



## What's New for Cisco IOS XE Cupertino 17.9.x

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This chapter describes the new hardware and software features that are supported on the Cisco NCS 4201 and Cisco NCS 4202 Series routers.

For information on features supported for each release, see [Feature Compatibility Matrix](#).

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### What's New in Software for Cisco IOS XE Cupertino 17.9.5a

There are no new software features in this release.

### What's New in Hardware for Cisco IOS XE Cupertino 17.9.5a

There are no new hardware features in this release.

### What's New in Hardware for Cisco IOS XE Cupertino 17.9.4a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.4a

There are no new features in this release. This release provides a fix for CSCwh87343: Cisco IOS XE Software Web UI Privilege Escalation Vulnerability. For more information, see [cisco-sa-iosxe-webui-privesc-j22SaA4z](#).

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.4

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.4

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.3

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.3

There are no new software features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.2a

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.2a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.1

Feature	Description
<b>Carrier Ethernet</b>	
<a href="#">Application of QoS Policies on ITU-T Y.1731 Egress Packets</a>	You can now apply QoS policies on Y.1731 egress packets. Operations, Administration, and Maintenance (OAM) functions and mechanisms for Ethernet-based networks are defined in ITU-T Y.1731. With this implementation, you can prioritize OAM traffic; for example, prioritizing operational information used to detect faults and determining network performance.

Feature	Description
<a href="#">Layer 2 Control Protocol Enhancements</a>	<p>Layer 2 Control Protocols (L2CP) propagate the MAC address control information to determine which parts of a network the router should forward, tunnel, peer, or discard information.</p> <ul style="list-style-type: none"> <li>• MRP Block</li> <li>• Cisco BPDU</li> <li>• Cisco STP UplinkFast</li> <li>• Cisco CFM</li> </ul>
<a href="#">Custom Idle Pattern</a>	<p>You can configure idle pattern manually on CEM circuits and verify if it's stable and transmitted to the other end in alarm conditions. You can configure on all CEM PWs in a T1/E1 circuit.</p> <p>Supported on the following IMs on CESoPSN circuits with both partial and full time slots.</p> <ul style="list-style-type: none"> <li>• 48-port T1/E1 CEM Interface Module</li> <li>• 48-port T3/E3 CEM Interface Module</li> <li>• 1-port OC481/ STM-16 or 4-port OC-12/OC-3 / STM-1/STM-4 + 12-Port T1/E1 + 4-Port T3/E3 CEM Interface Module</li> <li>• NCS 4200 Combo 8-Port SFP GE and 1-Port 10 GE 20G Interface Module</li> </ul> <p>These idle pattern numbers are used for tracking purposes.</p>
<b>MPLS Basic</b>	
<a href="#">Support for Co-routed Inter-area Flex-LSP Tunnels</a>	<p>Flex LSPs (also called Associated Bidirectional LSPs) now support inter-area co-routed tunnels. With this implementation, we meet the specific requirements of network operators to create on-demand tunnels by defining an explicit path across different areas.</p>
<b>System Logging</b>	
<a href="#">No Service Password Recovery</a>	<p>This feature provides additional security by removing all user files from bootflash during factory reset. It prevents the malicious users from accessing configuration files stored in bootflash.</p> <p>This feature is applicable for NCS 4201 and NCS 4202 routers.</p>
YANG Model Support for QoS Service Group	<p>Cisco YANG now supports QoS Service Groups. Service-Groups allow you to add service instances to groups and apply service policies. You can configure the definition of the service-group and apply the service-group to an interface. With this implementation, you can quickly deploy QoS mechanisms, such as creating a class for email traffic.</p>
IPv6: RFC 8200 Compliance	<p>Improvements have been made to the Cisco IOS XE platforms to maintain compliance with IETF standards as specified for the Internet Protocol, Version 6 (IPv6) in <a href="#">RFC 8200</a>. The enhancements bring in improved security and better handling of IP packets with fragments.</p>

Feature	Description
TPoP T1/E1 clock status display update	Starting with release Cisco IOS XE Cupertino 17.9.1, TPoP T1/E1 clock status is accurately displayed in the recovered clock status output.
<b>Show Tech-Support Enhancements</b>	
Show Tech-Support Enhancements	The <b>show tech-support</b> now supports generic commands to provide better debuggability. The <b>show tech-support platform cef</b> command now displays IPv4 address information.  For more information, see <a href="#">Cisco IOS Configuration Fundamentals Command Reference</a> .

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.1

There are no new hardware features in this release.