



New Features

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series routers in the following releases:

- [New Hardware Features in Cisco IOS XE Amsterdam 17.1.x](#) , on page 1
- [New Software Features in Cisco IOS XE Amsterdam 17.1.x](#) , on page 1

New Hardware Features in Cisco IOS XE Amsterdam 17.1.x

The following optics are supported from the Cisco IOS XE Amsterdam 17.1.x

- ONS-SI+-10G-SR
- ONS-SI+-10G-LR
- ONS-SI+-10G-ER
- ONS-SI+-10G-ZR

New Software Features in Cisco IOS XE Amsterdam 17.1.x

• **EVPN-VPWS Single Homing over Segment Routing**

EVPN-VPWS single homing is a BGP control plane solution for point-to-point services. It has the ability to forward traffic from one network to another using Ethernet Segment without MAC lookup.

EVPN-VPWS single homing works on both IP and SR core. IP core is used to support BGP while the SR core is used to switch packets between the endpoints.

For more information, see [Segment Routing Configuration Guide, Cisco IOS XE 17 \(Cisco ASR 920 Series\)](#).

• **Facility Protocol Status Support**

The routers report the protocol status using Syslog or Trap alarm notifications. Few Syslogs and Traps are not cleared when the router gets disconnected or reloaded. As a result, the alarms are not notified.

To avoid this, a new command, **show facility protocol status**, is introduced that displays the output of the following routing protocols status at any interval of time:

- ISIS

- OSPF
- BGP
- TE Tunnels
- LDP
- Bundles
- PWs
- EVPN PWs
- CFM
- SYncE
- PTP
- HSRP
- BFD
- SensorThresholdViolations

For more information, see [Cisco ASR 920 Series Aggregation Services Router Configuration Guide, Cisco IOS XE 17](#).

• Programmability Features

The following Programmability features are supported from this release:

- gRPC Network Management Interface (gNMI)—Model-driven configuration and retrieval of operational data using the gNMI capabilities, GET and SET RPCs.
- Model Driven Telemetry - gNMI Dial-In—Support for telemetry subscriptions and updates over a gRPC Network Management Interface (gNMI).
- TLS for gRPC Dial-Out—Support for TLS for gRPC dial-out.

For more information, see the [Programmability Guide, Cisco IOS XE Amsterdam 17.1.x](#).

• Licensing Information for Cisco ASR-920-8S4Z-PD Router

This release includes the licensing information for Cisco ASR-920-8S4Z-PD.

For more information, see [Software Activation Configuration Guide \(Cisco ASR 920 Routers\)](#).

• PTP Multi-profile

The Precision Time Protocol (PTP) is a protocol used to synchronize clocks throughout a network. PTP Multi-profile support is configured on a PTP boundary clock by translating one PTP profile at PTP slave port to other PTP profile at PTP master port. To translate PTP properties from one profile to other, a special type of "inter-op" clock-port is introduced. This special clock-port is configured with the required profile and domain information.

For more information, see [Timing and Synchronization Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

• MPLS TE: Newer SR-TE Policy Command

Effective Cisco IOS XE Gibraltar 17.1.1, the Cisco ASR 920 Series routers support the newer SR-TE Policy command, **segment-routing traffic-eng**.

For more information, see [Segment Routing Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

• **SADT Overhead Accounting**

FPGA measures the following parameters for SADT:

- Throughput
- Frame Loss
- Jitter
- Delay

FPGA has the capability to generate and measure only 1Gbps traffic rate and hence maximum throughput cannot be achieved. To overcome this limitation, use the **platform y1564 shadow-session-enable** command to replicate the packets 10 times in FPGA.

For more information, see [IP SLAs Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

• **SR-TE ODN Color Extended Community (L3VPN)**

Effective Cisco IOS XE Gibraltar 17.1.1, the Cisco ASR 920 Series routers support the ‘color extended’ community as follows:

- An egress router adds the ‘color extended’ community to the BGP updates that require a Traffic-Engineered path.
- A Segment Routed Traffic Engineering (SR-TE) policy is created on the ingress router for the Color-Endpoint pair.

For more information, see the [Segment Routing Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

• **Segment Routing Low Latency Network Slice**

This feature allows the advertisement and reception of the extended TE Link Delay Metrics without any additional configuration required in IS-IS, OSPF or BGP-IS.

When the link delay values are configured, they are flooded in the PCE topology and when the path computation is requested, these values are used for path calculation.

For more information, see the [Segment Routing Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

• **Segment Routing Performance Measurement Link Delay Metrics**

Network performance metrics such as packet loss, delay, delay variation, and bandwidth utilization is a critical measure for traffic engineering (TE) in service provider networks. These metrics provide network operators with information about characteristics of their networks for performance evaluation and helps to ensure compliance with service level agreements. The service-level agreements (SLAs) of service providers depend on the ability to measure and monitor these network performance metrics.

For more information, see the [Segment Routing Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).

- **Traps and Performance MIBs for GNSS**

A new MIB, CISCO-GNSS-MIB, is introduced for GNSS.

For more information, see the [Timing and Synchronization Configuration Guide, Cisco IOS XE Amsterdam 17.1.x \(Cisco ASR 920 Series\)](#).