



## **Release Notes for Cisco ASR 920 Series Aggregation Services Router, Cisco IOS XE Cupertino 17.9.x**

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## CHAPTER

# 1

## Introduction

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This release notes contain information about the Cisco ASR 920 Series Aggregation Services Routers, provides new and changed information for these routers, hardware support, limitations and restrictions, and caveats.

This release notes provides information for these variants of the Cisco ASR 920 Series Routers:

- ASR-920-12CZ-A
- ASR-920-12CZ-D
- ASR-920-4SZ-A
- ASR-920-4SZ-D
- ASR-920-10SZ-PD
- ASR-920-24SZ-IM
- ASR-920-24SZ-M
- ASR-920-24TZ-M
- ASR-920-12SZ-IM
- ASR-920-12SZ-A
- ASR-920-12SZ-D
- ASR 920-8S4Z-PD
  
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# Cisco ASR 920 Series Routers Overview

The Cisco ASR 920 Series Aggregation Services Routers provide a comprehensive and scalable set of Layer 2 and Layer 3 VPN services in a compact package. They are temperature-hardened, small form factor, with high throughput and low power consumption ideal for mobile backhaul, business services and residential voice, video, and data ("triple-play") applications.

## Feature Navigator

Use the Cisco Feature Navigator to find information about feature, platform, and software image support. To access the Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on cisco.com is not required.

## Feature Matrix

The feature matrix lists the features supported for each platform. For more information, see the [Cisco ASR 920 Series Aggregation Services Routers Feature Compatibility Matrix](#).

## Software Licensing Overview

Starting with Cisco IOS XE Cupertino 17.7.1, PAK licenses are no longer available. When you purchase the Cisco IOS XE Cupertino 17.7.1 release or later, Smart Licensing is enabled by default. We recommend that you move to Smart Licensing before upgrading to Cisco IOS XE Cupertino 17.7.1 or a higher release, for a seamless experience.

If you are using Cisco IOS XE Bengaluru 17.6.1 or an earlier release version, Smart Licensing is not enabled by default. To enable Smart Licensing, see [Software Activation Configuration Guide \(Cisco IOS XE ASR 920 Routers\)](#).

The router offers the following base licenses:

- Metro Services
- Metro IP Services
- Advanced Metro IP access
  - SDM Video Template

**Table 1: Cisco ASR 920 Software Licenses Feature Set**

Metro Services	Metro IP Services	Metro Aggregation Services
—	Includes all features in Metro Services	Includes all features in Metro IP Services
QoS, with deep buffers and hierarchical QoS (HQOS)	IP routing (RIP, OSPF, EIGRP, BGP, IS-IS)	MPLS (LDP and VPN)

Metro Services	Metro IP Services	Metro Aggregation Services
Layer 2: 802.1d, 802.1q	PIM (SM, DM, SSM), SSM mapping	MPLS TE and FRR
Ethernet Virtual Circuit (EVC)	BFD	MPLS OAM
Ethernet OAM (802.1ag, 802.3ah)	Multi-VRF CE (VRF lite) with service awareness (ARP, ping, SNMP, syslog, trace-route, FTP, TFTP)	MPLS-TP
Multiple Spanning Tree (MST) and Resilient Ethernet Protocol (REP)	IEEE 1588-2008 Ordinary Slave Clock and Transparent Clock	Pseudowire emulation (EoMPLS, CESoPSN, and SAToP)
Synchronous Ethernet	—	VPLS and HVPLS
IPv4 and IPv6 host connectivity	—	Pseudowire redundancy
—	—	MR-APS and mLACP

The router offers the following additional feature licenses:

- ATM
- IEEE 1588-2008 Boundary Clock/Master Clock
- OC-x Port License

## Determining the Software Version

Use the following commands to verify your software version:

- Consolidated Package— **show version**

**Table 2: ROMMON Version**

PIDs	ROMMON
ASR-920-12SZ-A , ASR-920-12SZ-D	15.6(54r)S
ASR-920-12SZ-IM	15.6(54r)S
ASR-920-12CZ-A, ASR-920-12CZ-D, ASR-920-4SZ-A, ASR-920-4SZ-D, ASR-920-10SZ-PD,ASR-920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M, and ASR920-8S4Z-PD	15.6(56r)S

## Upgrading to a New Software Release

Only the latest consolidated packages can be downloaded from Cisco.com; users who want to run the router using individual subpackages must first download the image from Cisco.com and extract the individual subpackages from the consolidated package.

For information about upgrading to a new software release, see the .

### Upgrading the FPD Firmware

FPD Firmware packages are bundled with the software package. FPD upgrade is automatically performed on the router.

If you like to manually change the FPD Firmware software, use the **upgrade hw-module subslot 0/0 fpd bundle** to perform FPD firmware upgrade.

## Supported HoFPGA and ROMMON Versions

The tables below list the HoFPGA and ROMMON version of the software releases.

**Table 3: HoFPGA and ROMMON Versions for the Cisco ASR-920-12CZ-A, ASR-920-12CZ-D, ASR-920-4SZ-A, ASR-920-4SZ-D, ASR-920-10SZ-PD, and ASR 920-8S4Z-PD**

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Amsterdam 17.1.x	0X00040043 (BFD/default template) 0x00020009 (Netflow template)	15.6(32r)S
Cisco IOS XE Amsterdam 17.3.1	0X00020009	15.6(43r)S
Cisco IOS XE Amsterdam 17.3.2	0X00020009	15.6(43r)S
Cisco IOS XE Bengaluru 17.4.1	0X00040044 (BFD/default template)	15.6(44r)S
Cisco IOS XE Bengaluru 17.5.1	0X00040044 (BFD/default template)	15.6(44r)S
Cisco IOS XE Bengaluru 17.6.1	0X00040044	15.6(48r)S
Cisco IOS XE Bengaluru 17.6.2	0X00040044	15.6(48r)S
Cisco IOS XE Cupertino 17.7.1	0X00040044	15.6(48r)S
Cisco IOS XE Cupertino 17.8.1	0X00040044	15.6(48r)S
Cisco IOS XE Cupertino 17.9.1	0X00040044	15.6(56r)S
Cisco IOS XE Cupertino 17.9.2a	0X00040044	15.6(56r)S
Cisco IOS XE Cupertino 17.9.3	0X00040044	15.6(56r)S

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Cupertino 17.9.4	0X00040044	15.6(56r)S
Cisco IOS XE Cupertino 17.9.5a	0X00040044	15.6(56r)S
Cisco IOS XE Cupertino 17.9.6	0X00040044	15.6(56r)S

**Table 4: HoFPGA and ROMMON Versions for the Cisco ASR-920-24SZ-IM, ASR-920-24SZ-M, and ASR-920-24TZ-M**

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Amsterdam 17.1.x	0x00030014 (BFD/default template) 0x00030014 (Netflow template)	15.6(32r)S
Cisco IOS XE Amsterdam 17.3.1	0X00030014	15.6(43r)S
Cisco IOS XE Amsterdam 17.3.2	0X00030014	15.6(43r)S
Cisco IOS XE Bengaluru 17.4.1	0X00030016	15.6(44r)S
Cisco IOS XE Bengaluru 17.5.1	0X00040019	15.6(44r)S
Cisco IOS XE Bengaluru 17.6.1	0X0004001b	15.6(48r)S
Cisco IOS XE Bengaluru 17.6.2	0X0004001b	15.6(48r)S
Cisco IOS XE Cupertino 17.7.1	0X0004001b	15.6(48r)S
Cisco IOS XE Cupertino 17.8.1	0X0004001b	15.6(48r)S
Cisco IOS XE Cupertino 17.9.1	0X0004001b	15.6(56r)S
Cisco IOS XE Cupertino 17.9.2a	0X0004001b	15.6(56r)S
Cisco IOS XE Cupertino 17.9.3	0X0004001b	15.6(56r)S
Cisco IOS XE Cupertino 17.9.4	0X0004001b	15.6(56r)S
Cisco IOS XE Cupertino 17.9.5a	0X0004001b	15.6(56r)S
Cisco IOS XE Cupertino 17.9.6	0X0004001b	15.6(56r)S

**Table 5: HoFPGA and ROMMON Versions for the Cisco ASR-920-12SZ-IM**

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Amsterdam 17.1.x	0x0003001B (BFD/default template) 0x00020008 (Netflow template)	15.6(24r)S
Cisco IOS XE Amsterdam 17.3.1	0X0003001b	15.6(43r)S

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Amsterdam 17.3.2	0X0003001b	15.6(43r)S
Cisco IOS XE Bengaluru 17.4.1	0X0003001e	15.6(43r)S
Cisco IOS XE Bengaluru 17.5.1	0X0003001e	15.6(43r)S
Cisco IOS XE Bengaluru 17.6.1	0X0003001e	15.6(46r)S
Cisco IOS XE Bengaluru 17.6.2	0X0003001e	15.6(46r)S
Cisco IOS XE Cupertino 17.7.1	0x0003001e	15.6(46r)S
Cisco IOS XE Cupertino 17.8.1	0x0003001e	15.6(46r)S
Cisco IOS XE Cupertino 17.9.1	0X0003001e	15.6(54r)S
Cisco IOS XE Cupertino 17.9.2a	0X0003001e	15.6(54r)S
Cisco IOS XE Cupertino 17.9.3	0X0003001e	15.6(54r)S
Cisco IOS XE Cupertino 17.9.4	0X0003001e	15.6(54r)S
Cisco IOS XE Cupertino 17.9.5a	0X0003001e	15.6(54r)S
Cisco IOS XE Cupertino 17.9.6	0X0003001e	15.6(54r)S

**Table 6: HoFPGA and ROMMON Versions for the Cisco ASR-920-12SZ-A and ASR-920-12SZ-D**

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Amsterdam 17.1.x	0x00010039 (BFD/default template) 0x10000007 (Netflow template)	15.6(29r)S
Cisco IOS XE Amsterdam 17.3.1	0X10000008	15.6(43r)S
Cisco IOS XE Amsterdam 17.3.2	0X10000008	15.6(43r)S
Cisco IOS XE Bengaluru 17.4.1	0X00010040 (BFD/default template)	15.6(43r)S
Cisco IOS XE Bengaluru 17.5.1	0X10000008	15.6(43r)S
Cisco IOS XE Bengaluru 17.6.1	0X10000008	15.6(46r)S
Cisco IOS XE Bengaluru 17.6.2	0X00020043	15.6(46r)S
Cisco IOS XE Cupertino 17.7.1	0X00020043	15.6(46r)S
Cisco IOS XE Cupertino 17.8.1	0X00020043	15.6(46r)S
Cisco IOS XE Cupertino 17.9.1	0X10000008	15.6(54r)S



Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Cupertino 17.9.2a	0X10000008	15.6(54r)S
Cisco IOS XE Cupertino 17.9.3	0X10000008	15.6(54r)S
Cisco IOS XE Cupertino 17.9.4	0X10000008	15.6(54r)S
Cisco IOS XE Cupertino 17.9.5a	0X10000008	15.6(54r)S
Cisco IOS XE Cupertino 17.9.6	0X10000008	15.6(54r)S

**Table 7: IM FPGA Versions for the Cisco ASR-920-24SZ-IM**

Release	Gigabit Ethernet Interface Module (Phase 1) FPGA	Gigabit Ethernet Interface Module (Phase2) FPGA	8 T1/E1	16 T1/E1	32 T1/E1
Cisco IOS XE Amsterdam 17.1.x	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Amsterdam 17.3.1	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Amsterdam 17.3.2	0.75	N/A	N/A	0.54	0.46
Cisco IOS XE Bengaluru 17.4.1	0.75	N/A	N/A	0.54	0.46
Cisco IOS XE Bengaluru 17.5.1	0.75	N/A	N/A	0.54	0.46
Cisco IOS XE Bengaluru 17.6.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Bengaluru 17.6.2	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.7.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.8.1	0.75	69.24	0.54	0.54	0.46

Release	Gigabit Ethernet Interface Module (Phase 1) FPGA	Gigabit Ethernet Interface Module (Phase2) FPGA	8 T1/E1	16 T1/E1	32 T1/E1
Cisco IOS XE Cupertino 17.9.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.2a	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.3	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.4	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.5a	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.6	0.75	69.24	0.54	0.54	0.46

**Table 8: IM FPGA Versions for the Cisco ASR-920-12SZ-IM**

Release	Gigabit Ethernet Interface Module (Phase 1) FPGA	Gigabit Ethernet Interface Module (Phase2) FPGA	8 T1/E1	16 T1/E1	32 T1/E1
Cisco IOS XE Amsterdam 17.1.x	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Amsterdam 17.3.1	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Amsterdam 17.3.2	0.75	N/A	N/A	0.54	0.46
Cisco IOS XE Bengaluru 17.4.1	0.75	N/A	N/A	0.54	0.46
Cisco IOS XE Bengaluru 17.5.1	0.75	N/A	N/A	0.54	0.46

<b>Release</b>	<b>Gigabit Ethernet Interface Module (Phase 1) FPGA</b>	<b>Gigabit Ethernet Interface Module (Phase2) FPGA</b>	<b>8 T1/E1</b>	<b>16 T1/E1</b>	<b>32 T1/E1</b>
Cisco IOS XE Bengaluru 17.6.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Bengaluru 17.6.2	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.7.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.8.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.1	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.2a	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.3	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.4	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.5a	0.75	69.24	0.54	0.54	0.46
Cisco IOS XE Cupertino 17.9.6	0.75	69.24	0.54	0.54	0.46

# Restrictions and Limitations



**Note** The error message "PLATFORM-1-NOSPACE: SD bootflash : no space alarm assert" may occur in the following scenarios:

- Any sector of SD Card gets corrupted
- Improper shut down of router
- power outage.

This issue is observed on platforms which use EXT2 file systems.

We recommend performing a reload of the router. As a result, above alarm will not be seen during the next reload due to FSCK(file systems check) execution.

However, If the error persists after a router reload, we recommend to format the bootflash or FSCK manually from IOS.

- 
- Embedded Packet Capture (EPC) is not supported on ASR 920 routers.
  - The **default** *command-name* command is used to default the parameters under that interface. However, when speed is configured on the interface, the following error is displayed:  

```
Speed is configured. Remove speed configuration before enabling auto-negotiation
```
  - For VCoP, only SFP-T3F-SATOP-I is supported.
  - Adding or deleting the Trunk Ethernet flow points (TEFPs) with scaled bridge-domain, without delay causes the Cisco ASR 920 Series router to crash.
  - Virtual services should be deactivated and uninstalled before performing replace operations.
  - The Cisco ASR920 Series Routers no longer support the controller and nid-controller commands for the Cisco ME1200 switch.
  - The following interface modules (IMs) do not require the activation command for IM boot up, provided no other IM is activated in subslot 0/1 before.

However, if an IM was activated in the system earlier, deactivate the previously-activated IM before inserting a new IM in system.

- 16-Port T1/E1 Interface Module
- 32-Port T1/E1 Interface Module
- 8-Port T1/E1 Interface Module
- 4-port OC3/STM-1 (OC-3) or 1-port OC12/STM-4 (OC-12) Interface Module
- 14-Port Serial Interface Module
- 6-Port E and M Interface Module
- 4-Port C37.94 Interface Module

- RS422 works on ports from 0 to 7 only.
- The frame drops may occur for packets with packet size of less than 100 bytes, when there is a line rate of traffic over all 1G or 10G interfaces available in the system. This restriction is applicable only on RSP2 module, and is not applicable for RSP3 module.
- MPLS VC label packet with time-to-live (TTL) value of 2 is dropped at egress MPLS PE device due to ASIC limitations. During PHP process, MPLS TTL value for the VC label is decremented by one with implicit-null. The VC label-related TTL value is set to 255 while imposing the VC label due to multiple VC switching scenarios.

Use the **no mpls ip propagate-ttl** command as the Short Pipe mode for the required label.

- Interface naming is from right to left. For more information, see the Cisco ASR 920 Software Configuration Guide .
- Packet size greater than 1460 is not supported over IPsec Tunnel.
- Minimal traffic drop might be seen for a moment when higher rate traffic is sent through the IPsec tunnels for the first time.
- One Ternary Content-Addressable Memory (TCAM) entry is utilized for Segment Routing Performance Measurement. This is required for the hardware timestamping to function.
- While performing an auto upgrade of ROMMON, only primary partition is upgraded. Use the **upgrade rom-mon filename** command to upgrade the secondary partition of the ROMMON. However, the router can be reloaded during the next planned reload to complete the secondary ROMMON upgrade.
- Some router models are not fully compliant with all IETF guidelines as exemplified by running the pyang tool with the lintflag. The errors and warnings exhibited by running the pyang tool with the lint flag are currently non-critical as they do not impact the semantic of the models or prevent the models from being used as part of the toolchains. A script is provided, **check-models.sh**, which runs pyang with lint validation enabled, but ignoring certain errors. This allows the developer to determine what issues may be present.
- If IPv6 Global IP is configured as the BFD peer, and if the interface goes down, a VRRP flap may occur. This may occur because, VRRP works on the basis of Link-local IP and not global IP. As a result, VRRP flaps on the previously backed up device and prints a DAD message.

## Additional References

### Product Information

- [Cisco ASR 920 Series Aggregation Services Router Data Sheets](#)

### Hardware Installation Guides

- [Cisco ASR 920 Series Aggregation Services Router Hardware Guides](#)

### Software Configuration Guides

- [Cisco ASR 920 Series Aggregation Services Router Configuration Guides](#)

### Regulatory Compliance and Safety Information

- [Regulatory Compliance and Safety Information for the Cisco ASR 920 Series Aggregation Services Routers](#)

### Field Notices and Bulletins

- Field Notices—We recommend that you view the field notices for this release to determine whether your software or hardware platforms are affected. You can find field notices at [http://www.cisco.com/en/US/support/tsd\\_products\\_field\\_notice\\_summary.html](http://www.cisco.com/en/US/support/tsd_products_field_notice_summary.html).
- Bulletins—You can find bulletins at [http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod\\_literature.html](http://www.cisco.com/en/US/products/sw/iosswrel/ps5012/prod_literature.html).

### MIB Support

To view supported MIB, go to <http://tools.cisco.com/ITDIT/MIBS/MainServlet>.

### Accessibility Features in the Cisco ASR 920 Series Routers

For a list of accessibility features in Cisco ASR 920 Series Routers, see the [Voluntary Product Accessibility Template \(VPAT\)](#) on the Cisco website, or contact [accessibility@cisco.com](mailto:accessibility@cisco.com).

All product documents are accessible except for images, graphics, and some charts. If you would like to receive the product documentation in audio format, braille, or large print, contact [accessibility@cisco.com](mailto:accessibility@cisco.com).

### End-of-Life and End-of-Sale Notices

For End-of-Life and End-of-Sale Notices for the Cisco ASR 920 Series Routers, see <http://www.cisco.com/c/en/us/products/routers/asr-920-series-aggregation-services-router/eos-eol-notice-listing.html>.



## CHAPTER 2

# What's New in Cisco IOS XE Cupertino 17.9.x

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series routers in Cisco IOS XE Cupertino 17.9.x.

For information on features supported for each release, see [Feature Compatibility Matrix](#).

- [What's New in Hardware for Cisco IOS XE Cupertino 17.9.6, on page 13](#)
- [What's New in Software for Cisco IOS XE Cupertino 17.9.6, on page 13](#)
- [What's New in Hardware for Cisco IOS XE Cupertino 17.9.5a, on page 13](#)
- [What's New in Software for Cisco IOS XE Cupertino 17.9.5a, on page 14](#)
- [What's New in Hardware for Cisco IOS XE Cupertino 17.9.4a, on page 14](#)
- [What's New in Software for Cisco IOS XE Cupertino 17.9.4a, on page 14](#)
- [What's New in Hardware for Cisco IOS XE Cupertino 17.9.4, on page 14](#)
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- [What's New in Software for Cisco IOS XE Cupertino 17.9.1, on page 15](#)

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.6

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.6

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.5a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.5a

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.4a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.4a

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 Cupertino 17.9.4

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.4

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.3

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.3

There are no new software features in this release.

## What's New in Hardware for Cisco IOS XE Cupertino 17.9.2a

There are no new hardware features in this release.

## What's New in Software for Cisco IOS XE Cupertino 17.9.2a

There are no new software features in this release.



# What's New in Hardware for Cisco IOS XE Cupertino 17.9.1

There are no new hardware features in this release.

# What's New in Software for Cisco IOS XE Cupertino 17.9.1

Feature	Description
<b>Cisco ASR 920 Series Aggregation Services Router</b>	
<a href="#">Custom Idle Pattern</a>	<p>You can configure idle pattern manually on CEM circuits and verify if it's stable and transmitted to the other end in alarm conditions. You can configure on all CEM PWs in a T1/E1 circuit.</p> <p>Supported on the following IMs on CESoPSN circuits with both partial and full time slots.</p> <ul style="list-style-type: none"> <li>• 48-port T1/E1 CEM Interface Module</li> <li>• 48-port T3/E3 CEM Interface Module</li> </ul> <p>These idle pattern numbers are used for tracking purposes.</p>
<b>Carrier Ethernet</b>	
<a href="#">Application of QoS Policies on ITU-T Y.1731 Egress Packets</a>	<p>You can now apply QoS policies on Y.1731 egress packets. Operations, Administration, and Maintenance (OAM) functions and mechanisms for Ethernet-based networks are defined in ITU-T Y.1731. With this implementation, you can prioritize OAM traffic; for example, prioritizing operational information used to detect faults and determining network performance.</p>
<a href="#">Layer 2 Control Protocol Enhancements</a>	<p>Layer 2 Control Protocols (L2CP) propagate the MAC address control information to determine which parts of a network the router should forward, tunnel, peer, or discard information.</p> <p>This release supports <b>forward</b> and <b>discard</b> options for the following protocols:</p> <ul style="list-style-type: none"> <li>• MRP Block</li> <li>• Cisco BPDU</li> <li>• Cisco STP UplinkFast</li> <li>• Cisco CFM</li> </ul>
<b>MPLS Basic</b>	
<a href="#">Support for Co-routed Inter-area Flex-LSP Tunnels</a>	<p>Flex LSPs (also called Associated Bidirectional LSPs) now support inter-area co-routed tunnels. With this implementation, we meet the specific requirements of network operators to create on-demand tunnels by defining an explicit path across different areas.</p>
<b>System Logging</b>	

Feature	Description
<a href="#">No Service Password Recovery</a>	<p>This feature provides additional security by removing all user files from bootflash during factory reset. It prevents the malicious users from accessing configuration files stored in bootflash.</p> <p>This feature is only supported on Cisco ASR 920-10SZ-PD, Cisco ASR-920-12CZ-A/D, Cisco ASR-920-4SZ-A/D, Cisco ASR-920-12SZ-IM, ASR-920U-12SZ-IM, Cisco ASR-920-24SZ-IM, Cisco ASR-920-24SZ-M, and Cisco ASR-920-24TZ-M routers.</p>
<b>Upgrading the Software on the Cisco ASR 920 Series Routers</b>	
<a href="#">Support for Firmware Upgrade</a>	This release introduces the firmware upgrade support for ASR 920-10SZ-PD and Cisco ASR-920-24SZ-IM, Cisco ASR-920-24SZ-M, and Cisco ASR-920-24TZ-M routers.
YANG Model Support for QoS Service Group	Cisco YANG now supports QoS Service Groups. Service-Groups allow you to add service instances to groups and apply service policies. You can configure the definition of the service-group and apply the service-group to an interface. With this implementation, you can quickly deploy QoS mechanisms, such as creating a class for email traffic.
IPv6: RFC 8200 Compliance	Improvements have been made to the Cisco IOS XE platforms to maintain compliance with IETF standards as specified for the Internet Protocol, Version 6 (IPv6) in <a href="#">RFC 8200</a> . The enhancements bring in improved security and better handling of IP packets with fragments.
TPoP T1/E1 clock status display update	Starting with release Cisco IOS XE Cupertino 17.9.1, TPoP T1/E1 clock status is accurately displayed in the recovered clock status output.
<b>Show Tech-Support Enhancements</b>	
Show Tech-Support Enhancements	<p>The <b>show tech-support</b> now supports generic commands to provide better debuggability. The <b>show tech-support platform cef</b> command now displays IPv4 address information.</p> <p>For more information, see <a href="#">Cisco IOS Configuration Fundamentals Command Reference</a>.</p>



## CHAPTER 3

# Caveats

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This chapter describes open and resolved severity 1 and 2 caveats and select severity 3 caveats:

- The “Open Caveats” sections list open caveats that apply to the current release and may apply to previous releases. A caveat that is open for a prior release and is still unresolved applies to all future releases until it is resolved.
- The “Resolved Caveats” sections list caveats resolved in a specific release, but open in previous releases.

The bug IDs are sorted alphanumerically.



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**Note** The Caveats section includes the bug ID and a short description of the bug. For details on the symptoms, conditions, and workaround for a specific caveat you must use the Bug Search Tool.

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- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.6, on page 18](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.6, on page 18](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.5a, on page 18](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.5a, on page 18](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.4a, on page 19](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.4a, on page 19](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.4, on page 19](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.4, on page 19](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.3, on page 20](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.3, on page 20](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.2a, on page 20](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.2a, on page 21](#)
- [Open Caveats – Cisco IOS XE Cupertino 17.9.1, on page 21](#)
- [Resolved Caveats – Cisco IOS XE Cupertino 17.9.1, on page 21](#)
- [Cisco Bug Search Tool, on page 22](#)

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.6

Identifier	Headline
<a href="#">CSCwi75499</a>	Lost CEM Circuit Configuration After Reboot
<a href="#">CSCwj82056</a>	Smart Licensing is not getting auto-register while upgrading the node.
<a href="#">CSCwi64206</a>	Port LED status glows in green color even after the peer end connection is removed & same vice versa
<a href="#">CSCwj58921</a>	[SVSP-893] Node adds a duplicate entry for BGP path in table whenever route-refresh is done

## Open Caveats – Cisco IOS XE Cupertino 17.9.6

Identifier	Headline
<a href="#">CSCwk48598</a>	PSU/FAN is showing as N/A after silent reload
<a href="#">CSCwk99487</a>	Silent reload
<a href="#">CSCwk71598</a>	Gratuitous ARP looping in REP Port-channel issue after upgrade/reload of the device

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.5a

Identifier	Headline
<a href="#">CSCwf07736</a>	cem interface counters momentarily report error when x21 xconnect is cleared and re-established
<a href="#">CSCwi41800</a>	Block end users from removing a GRANDPARENT policy-map if the policy-map is attached to an interface
<a href="#">CSCwb01284</a>	ASR 900 Series PTP Sync degraded on Tester after primary PTP source failover to secondary
<a href="#">CSCwe24919</a>	RJIL ASR-920 issue: both Power Supply is showing fail state while LED is Green

## Open Caveats – Cisco IOS XE Cupertino 17.9.5a

Identifier	Headline
<a href="#">CSCwd46121</a>	Time stamp issue on Transparent clock for 1G PORTS

Identifier	Headline
<a href="#">CSCwd23704</a>	ASR920: Warning message seen on enabling scaleipv6 sdm template.
<a href="#">CSCwd89451</a>	ASR920/NCS4202 doesn't forward IPv6 packets with src address 0:0:0:0:0:0:1111

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.4a

Identifier	Headline
<a href="#">CSCwh87343</a>	Cisco IOS XE Software Web UI Privilege Escalation Vulnerability

## Open Caveats – Cisco IOS XE Cupertino 17.9.4a

There are no open caveats in this release.

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.4

Identifier	Headline
<a href="#">CSCwe38959</a>	rs232 ASYNC PW service with full scale seeing packet and byte drops intermittently.
<a href="#">CSCwd90840</a>	mcast data traffic is getting dropped over vpls.
<a href="#">CSCwe54549</a>	ASR-920 - SFP not detected due to checksum error.
<a href="#">CSCvy81362</a>	ASR920: Controllers are down due to LP-LOP alarm After CE reboots.
<a href="#">CSCwe34672</a>	in asr920, High CPU on ptp_uea process.
<a href="#">CSCwd67723</a>	In IMA32D/IMA8D card, sometimes change in E1 controller config (after ctrlr flap) results in IM reboot.
<a href="#">CSCwd85267</a>	FR Port mode - show interface CLI does not display FR PW statistics.
<a href="#">CSCwe10460</a>	Power sensor threshold warning alarms in EPNM.

## Open Caveats – Cisco IOS XE Cupertino 17.9.4

Identifier	Headline
<a href="#">CSCwd05362</a>	Performance issue on router platform

Identifier	Headline
<a href="#">CSCwd67723</a>	In IMA32D/IMA8D card, sometimes change in E1 controller config (after ctrlr flap) results in IM reboot
<a href="#">CSCwe13024</a>	All readings for Power supply unit reflect as zero though the unit is functional
<a href="#">CSCwe27155</a>	[920] Seen traffic drop with BDI shut (IP_FRR configs)

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.3

Identifier	Headline
<a href="#">CSCwc76004</a>	ASR920: wrong timestamp in TWAMP test packet with PTP active
<a href="#">CSCwd57471</a>	Change in BGP ORF prefix-filter not being advertised from XE to XR node
<a href="#">CSCwb77093</a>	next hop self does changes automatically on VRF lite and ipv4
<a href="#">CSCwd06972</a>	IOS-XE 17.x - user password not saved if user attribute list is configured
<a href="#">CSCwd58396</a>	NETCONF: Failed sync between Running configs and Candidate database
<a href="#">CSCwc55520</a>	Traceback and IDB leak noticed when a RSP3 setup performs a switchover

## Open Caveats – Cisco IOS XE Cupertino 17.9.3

Identifier	Headline
<a href="#">CSCwc76004</a>	ASR920: wrong timestamp in TWAMP test packet with PTP active
<a href="#">CSCwc93296</a>	ASR-920-10SZ-PD /16.9.4/port Te0/0/10 went admin down after in successive reload
<a href="#">CSCwd76589</a>	BGP On Change Notification not sent for BGP Dynamic Peers
<a href="#">CSCwc03907</a>	ISIS SRLG to BGPLS export problems
<a href="#">CSCwd90908</a>	NTP packets are sent from global VRF with a source IP configured on service VRF interface

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.2a

Identifier	Headline
<a href="#">CSCwc84627</a>	ASR-920-12SZ-IM - reboots continuously for a PCIE bus error

Identifier	Headline
<a href="#">CSCwb77396</a>	G.8032: Ring brief output does not display the Block port flag in Idle state
<a href="#">CSCwc21402</a>	Invalid BGP update when add-paths negotiated only for label (SAFI 4) and not unicast (SAFI1)
<a href="#">CSCwc67367</a>	Seeing traffic issues after clearing ISIS with <b>SRTE_ODN_ISIS_Flex_Algo</b> configs

## Open Caveats – Cisco IOS XE Cupertino 17.9.2a

Identifier	Headline
<a href="#">CSCwc93296</a>	ASR-920-10SZ-PD /16.9.4/port Te0/0/10 reports admin down after successive reloads
<a href="#">CSCwc79322</a>	ASR-920: Memory leak on <b>ptpd_uea</b> process
<a href="#">CSCwd46121</a>	Time stamp issue on Trasparanet clock for 1G PORTS process
<a href="#">CSCwc54860</a>	EIGRP down authentication issues after upgrading from 17.3 to 17.6
<a href="#">CSCwc03907</a>	ISIS SRLG to BGPLS export problems
<a href="#">CSCwc23316</a>	Command "show snmp mib ifmib ifindex detail [IntName]" truncated when is more than 32 characters
<a href="#">CSCwc54860</a>	EIGRP down authentication issues after upgrading from 17.3 to 17.6
<a href="#">CSCwc03907</a>	ISIS SRLG to BGPLS export problems
<a href="#">CSCwc23316</a>	Command "show snmp mib ifmib ifindex detail [IntName]" truncated when is more than 32 characters

## Open Caveats – Cisco IOS XE Cupertino 17.9.1

Identifier	Headline
<a href="#">CSCwb78907</a>	DS3_RX_RAI is shown in both <b>facility-alarm</b> and <b>facility-condition status</b> commands

## Resolved Caveats – Cisco IOS XE Cupertino 17.9.1

Identifier	Headline
<a href="#">CSCwa33548</a>	We observed traffic issue with latest labels and bi-directional traffic is not working and drop is seen
<a href="#">CSCvy78284</a>	Router crashes when zeroised RSA key is regenerated

Identifier	Headline
<a href="#">CSCwa52959</a>	TPOP T1/E1 : Clock status to be corrected for alarm condition
<a href="#">CSCwa16189</a>	SNMP traps are seen continuously in SNMP server with MPLS-TE configuration
<a href="#">CSCvz65726</a>	Post SSO with Qos OHA counters stop works
<a href="#">CSCvv16943</a>	Uea-iomd phase2 IM FPD upgrade commit to polaris_dev
<a href="#">CSCvw17894</a>	Exception for weak algorithm options for SNMP does not work
<a href="#">CSCwb01224</a>	Multihop BFD transit packets getting droppedn on router after upgrade to 17.3.3
<a href="#">CSCwb01940</a>	Router drops L2 multicast traffic upon REP topology change
<a href="#">CSCwa41638</a>	Router MAC Table and L2VPN EVPN Table out of sync

## Cisco Bug Search Tool

[Cisco Bug Search Tool](#) (BST), the online successor to Bug Toolkit, is designed to improve effectiveness in network risk management and device troubleshooting. You can search for bugs based on product, release, and keyword, and aggregates key data such as bug details, product, and version. For more details on the tool, see the help page located at <http://www.cisco.com/web/applicat/cbsshelp/help.html>