Revised: June 2, 2025

Release Notes for Cisco Catalyst 9200 Series Switches, Cisco IOS XE 17.17.x

Document Change History

The document change history outlines the updates and modifications made to this document for a release train.

Table 1: Document Change History

Date	Release	Sections Updated
March 31, 2025	17.17.1	• What's New: Software features • Caveats: Open and Resolved Caveats • Compatibility Matrix: Compatibility information for 17.17.1 • Software Images: Software images for 17.17.1 • ROMMON Versions: ROMMON Versions for 17.17.1

Introduction

Cisco Catalyst 9200 Series Switches are entry level enterprise-class access switches that extend the power of intent-based networking and Cisco Catalyst 9000 Series Switches hardware and software innovation to a broader scale of deployments. These switches focus on offering features for the mid-market and simple branchdeployments. With its family pedigree, Cisco Catalyst 9200 Series Switches offer simplicity without compromise - it is secure, always on and provides IT simplicity.

As a foundational building block for Cisco Digital Network Architecture, this platform is built with security, mobility, cloud and IoT at its core. This gives you out of the box upgrades in security, resiliency and programmability regardless of where you are in the intent-based networking journey.

With access to Cisco's best in class security portfolio anchored trustworthy solutions, MACsec encryption and segmentation, the platform provides advanced security features that protect the integrity of the hardware as well as the software and all data that flows through the switch and the network. These switches provide enterprise-level resiliency and keep your business up and running seamlessly with field-replaceable power supplies and fans, modular uplinks, cold patching, perpetual PoE, and the industry's highest mean time between failures (MTBF). Combine the application visibility of full flexible NetFlow with telemetry and the open APIs of Cisco IOS XE and programmability of the UADP ASIC technology and these switches give you the best simple experience provisioning and managing your network now with investment protection on future innovations.

Supported Cisco Catalyst 9200 Series Switches Model Numbers

The following table lists the supported hardware models and the default license levels they are delivered with.

Switch Model	Default License Level[1]	Description	Introductory Release
C9200-24T-A	Network Advantage	Stackable 24x1G ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Gibraltar 16.10.1
C9200-24T-E	Network Essentials		Cisco IOS XE Gibraltar 16.10.1
C9200-24P-A	Network Advantage	Stackable 24x1G PoE+ ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Gibraltar 16.10.1
C9200-24P-E	Network Essentials		Cisco IOS XE Gibraltar 16.10.1
C9200-24PB-A	Network Advantage	Stackable 24x1G PoE+ ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Amsterdam 17.2.1
C9200-48T-A	Network Advantage	Stackable 48x1G ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Gibraltar 16.10.1
C9200-48T-E	Network Essentials		Cisco IOS XE Gibraltar 16.10.1
C9200-48P-A	Network Advantage	Stackable 48x1G PoE+ ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Gibraltar 16.10.1
C9200-48P-E	Network Essentials		Cisco IOS XE Gibraltar 16.10.1
C9200-48PL-A	Network Advantage	Stackable 48x1G PoE+ ports with partial PoE support; 4x1G and 4x10G network modules for uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Amsterdam 17.3.1
C9200-48PL-E	Network Essentials		Cisco IOS XE Amsterdam 17.3.1
C9200-48PB-A	Network Advantage	Stackable 48x1G PoE+ ports; 4x1G and 4x10G fixed uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Amsterdam 17.2.1
C9200-24PXG-E	Network Essentials	Stackable 8 Multigigabit Ethernet and 16x1G PoE+ ports; supports 4x10G, 2x25G and 2x40G network modules for uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Amsterdam 17.1.1
C9200-24PXG-A	Network Advantage		Cisco IOS XE Amsterdam 17.1.1
C9200-48PXG-E	Network Essentials	Stackable 8 Multigigabit Ethernet and 40x1G PoE+ ports; supports 4x10G, 2x25G and 2x40G network modules for uplink ports; 2 power supply slots; 2 field-replaceable fans; supports StackWise-160.	Cisco IOS XE Amsterdam 17.1.1
C9200-48PXG-A	Network Advantage		Cisco IOS XE Amsterdam 17.1.1

Switch Model	Default License Level[1]	Description	Introductory Release
C9200L-24P-4G-A	Network Advantage	Stackable 24x1G PoE+ ports; 4x1G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-24P-4G-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-24P-4X-A	Network Advantage	Stackable 24x1G PoE+ ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-24P-4X-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-24T-4G-A	Network Advantage	Stackable 24x1G ports; 4x1G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-24T-4G-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-24T-4X-A	Network Advantage	Stackable 24x1G ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-24T-4X-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-48P-4G-A	Network Advantage	Stackable 48x1G PoE+ ports; 4x1G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-48P-4G-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-48P-4X-A	Network Advantage	Stackable 48x1G PoE+ ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-48P-4X-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-48PL-4G-A	Network Advantage	Stackable 48x1G PoE+ ports with partial PoE support; 4x1G SFP fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Amsterdam 17.3.1
C9200L-48PL-4G-E	Network Essentials		Cisco IOS XE Amsterdam 17.3.1
C9200L-48PL-4X-A	Network Advantage	Stackable 48x1G PoE+ ports with partial PoE support; 4x10G SFP fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Amsterdam 17.3.1
C9200L-48PL-4X-E	Network Essentials		Cisco IOS XE Amsterdam 17.3.1
C9200L-48T-4G-A	Network Advantage	Stackable 48x1G ports; 4x1G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-48T-4G-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-48T-4X-A	Network Advantage	Stackable 48x1G ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Fuji 16.9.1
C9200L-48T-4X-E	Network Essentials		Cisco IOS XE Fuji 16.9.1
C9200L-24PXG-4X-A	Network Advantage	Stackable 8xMultigigabit Ethernet PoE+ ports and 16x1G PoE+ ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Gibraltar 16.11.1
C9200L-24PXG-4X-E	Network Essentials		Cisco IOS XE Gibraltar 16.11.1
C9200L-24PXG-2Y-A	Network Advantage	Stackable 8xMultigigabit Ethernet PoE+ ports and 16x1G PoE+ ports; 2x25G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Gibraltar 16.11.1
C9200L-24PXG-2Y-E	Network Essentials		Cisco IOS XE Gibraltar 16.11.1

Switch Model	Default License Level[1]	Description	Introductory Release
C9200L-48PXG-4X-A	Network Advantage	Stackable 12xMultigigabit Ethernet PoE+ ports and 36x1G PoE+ ports; 4x10G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Gibraltar 16.11.1
C9200L-48PXG-4X-E	Network Essentials		Cisco IOS XE Gibraltar 16.11.1
C9200L-48PXG-2Y-A	Network Advantage	Stackable 8xMultigigabit Ethernet PoE+ ports and 40x1G PoE+ ports; 2x25G fixed uplink ports; 2 power supply slots; 2 fixed fans; supports StackWise-80.	Cisco IOS XE Gibraltar 16.11.1
C9200L-48PXG-2Y-E	Network Essentials		Cisco IOS XE Gibraltar 16.11.1
C9200CX-8P-2X2G-A	Network Advantage	8x1G PoE+ ports; 2x1G and 2x10G SFP+ fixed uplink ports; powered using 315W internal power supply unit; fanless.	Cisco IOS XE Cupertino 17.9.1
C9200CX-8P-2X2G-E	Network Essentials		Cisco IOS XE Cupertino 17.9.1
C9200CX-12P-2X2G-A	Network Advantage	12x1G PoE+ ports; 2x1G and 2x10G SFP+ fixed uplink ports; powered using 315W internal power supply unit; fanless.	Cisco IOS XE Cupertino 17.9.1
C9200CX-12P-2X2G-E	Network Essentials		Cisco IOS XE Cupertino 17.9.1
C9200CX-12T-2X2G-A	Network Advantage	12x1G Ethernet ports; 2x1G copper uplink ports, 1x1G copper uplink PD port, and 2x10G SFP+ fixed uplink ports; powered either from the copper uplink PD port or using an auxiliary 80W power adapter; fanless	Cisco IOS XE Cupertino 17.9.1
C9200CX-12T-2X2G-E	Network Essentials		Cisco IOS XE Cupertino 17.9.1
C9200CX-12P-2XGH-A	Network Advantage	12x1G PoE+ ports; 2x10G SFP+ and 2x1G Copper fixed uplink ports; powered using 315W HVDC/AC internal power supply unit; fanless.	Cisco IOS XE Cupertino 17.9.4
C9200CX-12P-2XGH-E	Network Essentials		Cisco IOS XE Cupertino 17.9.4
C9200CX-8P-2XGH-A	Network Advantage	8x1G PoE+ ports; 2x10G SFP+ and 2x1G Copper fixed uplink ports; powered using 315W HVDC/AC internal power supply unit; fanless.	Cisco IOS XE Dublin 17.10.1
C9200CX-8P-2XGH-E	Network Essentials		Cisco IOS XE Dublin 17.10.1
C9200CX-8UXG-2X-A	Network Advantage	8 ports UPOE (with 4x1G and 4xmGig ports with speed up to 10G), 2x 10G SFP+ fixed uplinks, powered using 315W internal power supply unit; fanless	Cisco IOS XE Cupertino 17.9.4
C9200CX-8UXG-2X-E	Network Essentials		Cisco IOS XE Cupertino 17.9.4
C9200CX-8UXG-2XH-A	Network Advantage	8 ports UPOE (with 4x1G and 4xmGig ports with speed up to 10G), 2x 10G SFP+ fixed uplinks, powered using 315W HVDC/AC internal power supply unit; fanless.	Cisco IOS XE Cupertino 17.9.4
C9200CX-8UXG-2XH-E	Network Essentials		Cisco IOS XE Cupertino 17.9.4

[1] See Table: Table 1, for information about the add-on licenses that you can order.

Supported Network Modules

The following table lists the optional uplink network modules with 1-GigabitEthernet and 10-GigabitEthernet slots. You should only operate the switch with either a network module or a blank module installed.

Network Module	Description	Introductory Release
C9200-NM-4G [1]	Four 1-GigabitEthernet SFP module slots	Cisco IOS XE Gibraltar 16.10.1
C9200-NM-4X [1]	Four 10-GigabitEthernet SFP+ module slots	Cisco IOS XE Gibraltar 16.10.1
C9200-NM-2Y[2]	Two 25-GigabitEthernet SFP28 module slots	Cisco IOS XE Amsterdam 17.1.1
C9200-NM-2Q[2]	Two 40-GigabitEthernet slots with a QSFP+ connector in each slot	Cisco IOS XE Amsterdam 17.1.1

Note

These network modules are supported only on the C9200 SKUs of the Cisco Catalyst 9200 Series Switches.

Supported Optics Modules

Cisco Catalyst Series Switches support a wide range of optics and the list of supported optics is updated on a regular basis. Use the Transceiver Module Group (TMG) Compatibility Matrix tool, or consult the tables at this URL for the latest transceiver module compatibility information: https://www.cisco.com/en/US/products/hw/modules/ps5455/products_device_support_tables_list.html

What's New in Cisco IOS XE 17.17.x

Hardware Features in Cisco IOS XE 17.17.1

There are no new hardware features in this release.

Software Features in Cisco IOS XE 17.17.1

Feature Name	Description
CTS Role-Based Enforcement	This feature enhances Cisco TrustSec by enabling Security Group Access Control Lists (SGACLs) enforcement at the port-channel level. It optimizes remote configurations by reducing multi-transaction challenges, applying settings to all associated physical interfaces in a single transaction.
Programmability: • On-change Support for Location-Aware Models • YANG Data Models	The following programmability features are introduced in this release: • On-change subscriptions are supported for location-aware models. • YANG Data Models: For the list of Cisco IOS XE YANG models available with this release, navigate to: https://github.com/YangModels/yang/tree/main/vendor/cisco/xe/17171. (Network Essentials and Network Advantage)

Feature Name	Description
Strict-KEX	Strict-KEX is a protocol extension that strengthens security by ensuring that unexpected or out-of-sequence packets result in immediate connection termination and by resetting sequence numbers after key exchanges.
Support sensitive CLIs with CRUD on Meraki	This feature introduces a new SNMPv3 user configuration model via NETCONF, supporting AES, DES, and DES3 encryption with types 0, 6, and 7. It enables secure CRUD operations while preventing plaintext exposure in running-config and get-config.

New on the WebUI
There are no new WebUI features in this release.

Hardware and Software Behavior Changes in Cisco IOS XE 17.17.1

Behavior Change	Description
ecomode Command Replaced	The **hw-module switch ecomode** command has been renamed to **hw-module switch auto-off**, and the **ecomode** command under the stack power configuration mode has been replaced with **auto-off**.

Caveats

Caveats describe unexpected behavior in Cisco IOS-XE releases. Caveats listed as open in a prior release are carried forward to the next release as either open or resolved.

Open Caveats in Cisco IOS XE 17.17.x

There are no open caveats in this release.

Resolved Caveats in Cisco IOS XE 17.17.1

There are no resolved caveats in this release.

Feature Support

This section lists the supported and unsupported features.

All Supported Features

For the complete list of features supported on a platform, see the Cisco Feature Navigator.

Differences in Feature Support Between Switch Models

For the most part, the list of supported software features is common across Cisco Catalyst 9200 and 9200CX Series Switches. However, the differences in the hardware and software capabilities between these variants, means that there are exceptions to this. The following sections list these exceptions, that is, when a feature is introduced, but not supported on all PIDs.

For the list of PIDs under the Cisco Catalyst 9200 and 9200CX Series Switches, see Supported Cisco Catalyst 9200 Series Switches Model Numbers, on page 1.

Table 2: Cisco TrustSec

Feature	Not Supported On These Variants
Cisco TrustSec Network Device Admission Control (NDAC) on Uplinks	All

Table 3: High Availability

Feature	Not Supported On These Variants
Cisco StackWise Virtual	All
Non Stop Forwarding (NSF)	All
Stacking on 9200CX SKUs	All

Table 4: IP Addressing Services

Feature	Not Supported On These Variants
Gateway Load Balancing Protocol (GLBP)	All
Web Cache Communication Protocol (WCCP)	All

Table 5: Layer 2

Feature	Not Supported On These Variants
Audio Video Bridging (including IEEE802.1AS, IEEE 802.1Qat, and IEEE 802.1Qav)	All

Table 6: Multiprotocol Label Switching

Feature	Not Supported On These Variants
Border Gateway Protocol (BGP) on the Cisco Catalyst 9200 Series Switches and Cisco Catalyst 9200L Series Switches	All
Multiprotocol Label Switching (MPLS)	All

Table 7: Programmability

Feature	Not Supported On These Variants
Programmability (Cisco Plug-in for OpenFlow 1.3, Third-Party Application Hosting)	All

Table 8: Security

Feature	Not Supported On These Variants
IPsec VPN	All
MACsec Encryption: • MACsec configuration on EtherChannel • 256-bit AES MACsec (IEEE 802.1AE) host link encryption with MACsec Key Agreement (MKA) • MACsec switch-to-host connections in an overlay network.	All
Virtual Routing and Forwarding (VRF)-Aware web authentication	All

Table 9: System Management

Feature	Not Supported On These Variants
Hot patching (for SMUs)	All
Performance Monitoring (PerfMon)	All

Table 10: VLAN

Feature	Not Supported On These Variants
Private VLAN (PVLAN) on Trunks and Portchannels	All

Limitations and Restrictions

- Control Plane Policing (CoPP): The **show running-config** command does not display information about classes configured under `system-cpp policy`, when they are left at default values. Use the **show policy-map system-cpp-policy** or the **show policy-map control-plane** commands in privileged EXEC mode instead.
- Hardware limitations
  - Management Port: You cannot modify the configured port speed, duplex mode and flow control and disable auto-negotiation on the Ethernet Management port (GigabitEthernet0/0). Port speed and duplex mode can only be changed from a peer port.
  - Network Module: When the C9200-NM-4X network module is plugged into the C9200 SKUs of the Cisco Catalyst 9200 Series Switches, the uplink interface remains in down state until the network module is recognized by the switch. The time

taken for the switch to recognize the network module is longer in comparison to the time taken by the switch to recognize other interconnected devices.

- If the 1-meter and 1.5-meter 10-GBase-CX1 cables, which are connected on the 10-G ports of the Catalyst 9200L switches, are connected to the 10-G peer ports of the Catalyst 9200L or Catalyst 9200 switches, the peer device might go into the error-disabled state because of link flapping if the local device is restarted. As a workaround, run the **shut** and **no shut** commands on the error-disabled peer interfaces.
- Some DWDM 10G SFPs may take slightly longer (up to 2 seconds) to link up on some variants of the Catalyst 9200 Series Switches. Before the link is up, you may expect to see SymbolErr frames in the output of the **show controller ethernet** command. Once the link is up, SymbolErr frames count stops increasing.

- QoS restrictions
  - When configuring QoS queuing policy, the sum of the queuing buffer should not exceed 100%.
  - Policing and marking policy on sub interfaces is supported.
  - Marking policy on switched virtual interfaces (SVI) is supported.
  - QoS policies are not supported for port-channel interfaces, tunnel interfaces, and other logical interfaces.

- Secure Shell (SSH)
  - Use SSH Version 2. SSH Version 1 is not supported.
  - When the device is running SCP and SSH cryptographic operations, expect high CPU until the SCP read process is completed. SCP supports file transfers between hosts on a network and uses SSH for the transfer.

    Since SCP and SSH operations are currently not supported on the hardware crypto engine, running encryption and decryption process in software causes high CPU. The SCP and SSH processes can show as much as 40 or 50 percent CPU usage, but they do not cause the device to shutdown.

- Smart Licensing Using Policy: Starting with Cisco IOS XE Amsterdam 17.3.2a, with the introduction of Smart Licensing Using Policy, even if you configure a hostname for a product instance or device, only the Unique Device Identifier (UDI) is displayed. This change in the display can be observed in all licensing utilities and user interfaces where the hostname was displayed in earlier releases. It does not affect any licensing functionality. There is no workaround for this limitation.

  The licensing utilities and user interfaces that are affected by this limitation include only the following: Cisco Smart Software Manager (CSSM), Cisco Smart License Utility (CSLU), and Smart Software Manager On-Prem (SSM On-Prem).

  This limitation is removed from Cisco IOS XE Cupertino 17.9.1. If you configure a hostname and disable hostname privacy (**no license smart privacy hostname** global configuration command), hostname information is sent from the product instance and displayed on the applicable user interfaces (CSSM, CSLU, SSM On-Prem). For more information, see the command reference for this release.

- Stacking
  - Stacking is supported on Cisco Catalyst 9200 Series Switches. A switch stack supports up to eight stack members. However, you cannot stack C9200 SKUs with C9200L SKUs

    The supported stacking bandwidth on C9200L SKUs is up to 80Gbps; on C9200 SKUs, this is up to 160Gbps.
  - The C9200-24PB and C9200-48PB switch models can be stacked only with each other and not with other models of the Cisco Catalyst 9200 Series Switches.
  - Auto upgrade for a new member switch is supported only in the install mode.

- TACACS legacy command: Do not configure the legacy **tacacs-server host** command; this command is deprecated. If the software version running on your device is Cisco IOS XE Gibraltar 16.12.2 or a later release, using the legacy command can cause authentication failures. Use the **tacacs server** command in global configuration mode.
- USB Authentication: When you connect a Cisco USB drive to the switch, the switch tries to authenticate the drive against an existing encrypted preshared key. Since the USB drive does not send a key for authentication, the following message is displayed on the console when you enter **password encryption aes** command:

  ```
  Device(config)# password encryption aes
  Master key change notification called without new or old key
  ```

- Catatyst 9000 Series Switches support MACsec switch-to-switch connections. We do not recommend configuring MACsec switch-to-host connections in an overlay network. For assistance with an existing switch-to-host MACsec implementation or a design review, contact your Cisco Sales Representative or Channel Partner.
- VLAN Restriction: It is advisable to have well-defined segregation while defining data and voice domain during switch configuration and to maintain a data VLAN different from voice VLAN across the switch stack. If the same VLAN is configured for data and voice domains on an interface, the resulting high CPU utilization might affect the device.
- YANG data modeling limitation: A maximum of 20 simultaneous NETCONF sessions are supported.
- Embedded Event Manager: Identity event detector is not supported on Embedded Event Manager.
- Upgrading the software image from Cisco IOS XE Gibraltar 16.12.x to any of the later releases can result in a persistent database operation failure and after which the persistent database cannot be restored.

  To avoid the persistent database operation failure, use the **dir bootflash:.dbpersist** command to list all DB persist files and then use **delete bootflash:/.dbpersist/folder_name/file_name** and **bootflash:/.dbpersist/folder_name/file_name.meta** commands to delete individual database and meta files from each persistent database folder.
- The File System Check (fsck) utility is not supported.
- The DiagMemoryTest GOLD test is not supported on the Catalyst 9200 Series Switches.
- On Cisco Catalyst 9200CX Series Switches, zero touch provisioning and guest shell are supported but connecting to an external network from a guest shell does not work, as Management, AppGigabitEthernet, and VirtualPortGroup interfaces are not supported.
- The command **service-routing mdns-sd** is being deprecated. Use the **mdns-sd gateway** command instead.
- Switch Web UI allows configuration of data VLANs only and not voice VLANs. If you remove a voice VLAN configured to an interface using the Web UI, then all data VLANs associated with the interface are also removed by default.
- IPv6 underlay is not supported.

Licensing

For information about licenses required for the features available on Cisco Catalyst 9000 Series Switches, see Configuring Licenses on Cisco Catalyst 9000 Series Switches.

All licensing information relating to Cisco Catalyst 9000 Series Switches are available on this collection page: Cisco Catalyst 9000 Switching Family Licensing.

Available Licensing Models and Configuration Information

- Cisco IOS XE Fuji 16.9.2 to Cisco IOS XE Amsterdam 17.3.1: Smart Licensing is the default and the only supported method to manage licenses.
- Cisco IOS XE Amsterdam 17.3.2a and later: Smart Licensing Using Policy, which is an enhanced version of Smart Licensing, is the default and the only supported method to manage licenses.

Compatibility Matrix

To view the software compatibility information between Cisco Catalyst 9200 Series Switches, Cisco Identity Services Engine, and Cisco Prime Infrastructure, go to Cisco Catalyst 9000 Series Switches Software Version Compatibility Matrix.

Switch Software Version Information

This section provides information about software, images, and ROMMON, and Field-Programmable Gate Array (FGPA) versions.

Finding the Software Version

The package files for the Cisco IOS XE software are 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.

Finding the Software Images

Release	Image Type	File Name
Cisco IOS XE 17.17.1	CAT9K_LITE_IOSXE	cat9k_lite_iosxe.17.17.01.SPA.bin

To download software images, visit the software downloads page: Cisco Catalyst 9200 Series Switches.

ROMMON Versions

The following table provides boot loader version information for the Cisco Catalyst 9200 Series Switches.

Release	ROMMON Version
17.17.1	17.15.1r [FC1]
17.16.1	17.15.1r [FC1]
17.15.3	17.15.1r [FC1]

Release	ROMMON Version
17.15.2	17.15.1r [FC1]
17.15.1	17.15.1r [FC1]
17.14.1	17.12.1r [FC3]
17.13.1	17.12.1r [FC3]
Dublin 17.12.4	17.12.1r [FC3]
Dublin 17.12.3	17.12.1r [FC3]
Dublin 17.12.2	17.12.1r [FC3]
Dublin 17.12.1	17.12.1r [FC2]
Dublin 17.11.1	17.9.1r [FC11]
Dublin 17.10.1	17.9.1r [FC8]
Cupertino 17.9.5	17.9.1r [FC13]
Cupertino 17.9.4	17.9.1r [FC13]
Cupertino 17.9.3	17.9.1r [FC11]
Cupertino 17.9.2	17.9.1r [FC8]
Cupertino 17.9.1	17.9.1r [FC8]
Cupertino 17.8.1	17.8.1r [FC5]
Cupertino 17.7.1	17.6.1r [FC1]
Bengaluru 17.6.7	17.9.1r [FC8]
Bengaluru 17.6.6a	17.9.1r [FC8]
Bengaluru 17.6.6	17.9.1r [FC8]
Bengaluru 17.6.5	17.9.1r [FC8]
Bengaluru 17.6.4	17.9.1r [FC8]
Bengaluru 17.6.3	17.8.1r [FC5]
Bengaluru 17.6.2	17.6.1r [FC1]
Bengaluru 17.6.1	17.6.1r [FC1]
Bengaluru 17.5.1	17.5.1r [FC4]
Bengaluru 17.4.1	17.4.1r [FC3]
Amsterdam 17.3.8a	17.9.1r [FC8]

Release	ROMMON Version
Amsterdam 17.3.8	17.9.1r [FC8]
Amsterdam 17.3.7	17.9.1r [FC8]
Amsterdam 17.3.6	17.9.1r [FC8]
Amsterdam 17.3.5	17.5.1r [FC4]
Amsterdam 17.3.4	17.5.1r [FC4]
Amsterdam 17.3.3	17.5.1r [FC4]
Amsterdam 17.3.2a	17.3.1r [FC4]
Amsterdam 17.3.1	17.3.1r [FC3]
Amsterdam 17.2.1	17.2.1r [FC2]
Amsterdam 17.1.1	17.1.1 [FC3]

Upgrading and Downgrading the Switch Software

This section covers the various aspects of upgrading or downgrading the device software.

Note

You cannot use the Web UI to install, upgrade, or downgrade device software.

Upgrading in Install Mode

Follow these instructions to upgrade from one release to another, in install mode. To perform a software image upgrade, you must be booted into IOS through **boot flash:packages.conf**.

Note that you can use this procedure for the following upgrade scenarios:

When upgrading from ...	To...
Cisco IOS XE 17.16.x or earlier releases	Cisco IOS XE 17.17.x

This procedure shows the steps to upgrade the Cisco IOS XE software on a switch, from Cisco IOS XE 17.16.1 to Cisco IOS XE 17.17.1 using **install** commands, followed by sample output.

Step 1 Clean-up

install remove inactive

Use this command to clean-up old installation files in case of insufficient space and to ensure that you have at least 1GB of space in flash, to expand a new image.

Step 2 Copy new image to flash

a) **copy tftp:***[[//location]/directory]/filename* **flash:**

Use this command to copy the new image from a TFTP server to flash memory. The location is either an IP address or a host name. The filename is specified relative to the directory used for file transfers. Skip this step if you want to use the new image from a TFTP server.

b) **dir flash:**

Use this command to confirm that the image has been successfully copied to flash.

Step 3 Set boot variable

a) **boot system flash:packages.conf**

Use this command to set the boot variable to **flash:packages.conf**.

b) **no boot manual**

Use this command to configure the switch to auto-boot.

c) **write memory**

Use this command to save boot settings.

d) **show boot**

Use this command to verify the boot variable (packages.conf) and manual boot setting (no):

Step 4 Install image to flash

install add file activate commit

Use this command to install the image.

We recommend that you point to the source image on your TFTP server or the flash drive of the switch, if you have copied the image to flash memory.

Note The system reloads automatically after executing the **install add file activate commit command**. You do not have to manually reload the system.

Step 5 Verify installation

After the software has been successfully installed, use this command to verify that the flash partition has four new `.pkg` files and two `.conf` files.

a) **dir flash:*.pkg**

b) **dir flash:*.conf**

Step 6 Verify version

show version

After the image boots up, use this command to verify the version of the new image.

Example

The following sample output displays the cleaning up of unused files, by using the **install remove inactive** command:

```
Switch# install remove inactive

install_remove: START Mon Mar 31 17:46:18 IST 2025
Cleaning up unnecessary package files
No path specified, will use booted path flash:packages.conf
```

```
Cleaning flash:
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
    cat9k_lite-rpbase.17.16.01.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-rpboot.17.16.01.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-srdriver.17.16.01.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-webui.17.16.01.SPA.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.

The following files will be deleted:
[switch 1]:
/flash/cat9k_lite_iosxe.17.16.01.SPA.bin
```

Do you want to remove the above files? [y/n]y

```
[switch 1]:
Deleting file flash:cat9k_lite_iosxe.17.16.01.SPA.bin ... done.
SUCCESS: Files deleted.
--- Starting Post_Remove_Cleanup ---
Performing Post_Remove_Cleanup on all members
  [1] Post_Remove_Cleanup package(s) on switch 1
  [1] Finished Post_Remove_Cleanup on switch 1
Checking status of Post_Remove_Cleanup on [1]
Post_Remove_Cleanup: Passed on [1]
Finished Post_Remove_Cleanup
SUCCESS: install_remove  Mon Mar 31 17:47:20 IST 2025
Switch#
```

Switch# **copy tftp://10.8.0.6/image/cat9k_lite_iosxe.17.16.01.SPA.bin flash:**

```
Destination filename [cat9k_lite_iosxe.17.16.01.SPA.bin]?
Accessing tftp://10.8.0.6//cat9k_lite_iosxe.17.16.01.SPA.bin...
Loading /cat9k_lite_iosxe.17.16.01.SPA.bin from 10.8.0.6 (via GigabitEthernet0/0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 601216545 bytes]

601216545 bytes copied in 50.649 secs (11870255 bytes/sec)
```

Switch# **dir flash:*.bin**

```
Directory of flash:/*.bin

Directory of flash:/

434184 -rw- 601216545 Mar 31 2025 10:18:11 -07:00 cat9k_lite_iosxe.17.16.01.SPA.bin
11353194496 bytes total (8976625664 bytes free)
```

Switch(config)# **boot system flash:packages.conf**

Switch(config)# **no boot manual**
Switch(config)# **exit**

Switch# **write memory**

Switch# **show boot**

```
---------------------------
Switch 3
```

```
---------------------------
Current Boot Variables:
BOOT variable = flash:packages.conf;

Boot Variables on next reload:
BOOT variable = flash:packages.conf;
Manual Boot = no
Enable Break = yes
Boot Mode = DEVICE
iPXE Timeout = 0
```

The following sample output displays installation of the Cisco IOS XE 17.17.1 software image in the flash memory:

```
Switch# install add file flash:cat9k_lite_iosxe.17.17.01.SPA.bin activate commit
install_add_activate_commit: START Mon Mar 31 12:51:55 IST 2025
Mar 31 12:51:57.795: %INSTALL-5-INSTALL_START_INFO: R0/0: install_engine: Started install one-shot
flash:cat9k_lite_iosxe.17.17.01.SPA.bin
install_add_activate_commit: Adding PACKAGE
install_add_activate_commit: Checking whether new add is allowed ....

--- Starting initial file syncing ---
Info: Finished copying flash:cat9k_lite_iosxe.17.17.01.SPA.bin to the selected switch(es)
Finished initial file syncing

--- Starting Add ---
Performing Add on all members
  [1] Add package(s) on switch 1
  [1] Finished Add on switch 1
Checking status of Add on [1]
Add: Passed on [1]
Finished Add

Image added. Version: 17.17.01.0.276
install_add_activate_commit: Activating PACKAGE

gzip: initramfs.cpio.gz: decompression OK, trailing garbage ignored
Following packages shall be activated:
/flash/cat9k_lite-webui.17.17.01.SPA.pkg
/flash/cat9k_lite-srdriver.17.17.01.SPA.pkg
/flash/cat9k_lite-rpboot.17.17.01.SPA.pkg
/flash/cat9k_lite-rpbase.17.17.01.SPA.pkg

This operation may require a reload of the system. Do you want to proceed? [y/n]y

--- Starting Activate ---
Performing Activate on all members
Mar 31 13:03:24.337: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer: Install auto abort
timer will expire in 7200 seconds
  [1] Activate package(s) on switch 1
    --- Starting list of software package changes ---
    Old files list:
      Removed cat9k_lite-rpbase.17.16.01.SPA.pkg
      Removed cat9k_lite-rpboot.17.16.01.SPA.pkg
      Removed cat9k_lite-srdriver.17.16.01.SPA.pkg
      Removed cat9k_lite-webui.17.16.01.SPA.pkg
    New files list:
      Added cat9k_lite-rpbase.17.17.01.SPA.pkg
      Added cat9k_lite-rpboot.17.17.01.SPA.pkg
      Added cat9k_lite-srdriver.17.17.01.SPA.pkg
      Added cat9k_lite-webui.17.17.01.SPA.pkg
    Finished list of software package changes
  [1] Finished Activate on switch 1
Checking status of Activate on [1]
Activate: Passed on [1]
Finished Activate
```

```
*Mar 31 13:03:24.298 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: Switch 1 R0/0: rollback_timer: Install
 auto abort timer will expire in 7200 seconds--- Starting Commit ---
Performing Commit on all members
  [1] Commit package(s) on switch 1
  [1] Finished Commit on switch 1
Checking status of Commit on [1]
Commit: Passed on [1]
Finished Commit

Install will reload the system now!
SUCCESS: install_add_activate_commit  Mon Mar 31 13:04:23 IST 2025
Mar 31 13:04:24.586: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_engine: Completed install one-shot PACKAGE
 flash:cat9k_lite_iosxe.17.16.01.SPA.bin
```

The following is sample output of the **dir flash:*.pkg** command:

```
Switch# dir flash:*.pkg

Directory of flash:/*.pkg
Directory of flash:/
48582  -rw- 298787860  Nov 25 2024 05:13:32 +00:00  cat9k_lite-rpbase.17.16.01.SPA.pkg
48585  -rw- 35713901   Nov 25 2024 05:14:12 +00:00  cat9k_lite-rpboot.17.16.01.SPA.pkg
48583  -rw- 4252692    Nov 25 2024 05:13:33 +00:00  cat9k_lite-srdriver.17.16.01.SPA.pkg
48584  -rw- 8119312    Nov 25 2024 05:13:34 +00:00  cat9k_lite-webui.17.16.01.SPA.pkg

16640  -rw- 301188116   Mar 31 2025 05:33:25 +00:00  cat9k_lite-rpbase.17.17.01.SPA.pkg
16647  -rw- 35112025    Mar 31 2025 05:34:06 +00:00  cat9k_lite-rpboot.17.17.01.SPA.pkg
16642  -rw- 4326420     Mar 31 2025 05:33:25 +00:00  cat9k_lite-srdriver.17.17.01.SPA.pkg
16643  -rw- 8328208     Mar 31 2025 05:33:25 +00:00  cat9k_lite-webui.17.17.01.SPA.pkg
```

The following is sample output of the **dir flash:*.conf** command. It displays the .conf files in the flash partition; note the two .conf files:

- `packages.conf`—the file that has been re-written with the newly installed .pkg files
- `cat9k_lite_iosxe.17.17.01.SPA.conf`— a backup copy of the newly installed packages.conf file

```
Switch# dir flash:*.conf

Directory of flash:/*.conf
Directory of flash:/

16631 -rw- 4882  Mar 31 2025 05:39:42 +00:00  packages.conf
16634 -rw- 4882  Mar 31 2025 05:34:06 +00:00  cat9k_lite_iosxe.17.17.01.SPA.conf
```

The following sample output of the **show version** command displays the Cisco IOS XE 17.17.1 image on the device:

```
Switch# show version

Cisco IOS XE Software, Version 17.17.01
Cisco IOS Software, Catalyst L3 Switch Software (CAT9K_LITE_IOSXE), Version 17.17.1, RELEASE SOFTWARE (fc1)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
Compiled Mon 25-Mar-23 19:57 by mcpre
<output truncated>
```

Downgrading in Install Mode

Follow these instructions to downgrade from one release to another, in install mode. To perform a software image downgrade, you must be booted into IOS through **boot flash:packages.conf**.

Note that you can use this procedure for the following downgrade scenarios:

When downgrading from ...	To ...
Cisco IOS XE 17.17.x	Cisco IOS XE 17.16.x or earlier releases.

Note

New switch models that are introduced in a release cannot be downgraded. The release in which a switch model is introduced is the minimum software version for that model.

This procedure shows the steps to downgrade the Cisco IOS XE software on a switch, from Cisco IOS XE 17.17.1 to Cisco IOS XE 17.16.1 using **install** commands, followed by sample output.

Step 1 Clean-up

install remove inactive

Use this command to clean-up old installation files in case of insufficient space and to ensure that you have at least 1GB of space in flash, to expand a new image.

Step 2 Copy new image to flash

a) **copy tftp:***[[//location]/directory]/filename* **flash:**

Use this command to copy the new image from a TFTP server to flash memory. The location is either an IP address or a host name. The filename is specified relative to the directory used for file transfers. Skip this step if you want to use the new image from a TFTP server.

b) **dir flash:**

Use this command to confirm that the image has been successfully copied to flash.

Step 3 Set boot variable

a) **boot system flash:packages.conf**

Use this command to set the boot variable to **flash:packages.conf**.

b) **no boot manual**

Use this command to configure the switch to auto-boot.

c) **write memory**

Use this command to save boot settings.

d) **show boot**

Use this command to verify the boot variable (packages.conf) and manual boot setting (no):

Step 4 Downgrade software image

install add file activate commit

Use this command to install the image.

We recommend that you point to the source image on your TFTP server or the flash drive of the switch, if you have copied the image to flash memory.

Note The system reloads automatically after executing the **install add file activate commit** command. You do not have to manually reload the system.

Step 5 Verify version

show version

After the image boots up, use this command to verify the version of the new image.

Note When you downgrade the software image, the bootloader version does not downgrade. It remains updated.

Example

The following sample output displays the cleaning up of unused files, by using the **install remove inactive** command:

```
Switch# install remove inactive

install_remove: START Mon Mar 31 17:46:18 IST 2025
Cleaning up unnecessary package files
No path specified, will use booted path flash:packages.conf
Cleaning flash:
  Scanning boot directory for packages ... done.
  Preparing packages list to delete ...
    cat9k_lite-rpbase.17.17.01.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-rpboot.17.17.1.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-srdriver.17.17.1.SPA.pkg
      File is in use, will not delete.
    cat9k_lite-webui.17.17.1.SPA.pkg
      File is in use, will not delete.
    packages.conf
      File is in use, will not delete.
  done.

The following files will be deleted:
[switch 1]:
/flash/cat9k_lite_iosxe.17.17.1.SPA.bin

Do you want to remove the above files? [y/n]y
[switch 1]:
Deleting file flash:cat9k_lite_iosxe.17.17.1.SPA.bin ... done.
SUCCESS: Files deleted.
--- Starting Post_Remove_Cleanup ---
Performing Post_Remove_Cleanup on all members
  [1] Post_Remove_Cleanup package(s) on switch 1
  [1] Finished Post_Remove_Cleanup on switch 1
Checking status of Post_Remove_Cleanup on [1]
Post_Remove_Cleanup: Passed on [1]
Finished Post_Remove_Cleanup

SUCCESS: install_remove  Mon Mar 31 17:47:20 IST 2025
Switch#
```

```
Switch# copy tftp://10.8.0.6/image/cat9k_lite_iosxe.17.16.1.SPA.bin flash:

Destination filename [cat9k_lite_iosxe.17.16.1.SPA.bin]?
Accessing tftp://10.8.0.6//cat9k_lite_iosxe.17.16.1.SPA.bin...
Loading /cat9k_lite_iosxe.17.16.1.SPA.bin from 10.8.0.6 (via GigabitEthernet0/0):
```

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 508584771 bytes]
508584771 bytes copied in 101.005 secs (5035244 bytes/sec)


Switch# dir flash:*.bin

Directory of flash:/*.bin

Directory of flash:/

434184 -rw- 508584771 Mon Mar 31 2025 13:35:16 -07:00 cat9k_lite_iosxe.17.16.1.SPA.bin
11353194496 bytes total (9055866880 bytes free)


Switch(config)# boot system flash:packages.conf

Switch(config)# no boot manual
Switch(config)# exit

Switch# write memory

Switch# show boot

---------------------------
Switch 3
---------------------------
Current Boot Variables:
BOOT variable = flash:packages.conf;

Boot Variables on next reload:
BOOT variable = flash:packages.conf;
Manual Boot = no
Enable Break = yes
Boot Mode = DEVICE
iPXE Timeout = 0
```

The following example displays the installation of the Cisco IOS XE 17.16.1 software image to flash, by using the **install add file activate commit** command.

```
Switch# install add file flash:cat9k_lite_iosxe.17.16.01.SPA.bin activate commit activate commit

install_add_activate_commit: START Mon Mar 31 13:17:28 IST 2025
install_add_activate_commit: Adding PACKAGE
install_add_activate_commit: Checking whether new add is allowed ....

--- Starting initial file syncing ---
Info: Finished copying flash:cat9k_lite_iosxe.17.16.01.SPA.bin to the selected switch(es)
Finished initial file syncing

--- Starting Add ---
Performing Add on all members
  [1] Add package(s) on switch 1
  [1] Finished Add on switch 1
Checking status of Add on [1]
Add: Passed on [1]
Finished Add

Image added. Version: 17.16.01.0.203
install_add_activate_commit: Activating PACKAGE

gzip: initramfs.cpio.gz: decompression OK, trailing garbage ignored
Following packages shall be activated:
/flash/cat9k_lite-webui.17.16.01.SPA.pkg
/flash/cat9k_lite-srdriver.17.16.01.SPA.pkg
/flash/cat9k_lite-rpboot.17.16.01.SPA.pkg
```

```
/flash/cat9k_lite-rpbase.17.16.01.SPA.pkg

This operation may require a reload of the system. Do you want to proceed? [y/n]y
--- Starting Activate ---
Performing Activate on all members
Mar 31 13:29:31.133: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: R0/0: rollback_timer: Install auto abort
timer will expire in 7200 seconds

*Mar 31 13:29:31.093 IST: %INSTALL-5-INSTALL_AUTO_ABORT_TIMER_PROGRESS: Switch 1 R0/0: rollback_timer: Install
 auto abort timer will expire in 7200 seconds  [1] Activate package(s) on switch 1
    --- Starting list of software package changes ---
    Old files list:
      Removed cat9k_lite-rpbase.17.17.01.SPA.pkg
      Removed cat9k_lite-rpboot.17.17.01.SPA.pkg
      Removed cat9k_lite-srdriver.17.17.01.SPA.pkg
      Removed cat9k_lite-webui.17.17.01.SPA.pkg
    New files list:
      Added cat9k_lite-rpbase.17.16.01.SPA.pkg
      Added cat9k_lite-rpboot.17.16.01.SPA.pkg
      Added cat9k_lite-srdriver.17.16.01.SPA.pkg
      Added cat9k_lite-webui.17.16.01.SPA.pkg
    Finished list of software package changes
  [1] Finished Activate on switch 1
Checking status of Activate on [1]
Activate: Passed on [1]
Finished Activate

--- Starting Commit ---
Performing Commit on all members
  [1] Commit package(s) on switch 1
  [1] Finished Commit on switch 1
Checking status of Commit on [1]
Commit: Passed on [1]
Finished Commit

Send model notification for install_add_activate_commit before reload
Install will reload the system now!
SUCCESS: install_add_activate_commit  Mon Mar 31 13:30:52 IST 2025
Mar 31 13:30:53.573: %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_engine: Completed install one-shot PACKAGE
 flash:cat9k_lite_iosxe.17.16.01.SPA.bin
Mar 31 13:30:53.573 %INSTALL-5-INSTALL_COMPLETED_INFO: R0/0: install_engine: Completed install one-shot PACKAGE
 flash:cat9k_lite_iosxe.17.16.01.SPA.bin

switch3#
Chassis 1 reloading, reason - Reload command

*Mar 31 13:30:53.529 IST: %INSTALL-5-INSTALL_COMPLETED_INFO: Switch 1 R0/0: install_engine: Completed install
 one-shot PACKAGE flash:cat9k_lite_iosxe.17.16.01.SPA.bin
*Mar 31 13:30:54.526 IST: %STACKMGR-1-RELOAD: Switch 1 R0/0: stack_mgr: Reloading due to reason Reload command
 Mar 31 13:30:58.121: %PMAN-5-EXITACTION: F0/0: pvp: Process manager is exiting: reload fp actionrequested
Mar 31 13:31:01.303: %PMAN-5-EXITACTION: R0/0: pvp: Process manager is exiting: rp processes exit with reload
 switch code
```

The following sample output of the **show version** command displays the Cisco IOS XE 17.16.1 image on the device:

```
Switch# show version
Cisco IOS XE Software, Version 17.16.01
Cisco IOS Software [Dublin], Catalyst L3 Switch Software (CAT9K_LITE_IOSXE), Version 17.16.1, RELEASE SOFTWARE
 (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2025 by Cisco Systems, Inc.
<output truncated>
```

ROMMON Upgrade

When you upgrade from the existing release on your switch to a later or newer release for the first time, the ROMMON or bootloader may be automatically upgraded, based on the hardware version of the switch. If the ROMMON is automatically upgraded, it will take effect on the next reload. If you go back to the older release after this, the ROMMON is not downgraded. The updated boot loader supports all previous releases.

To know the bootloader version that applies to every major and maintenance release, see ROMMON Versions, on page 11.

Caution

Do not power cycle your switch during the upgrade.

Scaling Information

For information about feature scaling guidelines, see the Cisco Catalyst 9200 Series Switches datasheet at:

https://www.cisco.com/c/en/us/products/collateral/switches/catalyst-9200-series-switches/nb-06-cat9200-ser-data-sheet-cte-en.html

Related Content

This section provides links to the product documentation and troubleshooting information.

Troubleshooting

For the most up-to-date, detailed troubleshooting information, see the Cisco TAC website at Support & Downloads.

Go to **Product Support** and select your product from the list or enter the name of your product. Look under Troubleshoot and Alerts, to find information for the problem that you are experiencing.

Accessing Hidden Commands

This section provides information about hidden commands in Cisco IOS XE and the security measures that are in place, when they are accessed. These commands are only meant to assist Cisco TAC in advanced troubleshooting and are not documented.

Hidden commands are available under:

- Category 1—Hidden commands in privileged or User EXEC mode. Begin by entering the **service internal** command to access these commands.
- Category 2—Hidden commands in one of the configuration modes (global, interface and so on). These commands do not require the **service internal** command.

Further, the following applies to hidden commands under Category 1 and 2:

- The commands have CLI help. Enter enter a question mark (?) at the system prompt to display the list of available commands.

  Note: For Category 1, enter the **service internal** command before you enter the question mark; you do not have to do this for Category 2.

- The system generates a %PARSER-5-HIDDEN syslog message when a hidden command is used. For example:

```
*Feb 14 10:44:37.917: %PARSER-5-HIDDEN: Warning!!! 'show processes memory old-header ' is a hidden command.

Use of this command is not recommended/supported and will be removed in future.
```

Apart from category 1 and 2, there remain internal commands displayed on the CLI, for which the system does NOT generate the %PARSER-5-HIDDEN syslog message.

Important

We recommend that you use any hidden command only under TAC supervision.

If you find that you are using a hidden command, open a TAC case for help with finding another way of collecting the same information as the hidden command (for a hidden EXEC mode command), or to configure the same functionality (for a hidden configuration mode command) using non-hidden commands.

Related Documentation

For information about Cisco IOS XE, visit Cisco IOS XE.

For information about Cisco IOS XE releases, visit Networking Software (IOS & NX-OS).

For all supported documentation of Cisco Catalyst 9200 Series Switches, visit Cisco Catalyst 9200 Series Switches.

For Cisco Validated Designs documents, visit Cisco Validated Design Zone.

To locate and download MIBs for selected platforms, Cisco IOS releases, and feature sets, use Cisco MIB Locator found at Cisco Feature Navigator.

Product Information

Information on end-of-life (EOL) details specific to the Cisco Catalyst 9200 Series Switches is at this URL: https://www.cisco.com/c/en/us/products/switches/catalyst-9200-series-switches/eos-eol-notice-listing.html

Communications, Services, and Additional Information

- To receive timely, relevant information from Cisco, sign up at Cisco Profile Manager.
- To get the business results you're looking for with the technologies that matter, visit Cisco Services.
- To submit a service request, visit Cisco Support.
- To discover and browse secure, validated enterprise-class apps, products, solutions and services, visit Cisco DevNet.
- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.