



What's New for Cisco IOS XE Cupertino 17.8.x

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What's New in Hardware for Cisco IOS XE Cupertino 17.8.1

Feature	Description
Cisco Network Convergence System Routers NCS 4206-16 Series Optics Matrix	
New SFP modules	This release introduces support for the following SFP modules: <ul style="list-style-type: none">• ONS-SI+-10G-LR• ONS-SI+-10G-ER• GLC-BX80-D-I—Supported on NCS4200-1T16G-PS

What's New in Software for Cisco IOS XE Cupertino 17.8.1

Feature	Description
Carrier Ethernet	
Latching Loopback	Support the following features for latching loopback on RSP3 module. <ul style="list-style-type: none">• Internal and external loopbacks for a port.• Latching loopback states such as prohibited, inactive, and active.• Latching loopback configuration for Connectivity Fault Management (CFM) in both upward and downwards direction on an interface.• Latching loopback activation and deactivation on a service instance

Feature	Description
Support for Number Format in Maintenance Association (MA) Name	This feature supports the MA number format to be passed as an argument to the service keyword in the latching loopback activate and deactivate commands on the RSP3 module. The valid range is from 0 through 65535.
Increase Maximum MTU Size	Maximum Transmission Unit (MTU) is increased to a maximum of 9670 bytes on the Cisco RSP2 module. You can configure the MTU bytes using the mtu bytes command.
CEM	
CAS feature to perform Super Frame to Extended Super Frame conversion	Channel Associated Signaling (CAS) is a method of signaling each traffic channel rather than having a dedicated signaling channel. CAS uses the same channel, which carries voice or data to pass control signals. This provides an advantage as the implementation of CAS is inexpensive. Supports CAS feature with "in-band" signaling type. You can configure CAS on a specific interface or under global CEM class.
Digital Signaling level zero (DS0) Loopbacks - Network and Local	DS0 loopback is used for testing and troubleshooting the T1 or E1 channel over PSN. You can configure local and remote loopback on channelized T1 or E1 controller (DS0 channel). If the PSN has several NxDS0 pseudowires that are configured at the TDM side, then the same number of NxDS0 loopbacks can be configured on the controller. This provides better TDM maintenance.
Frame Relay Support for IP Interworking	Support for Frame Relay encapsulation on iMSG serial interface for the following interface modules: Frame Relay being a streamlined protocol facilitates higher performance and greater efficiency. <ul style="list-style-type: none"> • 1-port OC-48/STM-16 or 4-port OC-12/OC-3 / STM-1/STM-4 + 12-port T1/E1 + 4-port T3/E3 CEM interface module • 1-Port OC-192 or 8-Port Low Rate CEM 20G Bandwidth Interface Module Frame Relay being a streamlined protocol facilitates higher performance and greater efficiency.
IP Multicast: Multicast	
Support of Bidirectional Multicast	Bidirectional PIM or bidirectional multicast (RFC-5015) is an operating mode that enhances PIM by creating bidirectional multicast distribution trees. It helps deploy emerging communication and financial applications that rely on a many-to-many applications model. The following command is introduced: <ul style="list-style-type: none"> • ip pim bidir-enable

Feature	Description
IP Routing: BGP	
Outbound Route Filtering (ORF) Support for BGP Labeled Unicast	This feature uses BGP ORF send and receive capabilities to minimize the number of BGP updates that are sent between BGP peers. It can also filter out unwanted routing updates at the source to reduce the amount of system resources that are required for generating and processing routing updates.
IP SLAs	
Y.1564 and EDPL support on dot1ad	<p>Y.1564 is an Ethernet service activation test methodology and is the standard for turning up, installing, and troubleshooting Ethernet and IP-based services. This methodology allows a complete validation of Ethernet service-level agreements (SLAs) in a single test.</p> <p>Ethernet data plane loopback provides a means for remotely testing the throughput of an Ethernet port.</p> <p>This feature allows Y.1564 and EDPL to be supported on interfaces configured with 802.1ad encapsulation.</p> <p>The following commands are introduced:</p> <ul style="list-style-type: none"> - inner-eth-type - outer-eth-type
Layer 2	
802.1AE WAN MACsec Enhancement for 1GE and 10GE NCS4200-1T16G-PS	<p>The 802.1AE WAN MACsec supports 10GE physical layer (PHY) interfaces for A900-IMA8CS1Z-M interface module. From this release, full HA, Power on Self Test (POST) and double tag support are available on an A900-IMA8CS1Z-M interface module.</p> <p>The following command is introduced:</p> <p>show-macsec-post</p>
Mac Address Limiting Per Bridge Domain	This feature restricts the number of MAC addresses that the router learns in a bridge-domain on an EFP, pseudowire, or trunk EFP to a specified number. Use the feature to enable warning and limit actions when a violation occurs.
Support for Ethernet Data Plane Loopback on Bundle Interface	<p>This feature enables Ethernet data plane loopback on bundle interfaces. You can also configure the feature when the router is not physically connected and the port is in down state.</p> <p>This feature is only applicable on internal or terminal loopback in up or down state.</p>
Maximum Character Limit in Descriptions	<p>The description command in the l2vpn xconnect configuration has been modified to support a maximum of 240 characters. In addition, a new description command, which supports 240 characters, has been added in the connect connection-name configuration. You can set this by executing the description command in the configuration mode. This implementation is useful for administrative purposes.</p> <p>The following command is modified:</p> <ul style="list-style-type: none"> • connect connection-name

Feature	Description
MPLS: Layer 3 VPNs	
UCMP Load Balancing	<p>The Unequal Cost Multi Path (UCMP) local feature provides the capability to load balance traffic proportionally across multiple paths, with different cost.</p> <p>Prior to this release, the higher bandwidth links used to carry the same traffic as the lower bandwidth links were underutilized.</p> <p>The following command is introduced:</p> <ul style="list-style-type: none"> • ucmp local <i>prefix-list prefix-list-name</i>
YANG Model Support for dot1ad Push Operation Under a Service Instance	The rewrite ingress tag push dot1ad command pushes the 802.1ad tag on top of the current encapsulation on the ingress packet. Starting from Release 17.8.1, the YANG model supports the push 802.1ad operations on the service instance.
YANG Native Config Model Hardening: Cisco-IOS-XE-wccp.yang	Support for YANG Native Config Model Hardening: Cisco-IOS-XE-wccp.yang.
SE Linux enablement	Support for SE Linux enablement.