



## New Features in Cisco IOS XE 3.17 Releases

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This chapter provides information about the new features introduced in the Cisco IOS XE Release 3.17.

This chapter includes the following sections:

- [New Hardware Features in Cisco IOS XE Release 3.17, page 1](#)
- [New Software Features in Cisco IOS XE Release 3.17, page 2](#)

### New Hardware Features in Cisco IOS XE Release 3.17

The following features are introduced in Cisco IOS Release 3.17

- [GPS Support](#)

#### GPS Support

Effective Cisco IOS-XE Release 3.17, the Cisco ASR 903 (with RSP3 module) and Cisco ASR907 routers use a satellite receiver, also called the global navigation satellite system (GNSS), as a new timing interface. With the GNSS available on the router itself, the access networks can now directly estimate time measurements and clock errors from the satellites. In other words, the Cisco ASR 903 and ASR907 routers can now act as a grandmaster clock.

For more information, see [Cisco ASR 900 Router Series Configuration Guide](#).

# New Software Features in Cisco IOS XE Release 3.17

The following features are introduced in Cisco IOS Release 3.17.

- [Configuring Multicast VPN](#)
- [Multicast VPN Extranet Support](#)
- [E&M Signals over MPLS](#)
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- [Layer 3 Access Control Lists on EVCs](#)
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## Configuring Multicast VPN

The Multicast VPN (MVPN) feature provides the ability to support multicast over a Layer 3 VPN. IP multicast is used to stream video, voice, and data to an MPLS VPN network core.

For more information, see [IP Multicast: PIM Configuration Guide, Cisco IOS XE Release 3S \(Cisco ASR 900 Series\)](#).

## Multicast VPN Extranet Support

The Multicast VPN Extranet Support feature enables service providers to distribute IP multicast content originated from one enterprise site to other enterprise sites.

This feature enables service providers to offer the next generation of flexible extranet services, helping to enable business partnerships between different enterprise VPN customers.

For more information, see [IP Multicast: PIM Configuration Guide, Cisco IOS XE Release 3S \(Cisco ASR 900 Series\)](#).

## E&M Signals over MPLS

E and M signaling defines a trunk circuit side and a signaling unit side for each connection similar to the data circuit-terminating equipment (DCE) and data terminal equipment (DTE) reference type. The analog E and M interface functions as the signaling unit side and it expects the other side to be a trunk circuit.

For more information, see [Time Division Multiplexing Configuration Guide, Cisco IOS XE Release 3S \(Cisco ASR 900 Series\)](#).

## VLAN Scale with Convergence

The convergence value is improved from Cisco IOS XE 3.17 release.

For more information, see [LAN Switching Configuration Guide](#).

## Layer 3 Access Control Lists on EVCs

Access Control Lists (ACLs) provide the capability to filter packets at a fine granularity. In Metro Ethernet networks, ACLs are directly applied on Ethernet virtual circuits (EVCs). Earlier, the layer 3 ACLs were only supported on the routed ports (physical ports or BDIs). Effective Cisco IOS-XE Release 3.17, the support of layer 3 ACLs on EVCs provides the capability to filter the layer 3 packets on layer 2 bridges that support Ethernet services.

For more information, see [MPLS: Layer 3 VPNs Configuration Guide](#).

## VLAN Translation with QoS

Effective Cisco IOS-XE Release 3.17, VLAN translation provides flexibility in managing VLANs and Metro Ethernet-related services. The current implementation of the feature allows one or more 802.1Q tags to be replaced with other 802.1Q tags and thus the desired tag manipulation can be achieved. In a scenario with two EFPs egressing the same interface, each EFP can have a different VLAN rewrite operation, which is more flexible.

For more information, see [Carrier Ethernet Configuration Guide](#).

## Transparent CFM on C-VLAN

Transparent CFM is a mechanism to provide transparency on CFM frames between customer ends. Transparency helps the service provider network to pass the entire maintenance levels (0-7) of CFM frames from one customer end to another customer end by UP MEP that is configured on UNI-N port at any level.

For more information, see [Carrier Ethernet Configuration Guide](#).

## Ethernet Fault Detection

Ethernet Fault Detection (EFD) is a mechanism that allows Ethernet OAM protocols, such as CFM, to control the “line protocol” state of an interface. Unlike many other interface types, Ethernet interfaces do not have a line protocol, whose state is independent from that of the interface. For Ethernet interfaces, this role is handled by the physical-layer Ethernet protocol itself, and therefore if the interface is physically up, then it is available and traffic can flow.

EFD changes this to allow CFM to act as the line protocol for Ethernet interfaces. This allows CFM to control the interface state so that if a CFM defect (such as AIS or loss of continuity) is detected with an expected peer MEP, the interface can be shut down. This not only stops any traffic flowing, but also triggers actions in any higher-level protocols to route around the problem.

For more information, see [Carrier Ethernet Configuration Guide](#).

## PoS MR-APS

Packet-over-SONET (POS) is a standardized way for mapping IP packets into SONET/SDH frames. This feature enables the configuration of MR-APS over Pos.

For more information, see [Time Division Multiplexing Configuration Guide, Cisco IOS XE Release 3S \(Cisco ASR 900 Series\)](#).

## SLM/DMM over VPLS

Synthetic loss measurement (SLM) and Delay Measurement Message (DMM) are part of the ITU-T Y.1731 standard. SLM is used to periodically measure Frame Loss and Forward Loss Ratio (FLR) between a pair of point to point MEPs. DMM is used to periodically measure Frame Delay and Frame Delay Variation between a pair of point to point MEPs. This feature enables the configuration of SLM/DMM over VPLS.

For more information, see *IP SLAs Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900)*.

## BGP PIC Support for TDM Pseudowires

Starting Cisco IOS XE Release 3.17, BGP PIC is supported for TDM pseudowires on the ASR 900 RSP1 module.

For information, see

- *Cisco ASR 900 Router Series Configuration Guide*
- *BGP Configuration Guide, Cisco IOS XE Release 3S (Cisco ASR 900 Series)*

## MPLS TE over BDI

Effective Cisco IOS-XE Release 3.17, the Cisco ASR 903 (with RSP2 module) router provides the option for enabling the MPLS TE tunnels over Bridge Domain Interfaces.

For more information, see *MPLS Traffic Engineering Path Link and Node Protection Configuration Guide, Cisco IOS XE Release 3S (ASR 900 Series)*.