What's New in Cisco IOS XE Amsterdam 17.3.x

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

What's New in Hardware for Cisco IOS XE Amsterdam 17.3.8a

There are no new hardware features in this release.

What's New in Software for Cisco IOS XE Amsterdam 17.3.8a

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 Amsterdam 17.3.8

There are no new hardware features in this release.

What's New in Software for Cisco IOS XE Amsterdam 17.3.8

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.7

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.7

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.6

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.6

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.5

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.5

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.4

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.4

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.3

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.3

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.2a

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.2a

There are no new software features in this release.

What New in Hardware - Cisco IOS XE Amsterdam 17.3.1

There are no new hardware features in this release.

What New in Software - Cisco IOS XE Amsterdam 17.3.1

Feature	Description
Segment Routing	
EVPN Single-Homing Over Segment Routing	The EVPN Single-Homing feature utilizes the BGP MPLS-based Ethernet VPN functionality as defined in RFC 7432. That is, to achieve single-homing between a Provider Edge (PE) and a Customer Edge (CE) device. There are three fundamental building blocks for EVPN technology, EVPN Instance (EVI), Ethernet Segment (ES), EVPN BGP routes and extended communities. For EVPN Single-Homing feature, a CE device is attached to a single PE device and has an Ethernet Segment.

Feature	Description
SR-TE Per-Flow (Class) ODN and Automated Steering (PCE Delegated)	This feature lets you steer traffic with SR-TE PFP based on the QoS markings on the packets. The traffic is then switched onto the appropriate path based on the forward classes of the packet.
Segment Routing Performance Measurement Delay Measurement Using RFC 5357 (TWAMP Light)	This feature enables hardware timestamping. The Performance Measurement (PM) for link delay uses the light version of Two-Way Active Measurement Protocol (TWAMP) over IP and UDP defined in Appendix I of RFC 5357. TWAMP provides an alternative for interoperability when RFC 6374 is not used.
Segment Routing Performance Measurement End-to-End Delay Measurement	This feature allows to monitor the end-to-end delay experienced by the traffic sent over a Segment Routing policy. This feature ensures the delay does not exceed the specified threshold value and violate the SLAs. Use this feature to apply extended TE link delay metric (minimum delay value) to compute paths for Segment Routing policies as an optimization metric or as an accumulated delay bound.
Static Route Traffic Steering Using SR-TE Policy	This feature allows the non colored (BGP Extended Community) prefix to steer traffic over static policy. Prior to this release, only colored (BGP Extended Community) prefix could automatically steer traffic based on the defined policy using a tunnel interface. Unlike non colored prefix, this was possible only for the colored prefix as it could match the SR policy. IPv4 static routes are now enhanced to leverage the SR policies to aid Segment Routing Traffic Engineering (SR-TE). This facilitates traffic steering for non colored prefix as you can now configure IP Static Route with SR static policy. The following new keyword for the **ip route** command is introduced: **segment-routing policy** [*policy name*]
MPLS Traffic Engineering Path Link and Node Protection	
Static PW over P2MP	The Static Pseudowires over Point-to-Multipoint Traffic Engineering (P2MP TE) feature emulates the essential attributes of a unidirectional P2MP service. It can be used to transport layer 2 multicast services from a single source to one or more destinations. This feature is supported on the Cisco RSP2 module.
Timing and Synchronization	

Feature	Description
Telemetry for GNSS Module	This feature provides externalization of operational data using Network Configuration Protocol (NETCONF) or Yet Another Next Generation (YANG) data modeling language. Prior to this release, the traditional show commands were available to only view the GNSS statistic data. But, you could not use these show command outputs to manage network devices as demanded by centralized orchestration application such as Cisco Digital Network Architecture Center (DNAC). The introduction of this feature provides externalization of operational data using Network Configuration Protocol (NETCONF) or Yet Another Next Generation (YANG) data modeling language to bring more visibility in the timing services operations.
Alarm Configuring and Monitoring Guide, Cisco IOS XE 17 (Cisco NCS 4200 Series)	
Support for New Alarm Profile based on the Telcordia Profile for Chassis	The alarm profile based on Telcordia includes "Service Affecting" information for chassis entities. This information enables you to check the service affecting state for each alarm under a chassis.
IP Routing: BFD	
BFD Dampening	Bidirectional Forwarding Detection (BFD) is a detection protocol that is designed to provide fast forwarding path failure detection for encapsulations, topologies, and routing protocols. BFD provides a consistent failure detection method. BFD detects forwarding path failures at a uniform rate, rather than the variable rates for different routing protocol.
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	
IMA3G 1+1 OC3/12 Single Card APS Support	Automatic protection switching (APS) is a protection mechanism for SONET networks that enables SONET connections to switch to another SONET circuit when a circuit failure occurs. This protection schemes allows a pair of SONET lines or paths to be configured for line or path redundancy. In the event of a fiber cut, the active line or path switches automatically to the standby line or path. In the 1+1 architecture, there is one working interface (circuit) and one protection interface, and the same payload from the transmitting end is sent to both the receiving ends. The receiving end decides which interface to use.
Interworking Support for nxDS0	Interworking function (IWF) for PPP/HDLC is supported on Ethernet for E1/STM1 ports. This support is extended at nxDS0 level to speed up the GSR TDM migration.
IP Multicast: Multicast	
Aggregated Interface Statistics on Bundle	Aggregate multicast packet count is implemented for all the (S,G) entries for which the given BDI serves as the OIF.
Native Multicast SLA Measurement with MLDP	Outgoing interface (OIF) statistics in a native multicast setup implements an extra output to include the packet count sent over the (S,G) entry and the traffic rate.

Feature	Description
MPLS Layer 2 VPNs	
EVPN Single-Homing Over MPLS for NCS 4201 and NCS 4202	The EVPN Single-Homing feature utilizes the BGP MPLS-based Ethernet VPN functionality as defined in RFC 7432. That is, to achieve single-homing between a Provider Edge (PE) and a Customer Edge (CE) device. There are three fundamental building blocks for EVPN technology, EVPN Instance (EVI), Ethernet Segment (ES), EVPN BGP routes and extended communities. For EVPN Single-Homing feature, a CE device is attached to a single PE device and has an Ethernet Segment.

Other Supported Features in this Release

- **Configurable Y.1564 Service Activation Frame Sizes and EMIX Support**—Enterprise traffic (EMIX) packet size (default abceg pattern) is supported. For EMIX traffic, ITU-T Rec. Y.1564 packet sizes of 64, 128, 256, 1024, and 1518 bytes are supported. For more information, see the IP SLAs Configuration Guide, Cisco IOS XE 17 (Cisco ASR 4200 Series) .
- **Final ROMMON package**—Before installing the Cisco IOS XE Amsterdam 17.3.1, you *must* upgrade the ROMMON to version 15_6_43r_s or higher to avoid bootup failure. This is applicable to Cisco NCS 4202 routers. For more information, see the High Availability Configuration Guide, Cisco IOS XE Amsterdam 17(Cisco NCS 4200 Series).
- Prior to release Cisco IOS XE Amsterdam 17.3.1, in case of Protocol Independent Multicast (PIM) Source Specific Multicast (SSM) with Bridge Domain Interface (BDI) as Incoming Interface (IIF), IGMP snooping was not supported on the corresponding Bridge Domain (BD). And, in case of PIM Sparse Mode (PIM-SM) with Bridge Domain Interface (BDI) as Incoming Interface (IIF), IGMP snooping was not supported on the corresponding BD in non-Designated Router (DR) node. To overcome these restrictions, enable the command **platform multicast bridge-tcam-handling disable** and reload the router.