



## **Release Notes for Cisco ASR 900 Series Routers, Cisco IOS XE Everest 16.5.1**

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## CONTENTS

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### CHAPTER 1

#### **Introduction** 1

- Overview of Cisco ASR 900 Series Routers 1
  - Cisco ASR 900 Series Router 1
  - Cisco ASR 902 Router 2
  - Cisco ASR 903 Router 2
  - Cisco ASR 907 Router 2
- Feature Navigator 2
- Hardware Support 3
  - Cisco ASR 902 Supported Interface Modules 3
    - A900-RSP2-Supported Interface Modules (ASR 902 Router) 3
    - A900-RSP3C-200-S Supported Interface Modules (ASR 902 Router) 5
  - Supported RSP and Interface Modules on the Cisco ASR 903 Router 6
  - Supported RSP and Interface Modules on the Cisco ASR 907 Router 9
- Feature Matrix 9
- Software Licensing Overview 9
- Determining the Software Version 10
- Upgrading to a New Software Release 11
- Supported FPGA Versions 11
- MIB Support 12
  - MIB Documentation 14

---

### CHAPTER 2

#### **New Features** 15

- New Software Features in Cisco IOS XE Everest 16.5.1 15

---

### CHAPTER 3

#### **Caveats** 21

- Cisco Bug Search Tool 21

Open Caveats – Cisco IOS XE Everest 16.5.2 21

Resolved Caveats – Cisco IOS XE Everest 16.5.2 23

Open Caveats – Cisco IOS XE Everest 16.5.1 24

Resolved Caveats – Cisco IOS XE Everest 16.5.1 26

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**CHAPTER 4**      **Restrictions and Limitations**    29



# CHAPTER 1

## Introduction

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The Cisco ASR 900 Series Routers are full-featured, modular aggregation platforms designed for the cost-effective delivery of converged mobile, residential, and business services.

The Cisco ASR 900 Router Series runs the Cisco IOS XE software beginning with Cisco IOS XE Everest 16.5.1, which is the first supported release in the Release 16 Series.

- [Overview of Cisco ASR 900 Series Routers](#) , on page 1
- [Feature Navigator](#), on page 2
- [Hardware Support](#) , on page 3
- [Feature Matrix](#), on page 9
- [Software Licensing Overview](#), on page 9
- [Determining the Software Version](#) , on page 10
- [Upgrading to a New Software Release](#) , on page 11
- [Supported FPGA Versions](#) , on page 11
- [MIB Support](#), on page 12

## Overview of Cisco ASR 900 Series Routers

### Cisco ASR 900 Series Router

The Cisco ASR 900 Series Router is a fully-featured routing platform designed for the cost-effective delivery of converged mobile and business services. With full redundancy, shallow depth, low power consumption and high service scale, this 3-rack-unit (3RU) router is optimized for small aggregation and remote point-of-presence (POP) applications. The Cisco ASR 900 Series Router provides a rich and scalable feature set of Legacy, Timing, Carrier Ethernet, Layer 2 VPN (L2VPN) and Layer 3 VPN (L3VPN) services in a compact package.

The Cisco ASR 900 Series Router is a fully modular platform with support for upto 6-Interface Modules (IMs), two Route Switch Processor (RSP) slots, two power supplies and redundant fans, based on the router model. Cisco offers a wide choice of LAN and WAN interfaces available in speeds ranging from nxDS0 to 10 Gigabit Ethernet. The design of the Cisco ASR 900 Series Router delivers in-box hardware redundancy for all hardware components and supports software redundancy with In Service Software Upgrade (ISSU) and Non-Stop Forwarding (NSF) support.

## Cisco ASR 902 Router

The Cisco ASR 902 Router is a full-featured aggregation platform designed for cost-effective delivery of converged mobile and business services. With shallow depth, low power consumption, and an extended temperature range, this compact 2-rack unit (2RU) router provides high service scale and flexible hardware configuration.

## Cisco ASR 903 Router

The Cisco ASR 903 Series Aggregation Services Router is a Cisco aggregation router product. This router uses an innovative and powerful forwarding technology known as the Cisco Carrier Ethernet ASIC.

The Cisco ASR 903 Series Router is a 6-Interface Module (IM), 3-RU, hardware-redundant chassis with two Route Switch Processor (RSP) slots, and six IM slots. It supports fully redundant RSPs that allow for full RSP hardware redundancy, NSF, ISSU, and future RSP service upgrades. The Cisco ASR 903 Series Router runs the Cisco IOS XE software and is supported since Cisco IOS XE Everest 16.5.1.

## Cisco ASR 907 Router

The Cisco ASR 907 Router seven-rack (7RU) unit router that belongs to the Cisco ASR90x family of routers. This router complements Cisco's offerings for IP RAN solutions for the GSM, UMTS, LTE and CDMA. Given its form-factor, interface types and Gigabit Ethernet density the Cisco ASR 907 Router can also be positioned as a Carrier Ethernet aggregation platform.

The Cisco ASR 907 Router is a cost optimized, fully redundant, centralized forwarding, extended temperature, and flexible pre-aggregation router.

## Feature Navigator

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

# Hardware Support

## Cisco ASR 902 Supported Interface Modules

### A900-RSP2-Supported Interface Modules (ASR 902 Router)

Table 1: A900-RSP2-Supported Interface Modules and Part Numbers

RSP	Interface Modules	Part Numbers	Slots
A900-RSP2A-128 A900U-RSP2A-128	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	All
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	1-port 10-Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	
	16-port T1/E1 Interface Module	A900-IMA16D	
	4-port OC3/STM-1 (OC-3) or 1-port OC12/STM-4 (OC-12) Interface Module	A900-IMA4OS	
	SFP Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10-Gigabit Ethernet (1x10GE)	A900-IMA8S1Z	
	Copper Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10-Gigabit Ethernet Interface Module (1x10GE)	A900-IMA8T1Z	
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	14-port Serial Interface Module	A900-IMASER14A/S	

RSP	Interface Modules	Part Numbers	Slots
	4-port C37.94 Interface Module	A900-IMA4C3794	
A900-RSP2A-64 A900U-RSP2A-64	1-port 10 Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	0-2
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	4-port OC3/STM-1 (OC-3) or 1-port OC12/STM-4 (OC-12) Interface Module	A900-IMA4OS	
	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	0, 2 and 3
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	16-port T1/E1 Interface Module	A900-IMA16D	
	32-port T1/E1 Interface Module	A900-IMA32D	
	8-port T1/E1 Interface Module	A900-IMA8D	
	6-port E & M Interface Module	A900-IMA6EM	
	14-port Serial Interface Module	A900-IMASER14A/S	
	4-port C37.94 Interface Module	A900-IMA4C3794	



## A900-RSP3C-200-S Supported Interface Modules (ASR 902 Router)

**Table 2: A900-RSP3C-200 Supported Interface Modules and Part Numbers**

RSP Module	Supported Interface Modules	Part Numbers	Slot
A900-RSP3C-200-S	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	All <sup>1</sup>
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	1-port 10 Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	0 and 1
	SFP Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet (1x10GE)	A900-IMA8S1Z	All
	Copper Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet Interface Module (1x10GE)	A900-IMA8T1Z	
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	8-port 10 Gigabit Ethernet Interface Module (8x10GE)	A900-IMA8Z	0
	2-port 40 Gigabit Ethernet QSFP Interface Module (2x40GE)	A900-IMA2F	

<sup>1</sup> There are restrictions using the interface modules in different slots with RSP3 module. Contact Cisco Sales/Support for the valid combinations..

## Supported RSP and Interface Modules on the Cisco ASR 903 Router

*Table 3: A900-RSP2 Supported Interface Modules and Part Numbers*

RSP Module	Supported Interface Modules	Part Numbers	Slot
A900-RSP2A-128	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	All
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	1-port 10 Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	
	16-port T1/E1 Interface Module	A900-IMA16D	
	32-port T1/E1 Interface Module	A900-IMA32D	
	8-port T1/E1 Interface Module	A900-IMA8D	
	4-port OC3/STM-1 (OC-3) or 1-port OC12/STM-4 (OC-12) Interface Module	A900-IMA4OS	
	SFP Combo IM—8-port SFP Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet (1x10GE)	A900-IMA8S1Z	
	Copper Combo IM—8-port 10/100/1000 Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet Interface Module (1x10GE)	A900-IMA8T1Z	
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	6-port E & M Interface Module	A900-IMA6EM	
	14-port Serial Interface Module	A900-IMASER14A/S	
4-port C37.94 Interface Module	A900-IMA4C3794		

RSP Module	Supported Interface Modules	Part Numbers	Slot
A900-RSP2A-64	1-port 10 Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	0-2
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	4-port OC3/STM-1 (OC-3) or 1-port OC12/STM-4 (OC-12) Interface Module	A900-IMA4OS	
A900-RSP2-64	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	3-5
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	16-port T1/E1 Interface Module	A900-IMA16D	
	32-port T1/E1 Interface Module	A900-IMA32D	
	8-port T1/E1 Interface Module	A900-IMA8D	
	6-port E & M Interface Module	A900-IMA6EM	
	14-port Serial Interface Module	A900-IMASER14A/S	
	4-port C37.94 Interface Module	A900-IMA4C3794	



**Note** The combination IMs (A900-IMA8S1Z, A900-IMA8T1Z) are not supported on the A900-RSP2-64 RSP module on the Cisco ASR 900 Series Router.

Table 4: A900-RSP3C-400 Supported Interface Modules and Part Numbers

RSP Module	Supported Interface Modules	Part Numbers	Slot
A900-RSP3C-400-S	8-port Gigabit Ethernet SFP Interface Module (8x1GE)	A900-IMA8S	All <sup>2</sup>
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8x1GE)	A900-IMA8T	
	1-port 10 Gigabit Ethernet XFP Interface Module (1x10GE)	A900-IMA1X	
	SFP Combo IM—8-port SFP Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet (1x10GE)	A900-IMA8S1Z	
	Copper Combo IM—8-port 10/100/1000 Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet Interface Module (1x10GE)	A900-IMA8T1Z	
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	A900-IMA2Z	
	8-port 10 Gigabit Ethernet Interface Module (8x10GE)	A900-IMA8Z	
	1-port 100 Gigabit Ethernet Interface Module (1x100GE)	A900-IMA1C	4 and 5
	2-port 40 Gigabit Ethernet QSFP Interface Module (2x40GE)	A900-IMA2F	4 and 5

<sup>2</sup> There are restrictions using the interface modules in different slots with RSP3 module. Contact Cisco Sales/Support for the valid combinations.

## Supported RSP and Interface Modules on the Cisco ASR 907 Router

Table 5: A900-RSP3 Supported Interface Modules and Part Numbers

RSP Module	Interface Modules	Part Number	Slot
A900-RSP3C-400-W	8-port Gigabit Ethernet SFP Interface Module (8X1GE)	A900-IMA8S	0,1,2,5,6,9,10,13,14,15
	8-port Gigabit Ethernet RJ45 (Copper) Interface Module (8X1GE)	A900-IMA8T	0,1,2,5,6,9,10,13,14,15
	SFP Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet (1x10GE)	ASR900-IMA8S1Z	2,5,6,9,10,13,14,15
	Copper Combo IM—8-port Gigabit Ethernet (8x1GE) + 1-port 10 Gigabit Ethernet Interface Module (1x10GE)	ASR900-IMA8T1Z	2,5,6,9,10,13,14,15
	2-port 10 Gigabit Ethernet Interface Module (2x10GE)	ASR900-IMA2Z	3,4,7,8,11,12
	1-port 100 Gigabit Ethernet Interface Module (1x100GE)	A900-IMA1C	7,8
	2-port 40 Gigabit Ethernet QSFP Interface Module (2x40GE)	A900-IMA2F	3,4,7,8,11,12
	8-port 10 Gigabit Ethernet Interface Module (8x10GE)	A900-IMA8Z	3,4,7,8,11,12
	OC-192 Interface Module with 8-port Low Rate CEM Interface Module (10G HO/10G LO)	A900-IMA8S1Z-CX	3,4,7,8,11,12
	48XT1/E1 Interface module	A900-IMA48D-C	0,1,2,3,4,5,6,7,8,9,10,13,14,15
	48XT3/E3 Interface module	A900-IMA48T-C	0,1,2,3,4,5,6,7,8,9,10,13,14,15

## Feature Matrix

The feature matrix lists the features supported for each platform. For more information, see the [Cisco ASR 900 Series Aggregation Services Routers Feature Compatibility Matrix](#) on Cisco.com.

The cumulative [Feature Compatibility Release Matrix](#) is available on Content Hub.

## Software Licensing Overview

The router offers the following base licenses:

- Metro Services
- Metro IP Services

- Metro Aggregation Services

Table 6: Cisco ASR 900 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)
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-overview- Port License



**Note** These features require a software license to use.

## Determining the Software Version

You can use the following commands to verify your software version:

- Consolidated Package—**show version**
- Individual sub-packages—**show version installed** (lists all installed packages)

# Upgrading to a New Software Release

Only Cisco IOS XE Everest 16.5.1 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 [Cisco ASR 900 Router Series Configuration Guide](#).

## ROMMON Version

We recommend you to upgrade the ROMMON version to 15.6(20r)S.

For more information on the ROMMON package, see [Cisco Software Download](#).

# Supported FPGA Versions

Use the show hw-module all fpd command to display the FPGA version on the router.

The below table lists the FPGA version for the software releases.



**Note** If there is an FPGA upgrade during ISSU, it will cause traffic disruption. TDM interface modules get reset irrespective of FPGA upgrade during the ISSU.

*Table 7: IM FPGA Versions*

Cisco IOS XE Release	Gigabit Ethernet Interface Module (Phase 1) FPGA	Gigabit Ethernet Interface Module (Phase2) FPGA	TDM Interface Module FPGA	RSP2 Module HoFPGA
16.5.1	0.47	69.22	—	0X00030005

*Table 8: CEM FPGA Versions*

Cisco IOS XE Release	48 X T1/E1 CEM Interface Module FPGA	48 X T3/E3 CEM Interface Module FPGA	OC-192 Interface Module + 8-port Low Rate Interface Module FPGA
16.5.1	0x46310046	0x46310046	5G mode: 0x10070059 10G mode: 0x10050073

*Table 9: IM FPGA Versions for ASR 903 RSP3 and ASR 907*

Cisco IOS XE Release	IO FGPA	8 x10 FPGA	2x40 FPGA	1x100 FPGA
16.5.1	2.7	0.21 (0x1500 H)	0.22 (0x1600 H)	0.20 (0x1400 H)

# MIB Support

The below table summarizes the supported MIBs on the Cisco ASR 900 Series Router.

**Table 10: Supported MIBs**

Supported MIBs		
BGP4-MIB (RFC 1657)	CISCO-IMAGE-LICENSE-MGMT-MIB	MPLS-LDP-STD-MIB (RFC 3815)
CISCO-BGP-POLICY-ACCOUNTING-MIB	CISCO-IMAGE-MIB	MPLS-LSR-STD-MIB (RFC 3813)
CISCO-BGP4-MIB	CISCO-IPMROUTE-MIB	MPLS-TP-MIB
CISCO-BULK-FILE-MIB	CISCO-LICENSE-MGMT-MIB	MSDP-MIB
CISCO-CBP-TARGET-MIB	CISCO-MVPN-MIB	NOTIFICATION-LOG-MIB (RFC 3014)
CISCO-CDP-MIB	CISCO-NETSYNC-MIB	OSPF-MIB (RFC 1850)
CISCO-CEF-MIB	CISCO-OSPF-MIB	OSPF-TRAP-MIB (RFC 1850)
CISCO-CLASS-BASED-QOS-MIB	CISCO-OSPF-TRAP-MIB	PIM-MIB (RFC 2934)
CISCO-CONFIG-COPY-MIB	CISCO-PIM-MIB	RFC1213-MIB
CISCO-CONFIG-MAN-MIB	CISCO-PROCESS-MIB	RFC2982-MIB
CISCO-DATA-COLLECTION-MIB	CISCO-PRODUCTS-MIB	RMON-MIB (RFC 1757)
CISCO-EMBEDDED-EVENT-MGRMIB	CISCO-PTP-MIB	RSVP-MIB
CISCO-ENHANCED-MEMPOOL-MIB	CISCO-RF-MIB	SNMP-COMMUNITY-MIB (RFC 2576)
CISCO-ENTITY-ALARM-MIB	CISCO-RTTMON-MIB	SNMP-FRAMEWORK-MIB (RFC 2571)
CISCO-ENTITY-EXT-MIB	CISCO-SONET-MIB	SNMP-MPD-MIB (RFC 2572)
CISCO-ENTITY-FRU-CONTROLMIB	CISCO-SYSLOG-MIB	SNMP-NOTIFICATION-MIB (RFC 2573)
CISCO-ENTITY-SENSOR-MIB	DS1-MIB (RFC 2495)	SNMP-PROXY-MIB (RFC 2573)
CISCO-ENTITY-VENDORTYPE-OID-MIB	ENTITY-MIB (RFC 4133)	SNMP-TARGET-MIB (RFC 2573)
CISCO-FLASH-MIB	ENTITY-SENSOR-MIB (RFC 3433)	SNMP-USM-MIB (RFC 2574)
CISCO-FTP-CLIENT-MIB	ENTITY-STATE-MIB	SNMPv2-MIB (RFC 1907)
CISCO-IETF-ISIS-MIB	EVENT-MIB (RFC 2981)	SNMPv2-SMI
CISCO-IETF-PW-ATM-MIB	ETHERLIKE-MIB (RFC 3635)	SNMP-VIEW-BASED-ACM-MIB (RFC 2575)
CISCO-IETF-PW-ENET-MIB	IF-MIB (RFC 2863)	SONET-MIB



CISCO-IETF-PW-MIB	IGMP-STD-MIB (RFC 2933)	TCP-MIB (RFC 4022)
CISCO-IETF-PW-MPLS-MIB	IP-FORWARD-MIB	TUNNEL-MIB (RFC 4087)
CISCO-IETF-PW-TDM-MIB	IP-MIB (RFC 4293)	UDP-MIB (RFC 4113)
CISCO-IF-EXTENSION-MIB	IPMROUTE-STD-MIB (RFC 2932)	CISCO-FRAME-RELAY-MIB
CISCO-IGMP-FILTER-MIB	MPLS-LDP-GENERIC-STD-MIB (RFC 3815)	IF-MIB
CISCO-AAA-SERVER-MIB	—	—

Table 11: Unverified MIBs

Unverified MIBs		
ATM-MIB	CISCO-IETF-DHCP-SERVER-EXT-MIB	EXPRESSION-MIB
CISCO-ATM-EXT-MIB	—	HC-ALARM-MIB
CISCO-ATM-IF-MIB	CISCO-IETF-PPVPN-MPLS-VPN-MIB	HC-RMON-MIB
CISCO-ATM-PVC-MIB	CISCO-IP-STAT-MIB	IEEE8021-CFM-MIB
CISCO-ATM-PVCTRAP-EXTN-MIB	CISCO-IPSLA-ETHERNET-MIB	IEEE8021-CFM-V2-MIB
CISCO-BCP-MIB	CISCO-L2-CONTROL-MIB	IEEE8023-LAG-MIB
CISCO-CALLHOME-MIB	CISCO-LAG-MIB	INT-SERV-GUARANTEED-MIB
CISCO-CIRCUIT-INTERFACE-MIB	CISCO-MAC-NOTIFICATION-MIB	INTEGRATED-SERVICES-MIB
CISCO-CONTEXT-MAPPING-MIB	CISCO-MEMORY-POOL-MIB	MPLS-L3VPN-STD-MIB (RFC 4382)
CISCO-EIGRP-MIB	CISCO-NHRP-EXT-MIB	MPLS-LDP-ATM-STD-MIB (RFC 3815)
CISCO-ERM-MIB	CISCO-NTP-MIB	MPLS-LDP-MIB
CISCO-ETHER-CFM-MIB	CISCO-PING-MIB	MPLS-TE-STD-MIB
CISCO-ETHERLIKE-EXT-MIB	CISCO-RESILIENT-ETHERNET-PROTOCOL-MIB	MPLS-VPN-MIB
CISCO-EVC-MIB	CISCO-RTTMON-ICMP-MIB	NHRP-MIB
CISCO-HSRP-EXT-MIB	CISCO-RTTMON-IP-EXT-MIB	RFC2006-MIB (MIP)
CISCO-HSRP-MIB	CISCO-RTTMON-RTP-MIB	RMON2-MIB (RFC 2021)
CISCO-IETF-ATM2-PVCTRAP-MIB	CISCO-SNMP-TARGET-EXT-MIB	SMON-MIB
CISCO-IETF-ATM2-PVCTRAP-MIBEXTN	CISCO-TCP-MIB	VRRP-MIB

CISCO-IETF-BFD-MIB	CISCO-VRF-MIB	—
CISCO-IETF-DHCP-SERVER-MIB	ETHER-WIS (RFC 3637)	—

## MIB Documentation

The following resources provide more detail about MIBs on the Cisco ASR 900 Series Router:

- Cisco ASR 900 Series Router MIB Guide—For information about the Cisco ASR 903 Series Router product implementation of the MIB protocol, see *Cisco ASR 903 Series Aggregation Services Router MIB Specifications Guide* at the following location:

[http://www.cisco.com/c/en/us/td/docs/wireless/asr\\_900/mib/guide/asr903mib.html](http://www.cisco.com/c/en/us/td/docs/wireless/asr_900/mib/guide/asr903mib.html)

- MIB Locator—To locate and download MIBs for selected platforms, Cisco IOS and Cisco IOS XE releases, and feature sets, use Cisco MIB Locator found at the following location:

<http://tools.cisco.com/ITDIT/MIBS/servlet/index>



## CHAPTER 2

# New Features

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This chapter describes the new features supported on the Cisco IOS XE Everest 16.5.1.

- [New Software Features in Cisco IOS XE Everest 16.5.1, on page 15](#)

## New Software Features in Cisco IOS XE Everest 16.5.1

Following are the new software features:

- **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 on Cisco ASR 900 RSP2 and RSP3 modules. 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 \(Cisco ASR 900\)](#).

- **Additional Flex LSP feature support**

Effective Cisco IOS XE Everest 16.5.1, the Cisco ASR 900 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 Overview](#).

- **Auto In-Service States**

The Cisco ASR 900 series routers with RSP3 module now support configuration of interface modules in administrative configuration mode according to the Telecordia GR-1093. For more information, see [Auto In-Service States](#).

- **BCP Support on MLPPP**

This feature is only applicable for Cisco ASR 900 RSP2 module. 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 [BCP Support on MLPPP](#).

- **BFD on IP Unnumbered Interfaces**

Cisco ASR routers 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 [BFD on IP Unnumbered Interfaces](#).

- **Configuring 1G Mode on 8-port 10 Gigabit Ethernet Interface Module**

The 8-port 10 Gigabit Ethernet Interface Module (8X10GE) has eight ports and is supported on the Cisco ASR 900 RSP3 module. 1G mode is now supported with the devices in the distribution layer and that support both 1G and 10G traffic. Thus, all the eight ports can now work in 1G mode as well as 10G mode. For more information, see [Cisco ASR 900 Router Series Configuration Guide, Cisco IOS XE Everest 16.5.1](#).

- **Configuring 5G Traffic on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module**

Effective Cisco IOS XE Everest 16.5.1, 5G traffic is supported on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module. Prior to this release, only 10G traffic was supported. 5G traffic mode is supported on those interface module slots that do not support 10G traffic mode. For more information, see [Configuring 5G Traffic on 1-Port OC192/STM-64 or 8-Port OC3/12/48/STM-1/-4/-16 Interface Module](#).

- **Configuring Unidirectional Path Switching Ring (UPSR)**

The Cisco ASR 900 RSP3 module now supports Unidirectional Path Switching Ring (UPSR), a unidirectional network with two rings, one ring used as the working ring and the other as the protection ring. The same signal flows through both rings, one clockwise and the other counterclockwise. It is called UPSR because monitoring is done at the path layer. For more information, see [Cisco ASR 900 Router Series Configuration Guide, Cisco IOS XE Everest 16.5.1](#).

- **E1 Support on 48-Port T1/E1 CEM Interface Module**

The Cisco ASR 900 RSP3 module now support E1 mode for voice, data, and integrated voice or data applications on the 48-Port T1/E1 Interface Module.

The following features are supported on this interface module:

- ACR and DCR Support
- Alarm History Support
- Loopback and BERT Support
- Performance Monitoring

For more information, see [48-Port T1/E1 CEM Interface Module Configuration Guide, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900 Series\)](#).

- **E3 Support on 48-Port T3/E3 CEM Interface Module**

The Cisco ASR 900 RSP3 module now support the channels on the E3 interfaces on the 48-Port T3/E3 Interface Module. The channels on E3 interface can be configured as either clear channel mode or channelized mode.

The following features are supported on this interface module:

- ACR and DCR Support
- Alarm History Support
- Loopback and BERT Support
- Performance Monitoring
- DS3 Channelization

For more information, see [48-Port T1/E1 CEM Interface Module Configuration Guide, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900 Series\)](#).

- **Egress QoS Support on MLPPP Bundle**

Effective with Cisco IOS XE Release Everest 16.5.1, egress QoS support on MLPPP bundle is introduced on the Cisco ASR 900 RSP2 module. For more information, see [Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900 Series\)](#).

- **Egress Shaping Support on MLPPP Bundle**

Effective with Cisco IOS XE Release Everest 16.5.1, egress shaping support on MLPPP bundle is introduced on the Cisco ASR 900 RSP2 module. For more information, see [Quality of Service Configuration Guidelines, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900 Series\)](#).

- **Ethernet Dataplane Loopback**

Ethernet dataplane loopback is now supported on the Cisco ASR 900 RSP3 module. For more information, see [Configuring Ethernet Dataplane Loopback](#).

- **Flow-Aware Transport (FAT)**

Flow-Aware Transport Pseudowire (FAT-PW) is now supported on the Cisco ASR 900 RSP3 module, to load-balance traffic in the core, when Equal Cost Multiple Paths (ECMP) exist. FAT is applicable only on Cisco ASR 900 RSP3 module. For more information, see [Flow-Aware Transport \(FAT\) Load Balancing](#).

- **G.8275.2 Telecom Profile**

The Cisco ASR 900 RSP2 and Cisco ASR 900 RSP3 modules 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](#).

- **IPv6 QoS**

Ingress QoS features (classification, marking, and policing) is now supported for IPv6 traffic on Cisco ASR 900 RSP3 module. For more information, see [Quality of Service Configuration Guidelines](#).

- **MAC Security**

The MAC Security is now supported on the Cisco ASR 900 RSP3 module. The MAC Security addresses ports security with service instances by providing the capability to control and filter MAC address learning behavior. For more information, see [MAC Security](#).

- **MC-LAG**

Multichassis link aggregation group (MC-LAG) is supported on Cisco ASR 900 RSP3 module. For more information, see [Multichassis LACP](#).

- **MLDPv4 and MLDPv6 Support**

MLDP is supported on the Cisco ASR 900 RSP3 module. For more information, see [IP Multicast: Multicast Configuration Guide](#).

- **OAM (Link OAM, CFM and Y.1731) Support on Port Channel**

The Cisco ASR 900 RSP3 module now supports Operations, Administration and Maintenance (OAM) on port channel. For more information, see [Carrier Ethernet Configuration Guide, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900 Series\)](#).

- **OTN Wrapper**

Optical Transport Network (OTN) Wrapper feature provides robust transport services that leverage many of the benefits such as resiliency and performance monitoring, while adding enhanced multi-rate capabilities in support of packet traffic, plus the transparency required by Dense Wavelength Division Multiplexing (DWDM) networks. OTN is the ideal technology to bridge the gap between next generation IP and legacy Time Division Multiplexing (TDM) networks by acting as a converged transport layer for newer packet-based and existing TDM services. OTN is defined in ITU G.709 and allows network operators to converge networks through seamless transport of the numerous types of legacy protocols, while providing the flexibility required to support future client protocols.

OTN Wrapper feature is supported on the following interface modules:

- 8-port 10 Gigabit Ethernet Interface Module (8x10GE) (A900-IMA8Z) - The encapsulation type is OTU1e and OTU2e.
- 2-port 40 Gigabit Ethernet QSFP Interface Module (2x40GE) (A900-IMA2F) - The encapsulation type is OTU3.
- 1-port 100 Gigabit Ethernet Interface Module (1X100GE) (A900-IMA1C) - The encapsulation type is OTU4.

For more information, see [Cisco ASR 900 Router Series Configuration Guide, Cisco IOS XE Everest 16.5.1](#).

- **Service Activation**

ITU-T Y.1564 Ethernet service performance test methodology measures the ability of a network device to enable movement of traffic at the configured data rate. For more information, see [IP SLAs Configuration Guide, Cisco IOS XE Everest 16.5.1 \(Cisco ASR 900\)](#).

- **SSM Support on Cisco 48 X T3/E3 CEM Interface Module**

SSM is transported over T3 links using proprietary method. SSM is supported on the Cisco ASR 900 RSP3 module. SSM enables T3 to select the highest quality timing reference automatically and avoid the timing loops. SSM is supported on Cisco 48-Port T3/E3 CEM Interface Module. Effective Cisco IOS XE Everest 16.5.1, E3 mode is not supported. For more information, see [Cisco ASR 900 Router Series Configuration Guide, Cisco IOS XE Everest 16.5.1](#).

- **Support for Optic ONS-SI-2G-S1**

The ONS-SI-2G-S1 is supported on the 1-Port OC-192 or 8-Port Low Rate CEM IM. For more information, see [Cisco ASR 900 Series Aggregation Services Routers Optics Matrix](#).

- **Support of 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](#).

- **Table Map MDT Index Optimization**

Effective with Cisco IOS XE Everest Release 16.5.1, if the same table-mapping is applied on multiple interfaces, the MDT index is shared across these interfaces. Thus increased scaling of table-map is possible if table-mapping is reused. For more information see [QoS: Classification Configuration Guide](#) and [Quality of Service Configuration Guidelines](#).

- **TWAMP Responder with VRF support**

The Cisco ASR 900 RSP2 and Cisco ASR 900 RSP3 modules now support IETF Two-Way Active Measurement Protocol (TWAMP) responder on a Cisco device measures IP performance between the Cisco device and a non-Cisco TWAMP control device on the network. For more information, see [IP SLAs TWAMP Responder](#).

- **VPLS over Port-channel and BDI**

Effective with Cisco IOS XE Everest 16.5.1, Cisco ASR 900 RSP3 module supports VPLS over Port-channel (PoCH) and bridge domain interfaces (BDI).

For information more information, see [MPLS Layer 2 VPNs Configuration Guide, Cisco IOS XE Release 3S \(Cisco ASR 900 Series\)](#).







## CHAPTER 3

# Caveats

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.



**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.

- [Cisco Bug Search Tool](#), on page 21
- [Open Caveats – Cisco IOS XE Everest 16.5.2](#), on page 21
- [Resolved Caveats – Cisco IOS XE Everest 16.5.2](#), on page 23
- [Open Caveats – Cisco IOS XE Everest 16.5.1](#), on page 24
- [Resolved Caveats – Cisco IOS XE Everest 16.5.1](#), on page 26

## 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>

## Open Caveats – Cisco IOS XE Everest 16.5.2

Caveat ID Number	Description
<a href="#">CSCvb96943</a>	Offset from master jumps to Huge value with SPAN

Caveat ID Number	Description
<a href="#">CSCvc50710</a>	Polaris RSP2: Standby RP Crash in HA-IDB-SYNC Process on SOAK of Delete Reconfig CEM and ACR
<a href="#">CSCvb13590</a>	ASR900:In OC3 IM Winpath BUS ERROR is observed due to invalid multiclass number in the packet
<a href="#">CSCvb99102</a>	MH BFD session flaps on shutting interface of no relevance to BFD session.
<a href="#">CSCvc21158</a>	Traffic is flapping on channel when W port is deleted from ACR group
<a href="#">CSCvc47098</a>	Bilbo: Bert result for unframed E3 controller is not updated properly
<a href="#">CSCvc54203</a>	Post ISSU : DCR remains in UNKNOWN state
<a href="#">CSCvc70246</a>	RSP3 - VPLS Tunnel Label incorrectly programmed in ARAD
<a href="#">CSCvc74964</a>	IPC channel hogging due to alarm flooding on cable looping for APS ports
<a href="#">CSCvc78958</a>	SOAK: Observed crash while running soak reload trigger in RSP2
<a href="#">CSCvd12082</a>	RSP3-mlacp: FMFP-3-OBJ_DWNLD_TO_DP_FAILED: SIP0: fman_fp_image: atom_xconnect xid 0x408110
<a href="#">CSCvd16190</a>	Alarm flood fixes for Eowyn, bilbo, Denenthor
<a href="#">CSCvd33933</a>	APS is disabled in CEM FPGA causing alarms to CEM circuits
<a href="#">CSCvd44667</a>	RSP3: PREFIX Object Errored Objects on Local Core Flaps and in Parallel on Other Routers in the Core
<a href="#">CSCvd46410</a>	OCx: ACR/UPSR - Virtual Controller Shut/No-Shut not working due to License rejection
<a href="#">CSCvd77735</a>	RSP3 - Small loss (6-10ms) observed for VPLS traffic when BGP backup peer is powered down
<a href="#">CSCvd89421</a>	RMEP failure due to CFM HW table corruption
<a href="#">CSCve05859</a>	Exxx EIN: G.8275.1 testing: Clock loop forming between synce and ptp
<a href="#">CSCve37398</a>	RSP3-L2VPN: Load balancing is happening based on wrong fields in P node when CW is enabled.
<a href="#">CSCve52155</a>	RSP3: BFD Session Between 2 RSP3s Down on Reloading 1 RSP3
<a href="#">CSCvf03157</a>	RSP3:PC stays in suspended state on IM OIR
<a href="#">CSCvf08577</a>	RSP3 Arad not able to timestamp higher stream id packets in default profile
<a href="#">CSCvf16468</a>	RSP3-QIP: CFM H/w offloaded sessions over xconnect affecting S/w sessions configured over BD
<a href="#">CSCvf33633</a>	RSP3 - LFD-3-CORRUPTED_PKT: lfd received corrupted packet] msg seen with adjacent node failure

Caveat ID Number	Description
<a href="#">CSCvf34496</a>	RSP3-QIP:Error objects on Stby cfm_mp_ifh 16794673 sid 3001 download to CPP failed seen upon IM-OIR
<a href="#">CSCvf76091</a>	FP fails to bootup with mac security configurations
<a href="#">CSCvf80159</a>	ASR9xx: nile_mgr crashes from cef lb msg
<a href="#">CSCvf82663</a>	ASR903/RSP3C crashed at dl_callback
<a href="#">CSCvf84052</a>	RSP3: FMFP-3-OBJ_DWNLD_TO_CPP_FAILED when cfm service name len is 7 or more chars
<a href="#">CSCvf98718</a>	Standby RSP and IM module boot failure after code upgrade

## Resolved Caveats – Cisco IOS XE Everest 16.5.2

Caveat ID Number	Description
<a href="#">CSCva10414</a>	IPsec does not work if 1G IM is not present on 900 chassis
<a href="#">CSCve12246</a>	RSP3 which is locked to GNSS VP is not giving better accuracy
<a href="#">CSCve09409</a>	HBC Slave router doesnot choose best clock based on Clock Class
<a href="#">CSCvd79657</a>	ENTITY-MIB table entries missing for E1/T1 ports on the IMA16D card for ASR903
<a href="#">CSCvd49392</a>	SETS introducing 1pps out value in 479ms as compared to input 1pps
<a href="#">CSCvd04381</a>	Loopback local at tug levle e1 or t1 doesnt handle the Alarm condition
<a href="#">CSCvc95602</a>	ASR903 SDH counter errors
<a href="#">CSCvc32082</a>	Handling FRR for reopt cases
<a href="#">CSCvd00614</a>	RSP3:BFD is flapping when removing PTP config
<a href="#">CSCvd12047</a>	G8275.1: syncE drift when PTP is removed from G8275.1 TBC.
<a href="#">CSCvd22428</a>	RSP3 : HSPW traffic failure after SSO/IM OIR (FEC programmed as 0)
<a href="#">CSCvd28433</a>	ASR-900: By removing and adding auto neg at Cu interfaces leads to PTP malfunction
<a href="#">CSCvd32237</a>	RSP2 : MLDPv4 Full scale no DI programming on HE
<a href="#">CSCvd34080</a>	R0/R1 matters in "output 1pps R0"
<a href="#">CSCvd36747</a>	RSP3 - Native IPv6 multicast stops working with soak test
<a href="#">CSCvd69590</a>	G8275.1_RSP3: accuracy is ~500nsec when it uses to 10GE IM on first time boot
<a href="#">CSCvd72847</a>	RSP2: [SW Workaround for FPGA bug] TOD load failing with IMA8S1Z after IM-OIR

Caveat ID Number	Description
<a href="#">CSCvd96938</a>	RSP3 crashes @ tbn_lookup, uea_cef_get_leaf
<a href="#">CSCve13089</a>	License:unexpected rommon license boot variable&boot level metroservice configs set in standbyRSP3.
<a href="#">CSCve14324</a>	ASR 907 / RSP3C : port level shaper is counting packets twice.
<a href="#">CSCve27195</a>	Non PTP packets getting timestamped post PTP loopback shut at PTP master
<a href="#">CSCve29462</a>	BFD/ISIS stays in INIT-Down state on multiple interfaces.
<a href="#">CSCve71908</a>	RSP3-SOAK-Observing error objects "LB 0x938f download to DP failed" with soak
<a href="#">CSCve77231</a>	RSP3:traffic failure on VRRP session and traces @ vrrp_comms_process_pak
<a href="#">CSCvf66464</a>	ISSU failing between 16.5.X/16.6.Y CCO builds

## Open Caveats – Cisco IOS XE Everest 16.5.1

Caveat ID Number	Description
<a href="#">CSCvb99102</a>	MH BFD session flaps on shutting interface of no relevance to BFD session.
<a href="#">CSCvb13590</a>	ASR900:In OC3 IM Winpath BUS ERROR is observed due to invalid multiclass number in the packet
<a href="#">CSCvd04381</a>	Loopback local at tug levle e1 or t1 doesnt handle the Alarm condition
<a href="#">CSCvc59505</a>	Member link of Port channel gets removed on doing a SSO on the peer end
<a href="#">CSCvc87303</a>	MTU-9216-OSPF session is not coming up with BDI interface
<a href="#">CSCvd46588</a>	RSP3 - EoMPLS PW with BGP LU is pointing to wrong local BGP label
<a href="#">CSCvd29520</a>	RSP3 - Traffic takes backup remote LFA path even though primary path is available
<a href="#">CSCvc70246</a>	RSP3 - VPLS Tunnel Label incorrectly programmed in ARAD
<a href="#">CSCvd22428</a>	RSP3 : HSPW traffic failure after SSO/IM OIR (FEC programmed as 0)
<a href="#">CSCvd12082</a>	RSP3-mlacp: %FMFP-3-OBJ_DWNLD_TO_DP_FAILED: SIP0: fman_fp_image: atom_xconnect xid 0x408110
<a href="#">CSCvd00564</a>	RSP3:PTP over L2VPN ckt is corrupted(with some data pattern)
<a href="#">CSCva63048</a>	RSP3:Traffic Drop,IP FRR Primary is program'd with wrong Out going intf
<a href="#">CSCvd44667</a>	UMMT XE318SP RSP3: Global Labeled-BGP IPv4 PREFIX Errored Objects on Boot-Up
<a href="#">CSCvd55076</a>	UMMT: RLFA FRR - High convergence on shutting the core link

Caveat ID Number	Description
<a href="#">CSCvd32237</a>	RSP2 : MLDPv4 Full scale no DI programming on HE
<a href="#">CSCvd13823</a>	Storm control - L3 Mcast Traffic :: Not all packets are dropped
<a href="#">CSCvd69590</a>	G8275.1: accuracy is ~500nsec when it uses to 10GE IM on first time boot
<a href="#">CSCvd12047</a>	G8275.1: syncE drift when PTP is removed from G8275.1 TBC.
<a href="#">CSCvd28433</a>	On A900-IMA8T removing and adding auto neg at Cu interfaces leads to PTP malfunction
<a href="#">CSCvd00614</a>	RSP3:BFD is flapping when removing PTP config
<a href="#">CSCvb82613</a>	Tunnel/IGP down on SSO due to ingress VOQ packet drop
<a href="#">CSCvd37134</a>	Shutdown time displayed is wrong with FAN Tray OIR
<a href="#">CSCvd37125</a>	Sometime fan speed display is wrong in sh env
<a href="#">CSCvd00478</a>	CEM-ACR ACs are DN in stby router after ISSU
<a href="#">CSCvd38689</a>	Memory leak found @ dsx3_init_t1, cx3_init_e1
<a href="#">CSCvc50710</a>	Polaris RSP2: Standby RP Crash in HA-IDB-SYNC Process on SOAK of Delete Reconfig CEM and ACR
<a href="#">CSCvc80817</a>	WRT:LOF/LOMP alarms seen while provisioning of T1/E1 interfaces in OC3 IM
<a href="#">CSCvd46410</a>	OCx: ACR/UPSR - Virtual Controller Shut/No-Shut not working due to License rejection
<a href="#">CSCvb98836</a>	OCx: UPSR - Convergence time is exceeding 50ms when active work leg is unconfigured
<a href="#">CSCvc49467</a>	OCx:UPSR - Convergence is high with IM having active APS and UPSR circuits is reloaded.
<a href="#">CSCCuz78113</a>	OCx HA: Traffic outage is seen during SSO for few ckts at 4K scale
<a href="#">CSCvc21158</a>	Traffic is flapping on channel when W port is deleted from ACR group
<a href="#">CSCvd11120</a>	IOSD crash seen when clearing alarms on OC192 port having 5K scale.
<a href="#">CSCCuz89582</a>	VCOP: B1/B2/B3 errors not detected
<a href="#">CSCvc41851</a>	ASR900 : Binos Logs (tracelogs) time stamps are not in sync with IOS/Binos Time stamp
<a href="#">CSCvd02443</a>	Copy of 8K cem circuits Cem circuits to reach HA sync takes longer time
<a href="#">CSCvc68648</a>	RSP3-mlacp: Traffic drops seen upon POA failover with PW-grouping
<a href="#">CSCvd51482</a>	Traffic loss seen in endpoint_sso_after_path_protection_trigger Flex-LSP script RSP3, v165

Caveat ID Number	Description
<a href="#">CSCvb62564</a>	UMMT :: VPN Traffic drop upto 7 secs is observed for RSP1B SSO
<a href="#">CSCvd29919</a>	RSP3-Not able to ping external IPv6 address from BINOS.
<a href="#">CSCvc66305</a>	mlacp: LACP max-bundle config is not parsed on SSO/reload
<a href="#">CSCvd81475</a>	PTP : Transparent Clock is not supported on RSP3
<a href="#">CSCvd81474</a>	PTP : Virtual-Port is not supported on RSP2
<a href="#">CSCvd89120</a>	IPsec is not supported on RSP3 and ASR-920-12SZ-IM
<a href="#">CSCvd22452</a>	Cylon manager crashes while defaulting the running SLA's interface
<a href="#">CSCvd12333</a>	ISIS: FRR with unnumbered interface leads to traffic loss until TI-LFA repair path is removed

## Resolved Caveats – Cisco IOS XE Everest 16.5.1

Caveat ID Number	Description
<a href="#">CSCvc25416</a>	UMMT Automated Regression :: Active RSP3-200 crashes after interface shutdown between AG1 and AG2
<a href="#">CSCvd12231</a>	RSP3: Unicast ARP resolution fails in VRRP master state
<a href="#">CSCuz89518</a>	T3 AIS: Implementing structure aware DS3 SATOP
<a href="#">CSCvc77387</a>	[RSP3-DHCP-Relay]:unicast dhcp relay is getting dropped over vrf (transparent case)
<a href="#">CSCvc77491</a>	[RSP3-STORM-CONTROL]:Storm Control kicks by default if attached on ge0/2/0 in RSP3
<a href="#">CSCva24546</a>	MPLS TE : 1-2 ms traffic loss when backup interface state is toggled
<a href="#">CSCvb67543</a>	uea mgr crash @"uea_mpls_atom" upon flapping core A/A Poch interface of peer box
<a href="#">CSCvb55216</a>	VPLS: LDP flap after SSO leads to 100% traffic loss
<a href="#">CSCvc72446</a>	RSP2 : MLDPv4 P2MP inconsistent behaviour on triggers
<a href="#">CSCvd00444</a>	RSP2 : MLDPv4 P2MP No DI Issue
<a href="#">CSCvb55255</a>	High ptp offset and clock state toggling on RSP3 in G.8275.x profile
<a href="#">CSCvc53794</a>	RSP3: PTP over MPLS support
<a href="#">CSCva86254</a>	High CPU utilization on AAC nodes after reload
<a href="#">CSCvc37483</a>	Memory leak in SNMP on ASR903 with RSP3c/RSP2

Caveat ID Number	Description
<a href="#">CSCvd07855</a>	lpps under a virtual port remains down after SSO on RSP2
<a href="#">CSCvb01698</a>	LEAPSEC:leap second is not considered while setting PTP to system time
<a href="#">CSCvc99710</a>	configuration of no-crc4 on protected cem-acr is failing
<a href="#">CSCvb51372</a>	CEM jitterbuffer underruns with CEM marking policy
<a href="#">CSCvc21452</a>	ASR903:ISIS routes are set with Max Metric due to IGP LDP Sync
<a href="#">CSCvc51408</a>	ISIS route oscillation due to ldp sync and interface max metric
<a href="#">CSCuw50415</a>	Crash seen @ hwidb_iftype_unlist while doing unconifg of channel-group
<a href="#">CSCuy90859</a>	CEM LAddr: 0.0.0.0 status becms Estb instd of remng in provisioned state
<a href="#">CSCuz14316</a>	IOSd Crash at in LDP Main process on Bringing Down Labeled-BGP inline-RR
<a href="#">CSCuz22162</a>	Digital certificates does not sync to standby
<a href="#">CSCva15526</a>	PW down after clear mpls ldp neighbor followed by RSP SSO
<a href="#">CSCvb00272</a>	OSPFv3 IPSEC socket session is not coming up after reboot
<a href="#">CSCvb49730</a>	VFI is down after provisioning a new new VFI to the existing







## CHAPTER 4

# Restrictions and Limitations

- The **ip cef accounting** command is *not* supported on the router.
- In-Service Software Upgrade (ISSU) is not supported in the Cisco IOS XE Everest 16.5.1 release.
- Crash may be observed on the router when:
  - EoMPLS, CEM, ATM and IMA Pseudowire Redundancy (PW-redundancy) configurations exist while switchover and fail-back of the pseudowires are being triggered, and the **show platform hardware pp active pw eompls** command is executed.
- Configuration sync does *not* happen on the Standby RSP when the active RSP has Cisco Software Licensing configured, and the standby RSP has Smart Licensing configured on the router. If the active RSP has Smart Licensing configured, the state of the standby RSP is undetermined. The state could be pending or authorized as the sync between the RSP modules is not performed.
- Evaluation mode feature licenses may not be available to use after disabling, and enabling the smart licensing on the ASR 903 RSP2 module. A reload of the router is required.
- Ingress counters are not incremented for packets of the below format on the RSP3 module for the 10 Gigabit Ethernet interfaces, 100 Gigabit Ethernet interfaces, and 40 Gigabit Ethernet interfaces:

### Packet Format

MAC header---->Vlan header---->Length/Type

When these packets are received on the RSP3 module, the packets are not dropped, but the counters are not incremented.

- ISSU is not supported between a Cisco IOS XE 3S Release and the Cisco IOS XE Everest 16.5.1.
- IPSec is *not* supported in Cisco IOS XE Everest 16.5.1.
- This is applicable only to Cisco ASR 903 RSP2 module.
  - Traffic is dropped when packets of size 64 to 100 bytes are sent on 1G and 10G ports.
    - For 64-byte packets, traffic drop is seen at 70% and beyond of the line rate.
    - For 90-byte packets, traffic drop is seen at 90% and beyond of the line rate.
    - For 95-byte packets, traffic drop is seen at 95% and beyond of the line rate.
  - Traffic is dropped when:

- Traffic is sent on a VRF interface.
- Traffic is sent across layer 2 and layer 3.

However, traffic is not dropped when the packet size is greater than 100 bytes, even if the packets are sent bidirectionally at the line rate.