



New Features

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series Routers for this release.

- [New Hardware Features in Cisco IOS XE Everest Release 16.5.2, on page 1](#)
- [New Software Features in Cisco IOS XE Everest Release 16.5.2, on page 1](#)
- [New Hardware Features in Cisco IOS XE Everest Release 16.5.1, on page 1](#)
- [New Software Features in Cisco IOS XE Everest Release 16.5.1, on page 1](#)

New Hardware Features in Cisco IOS XE Everest Release 16.5.2

There are no new hardware features in this release.

New Software Features in Cisco IOS XE Everest Release 16.5.2

There are no new software features in this release.

New Hardware Features in Cisco IOS XE Everest Release 16.5.1

There are no new hardware features in this release.

New Software Features in Cisco IOS XE Everest Release 16.5.1

- **10G SAT**

Service activation testing (SAT) is designed to measure the ability of a Device Under Test (DUT) or a network under test to properly forward traffic in different states. 10 Gigabit (10G) SAT session is now supported. Any SAT session with a rate-step greater than or equal to 1 Gbps is considered as 10G SAT session.

For more information, see [IP SLAs Configuration Guide Cisco IOS XE Everest 16.5.1 \(Cisco ASR 920 Series\)](#).

- **Adaptive Clock Recovery (ACR) on 8-port T1/E1 Interface Module**

Adaptive Clock Recovery (ACR) is most commonly used for Circuit Emulation (CEM). ACR is an averaging process that negates the effect of random packet delay variation and captures the average rate of transmission of the original bit stream. ACR recovers the original clock for a synchronous data stream from the actual payload of the data stream. In other words, a synchronous clock is derived from an asynchronous packet stream. ACR is a technique where the clock from the TDM domain is mapped through the packet domain.

Effective Cisco IOS XE Everest 16.5.1, ACR is supported on 8-port T1/E1 interface module.

For more information, see [Configuring Pseudowire](#).

• **BCP Support on MLPPP**

Bridge Control Protocol (BCP) is responsible for configuring, enabling and disabling the bridge protocol modules on both ends of the point-to-point link. The BCP feature enables forwarding of Ethernet frames over serial networks, and provides a high-speed extension of enterprise LAN backbone traffic through a metropolitan area. When BCP is supported on Multilink PPP (MLPPP), it enables transport of Ethernet Layer 2 frames through MLPPP.

For more information, see [Cisco ASR 920 Series Aggregation Services Router Configuration Guide, Cisco IOS XE Everest 16.5.1](#).

• **BFD on IP Unnumbered Interfaces**

Cisco ASR 920 Series Routers now support BFD to run on IP unnumbered interfaces, which take the IP address from the loopback address. You can use the same loopback address on multiple interfaces.

For more information, see [IP Routing: BFD Configuration Guide, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 920 Series\)](#).

• **Egress QoS Support on MLPPP Bundle**

The Cisco ASR 920 Routers now support egress QoS on MLPPP bundle.

For more information, see [Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 920 Series\)](#).

• **Egress Shaping on MLPPP Bundle**

The Cisco ASR 920 Routers now support egress shaping on the MLPPP bundle.

For more information, see [Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 920 Series\)](#).

• **Flex LSP**

Effective Cisco IOS XE Everest 16.5.1, the Cisco ASR 920 routers have enhanced the support for Flex LSP. Flex LSP also known as Associated Bidirectional Label Switched Paths (LSPs) are LSP instances where the forward and the reverse direction paths are set up, monitored, protected independently, and associated together during signaling. The RSVP Association aims to bind the forward and reverse LSPs together to form either a co-routed or a non co-routed associated bidirectional traffic engineering (TE) tunnel.

In this release, Flex LSP supports the following features:

- SRLG Protection
- Non-revertive
- Sticky

- Hop count and cost max-limit
- ECMP min-fill and max-fill
- Restore path option

For more information, see [Flex LSP](#).

- **G.8275.2 Telecom Profile**

Cisco ASR 920 routers now support the ITU- T G.8275.2 telecom profile (PTP telecom profile for Phase and Time-of-day synchronization with partial timing support from the network).

The G.8275.2 is a PTP profile for use in telecom networks where phase or time-of-day synchronization is required. It differs from G.8275.1 in that it is not required that each device in the network participates in the PTP protocol. Also, G.8275.2 uses PTP over IPv4 and IPv6 in unicast mode.

For more information, see [G.8275.2 Telecom Profile](#).

- **mVPN-GRE over BDI**

The Multicast VPN (MVPN) feature provides the ability to support multicast over a Layer 3 VPN. Cisco ASR routers provide an option for enabling mVPN-GRE over Bridge Domain Interfaces (BDI).

For more information, see [Configuring Multicast VPN](#).

- **Pseudowire OAM Attributes**

This release supports the configuration of pseudowire OAM attributes using the following command:

ttl *value*

For more information, see [MPLS Transport Profile](#).

- **Support for DS3 Smart SFP**

The DS3 Smart SFP supporting CEP (VCoP Smart SFP) is a special type of optical transceiver that encapsulates T3 frames on STS-1 channels into packet format.

For more information, see [Configuring VCoP Smart SFP](#).

- **Table Map MDT Index Optimization**

If the same table-mapping is applied on multiple interfaces, the MDT index is now shared across these interfaces. Thus increased scaling of table-map is possible if table-mapping is reused. For more information, see [Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 920 Series\)](#).

- **TWAMP over VRF**

TWAMP over VRF is now supported. For more information, see [IP SLA TWAMP Responder](#).

