” section on page 4.

You can download the switch software from this site (registered Cisco.com users with a login password):

<http://www.cisco.com/download/navigator.html>

Contents

- [Introduction](#), page 2
- [Supported Hardware](#), page 2
- [Device Manager System Requirements](#), page 3
- [Upgrading the Switch Software](#), page 4
- [Limitations and Restrictions](#), page 5
- [Software Compatibility Matrix](#), page 5
- [New Software Features](#), page 5
- [Service and Support](#), page 6
- [Caveats](#), page 6



- [Related Documentation, page 7](#)

Introduction

The Catalyst 2960L and Catalyst 2960L-SM switches are Ethernet switches to which you can connect devices such as Cisco IP Phones, Cisco Wireless Access Points, workstations, and other network devices such as servers, routers, and other switches.

Supported Hardware

Switch Models

Table 1 *Catalyst 2960L Switch Models*

Switch Model	Cisco IOS Image	Description
WS-C2960L-8TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-8PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-16TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-16PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots
WS-C2960L-24TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-24PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-48TS-LL	LAN Lite	Cisco Catalyst 2960-L switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots
WS-C2960L-48PS-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots; with fan
WS-C2960L-24TQ-LL	LAN Lite	Cisco Catalyst 2960-L switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-24PQ-LL	LAN Lite	Cisco Catalyst 2960-L PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-48TQ-LL	LAN Lite	Cisco Catalyst 2960L switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots
WS-C2960L-48PQ-LL	LAN Lite	Cisco Catalyst 2960L PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots; with fan

Table 2 *Catalyst 2960L-Smart Managed Switch Models*

Switch Model	Description
WS-C2960L-SM-8TS	Cisco Catalyst 2960L Smart Managed switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-8PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 8 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-16TS	Cisco Catalyst 2960L Smart Managed switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-16PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 16 10/100/1000 Ethernet ports and 2 SFP module slots; fanless
WS-C2960L-SM-24TS	Cisco Catalyst 2960L Smart Managed switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-24PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-48TS	Cisco Catalyst 2960L Smart Managed switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots; fanless
WS-C2960L-SM-48PS	Cisco Catalyst 2960L Smart Managed PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP module slots, with fan
WS-C2960L-SM-24TQ	Cisco Catalyst 2960L Smart Managed switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-24PQ	Cisco Catalyst 2960L Smart Managed PoE+ switch with 24 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-48TQ	Cisco Catalyst 2960L Smart Managed switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots; fanless
WS-C2960L-SM-48PQ	Cisco Catalyst 2960L Smart Managed PoE+ switch with 48 10/100/1000 Ethernet ports and 4 SFP+ module slots, with fan

Optics Modules

The Catalyst 2960L and Catalyst 2960L-SM switches support a wide range of optics. Because the list of supported optics is updated on a regular basis, consult the tables at this URL for the latest SFP+ and SFP module compatibility information:

http://www.cisco.com/c/en/us/td/docs/interfaces_modules/transceiver_modules/compatibility/matrix/G_E_Tx_Matrix.html

Device Manager System Requirements

The following table lists the system requirements for a PC running Cisco Configuration Professional for Catalyst (CPC), including Web browser versions.

Table 3 System Requirements

System Component	Requirement
Operating System	Any of the following: <ul style="list-style-type: none"> Mac OS 10.9.5 Microsoft Windows Version 7
Browser	Cisco CPC can be used with the following browsers: <ul style="list-style-type: none"> Google Chrome 52 and later Mozilla Firefox 48 and later Apple Safari 9 and later Internet Explorer 11 and later
Screen Resolution	1280 X 800 pixels or higher

Upgrading the Switch Software

Finding the Software Version and Feature Set

The Cisco IOS image is stored in a directory that is named with the Cisco IOS release number. The files necessary for web management are contained in a subdirectory. The image is stored on the system board flash device (flash:).

You can use the **show version** privileged EXEC command to see the software version that is running on your switch.



Note

Although the **show version** output always shows the software image running on the switch, the model name shown at the end of this display is the factory configuration and does not change if you upgrade the software license.

You can also use the **dir filesystem:** privileged EXEC command to see the directory names of other software images that you might have stored in flash memory.

Software Image

If you have a service support contract and order a software license or if you order a switch, you receive the universal software image and a specific software license.

Table 4 Software Image for Cisco Catalyst 2960L Switches

Image	Filename	Description
Universal image	c2960l-universalk9-mz.152-6.E2b.bin	LAN Lite image.
Universal image	c2960l-universalk9-mz.152-6.E2b.tar	LAN Lite cryptographic image with Device Manager.

Table 5 *Software Image for Cisco Catalyst 2960L-Smart Managed Switches*

Image	Filename	Description
Universal image	c2960l-universalk9-mz.152-6.E2b.tar	LAN Lite cryptographic image with Device Manager.

Limitations and Restrictions

- There is limit of 384 ACEs for MAC/IPv4 and 256 ACEs for IPv6. For some scenarios, one ACE entry can lead to 2 TCAM entries. For IPv6, 512 TCAM entries are used per ASIC.
- Extension header match options for IPv6 ACLs are not supported on the switch. Also, ACLs not supported in the out direction.
- Storm control for multicast with PPS and % may not work.

Software Compatibility Matrix

ISE	CPC
2.3	1.4

New Software Features

- [Features Introduced in Cisco IOS Release 15.2\(6\)E2b for C2960L-SM Switches, page 5](#)

Features Introduced in Cisco IOS Release 15.2(6)E2b for C2960L-SM Switches

- The Monitoring dashboard gives a snapshot of the switch and its overall general health. The Dashboard view has various dashlets that show the operator important information such as CPU usage, temperature, memory utilization, and power supply status. The event log table shows information about critical system events. The dashboard is refreshed every 60 seconds.
- Ports monitoring enables users to track and monitor port parameters such as description, port status, and type. Details on a specific port in the table can be selected and highlighted by clicking on the port in the logical view at the top.
- The Clients monitoring feature provides detailed information on all the devices connected to the switch in an easy-to-understand tabular format. Known device types are pictorially represented as icons.
- Routing Information Protocol: RIP is a commonly used routing protocol in small to medium TCP/IP networks. It is supported in both IPv4 and IPv6 network environments.
- Supports Spanning Tree Protocol (STP), VLAN Trunking Protocol (VTP), and Bluetooth configuration.
- Supports Layer 2 VLAN with VLAN ID range between 2 and 4094.

- Supports authentication, authorization, and accounting (AAA) configuration using various AAA protocols such as RADIUS, TACACS, and LDAP.
- Supports 802.1X, Mac Authentication Bypass (MAB), and WebAuth access policies.
- Supports access control list (ACL) for actions such as permit and deny to different devices can be applied to multiple interfaces at once. Port-based ACLs for Layer 2 interfaces allow security policies to be applied on individual switch ports.
- Cisco EnergyWise® can be enabled or disabled globally to manage power usage. The end devices connected to the interfaces in the switch can be powered on or off using the Wake on LAN feature.
- Supports SPAN to monitor port traffic. With this feature enabled, switch sends a copy of all the packets seen on one port to another port, where the packets can be analyzed. Bidirectional data support on the SPAN port allows Cisco Intrusion Detection.
- Supports HTTPS and Simple Network Management Protocol (SNMP) v3 based access.
- Allows the user to set the time, specify a config file (import and export), and configure Dynamic Host Configuration Protocol (DHCP). System time can be configured locally, or the switch can be configured to read time from a Network Time Protocol (NTP) server.
- Link Aggregation Control Protocol (LACP) allows the creation of Ethernet channeling with devices that conform to IEEE 802.3ad.

Service and Support

Information About Caveats

If you need information about a specific caveat that does not appear in these release notes, you can use the Cisco Bug Toolkit to find caveats of any severity. Click this URL to browse to the Bug Toolkit:

<http://tools.cisco.com/Support/BugToolKit/>

If you request a defect that cannot be displayed, the defect number might not exist, the defect might not yet have a customer-visible description, or the defect might be marked Cisco Confidential.

Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website at this URL:

<http://www.cisco.com/en/US/support/index.html>

Click **Product Support** > **Switches**. Choose your product and click **Troubleshooting** to find information on the problem you are experiencing.

Caveats

- [Cisco Bug Search Tool, page 7](#)
- [Open Caveats, page 7](#)
- [Resolved Caveats, page 7](#)
- [Related Documentation, page 7](#)

Cisco Bug Search Tool

The Bug Search Tool (BST), which is the online successor to Bug Toolkit, is designed to improve the effectiveness in network risk management and device troubleshooting. The BST allows partners and customers to search for software bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. The tool has a provision to filter bugs based on credentials to provide external and internal bug views for the search input.

To view the details of a caveat listed in this document:

1. Access the BST (use your Cisco user ID and password) at <https://tools.cisco.com/bugsearch/>.
2. Enter the bug ID in the **Search For:** field.

Open Caveats

None.

Resolved Caveats

- [Caveats Resolved in Cisco IOS Release 15.2\(6\)E2b for Catalyst 2960L Switches, page 7](#)

Caveats Resolved in Cisco IOS Release 15.2(6)E2b for Catalyst 2960L Switches

Table 6 *Caveats Resolved in Cisco IOS Release 15.2(6)E2b for Catalyst 2960L Switches*

Bug ID	Headline
CSCvm13303	Peer Devices turning off while performing POE-HA

Related Documentation

- Catalyst 2960-L switch documentation at these URLs:
<http://www.cisco.com/go/2960l>
- Cisco SFP and SFP+ modules documentation, including compatibility matrices at this URL:
http://www.cisco.com/en/US/products/hw/modules/ps5455/tsd_products_support_series_home.html
- Cisco Validated Designs documents at this URL:
<http://www.cisco.com/go/designzone>

Obtain Documentation and Submit a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*.

To receive new and revised Cisco technical content directly to your desktop, you can subscribe to the [What's New in Cisco Product Documentation RSS feed](#). The RSS feeds are a free service.

This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1721R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

©2018 Cisco Systems, Inc. All rights reserved