



## What's New in Cisco IOS XE Bengaluru 17.4.x

This chapter describes the new hardware and software features supported on the Cisco ASR 920 Series routers in Cisco IOS XE Bengaluru 17.4.x.

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

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### What's New in Hardware for Cisco IOS XE Bengaluru 17.4.2

There are no new hardware features in this release.

### What's New in Software for Cisco IOS XE Bengaluru 17.4.2

There are no new software features in this release.

### What's New in Hardware for Cisco IOS XE Bengaluru 17.4.x

There are no new hardware features in this release.

### What's New in Software for Cisco IOS XE Bengaluru 17.4.x

Feature	Description
	1 port OC-48/STM-16 or 4 port OC-12/OC-3 / STM-1/STM-4 + 12 port T1/E1 + 4 port T3/E3 CEM Interface Module

Feature	Description
<a href="#">STS1E Framed SAToP Support on IMA3G</a>	Support on clock recovery on STS-1e controller for framed SAToP on the following modes: <ul style="list-style-type: none"> <li>• T3</li> <li>• CT3</li> <li>• VT-15</li> </ul>
<b>Carrier Ethernet</b>	
<a href="#">Enabling the Bridge Domain Interface</a>	This feature allows you to configure the <b>platform bdi enable-state up</b> global command.
<b>IP Multicast: PIM</b>	
<a href="#">Multicast SLA Measurement with MLDP</a>	Display of aggregated egress multicast stats for BDI interfaces on Head node, which is part of the MLDP core is supported.
<b>IP Routing: BFD</b>	
<a href="#">BFD over G8032 and Multi EFP BDI</a>	Scale numbers for BFD and hardware offload are enhanced for the Cisco ASR 900 RSP2 module.
<b>IP SLAs</b>	
<a href="#">Configurable User-Defined and EMIX Packet Size</a>	This feature allows you to configure user-defined and Enterprise traffic (EMIX) packet sizes. Use the following commands to configure user-defined and EMIX packet sizes: <ul style="list-style-type: none"> <li>• <b>packet-size user-defined</b> <i>packet size</i></li> <li>• <b>packet-size emix sequence</b> <i>emix-sequence</i> [<b>u-value</b> <i>u-value value</i>]</li> </ul>
<a href="#">SAT based support for configurable EMIX traffic pattern in FPGA</a>	The support for EMIX packet size is enhanced. For EMIX traffic, packet sizes of 64, 128, 256, 512, 1024, 1280, 1518, Maximum Transmission Unit (MTU) and user-defined patterns are supported. These packet sizes are forwarded in ratio of 1:1:1:1:1.
<a href="#">EMIX Sequence Enhancement</a>	This feature enables SAT based support for configurable EMIX traffic pattern in FPGA-based SAT.
<b>Layer 2</b>	
<a href="#">Enhanced Ethernet Data Plane Loopback</a>	The Ethernet data plane loopback feature is enhanced to avoid control packets getting dropped. The enhancement supports internal shaper configuration, when terminal ELB session is activated or deactivated to rate the limit the ELB session traffic.  The enhancement is applicable only on internal loopback.
<b>MPLS Basic</b>	

Feature	Description
<a href="#">Re-optimization with Tunnel Bandwidth Modification on Flex-LSP Protect Path</a>	<p>This feature supports Make Before Break (MBB) functionality and thus ensures there is no traffic loss when a MPLS Flex LSP tunnel runs on protect LSP (if working LSP goes down) and the tunnel bandwidth is modified.</p> <p>When the working LSP comes up, use the following command to manually switch from the working to protect LSP:</p> <p><b>mpls traffic-eng switch tunnel <i>tunnel-ID</i></b></p>
<b>Segment Routing</b>	
<a href="#">L2VPN over SR-TE Preferred Path</a>	<p>This feature allows you to configure an SR policy as the preferred path for a VPWS or VPLS pseudowire. VPWS or VPLS pseudowires between same PEs can be routed over different SR policies based on the requirements. Prior to this release, you could only steer the traffic using the SR policy for routing IPv4 traffic to a destination pseudowire (over IGP or BGP-LU).</p>
<a href="#">PCE Initiated SR Policy with OSPF Autoroute Announce</a>	<p>This feature enables a steering mechanism in which IGPs automatically use the policy for destination's downstream of the policy end point.</p>
<a href="#">Segment Routing Flexible Algorithm support for TI-LFA uLoop Avoidance, SID Leaking, and ODN with Auto-Steering</a>	<p>This feature allows you to compute Loop Free Alternate (LFA) paths, TI-LFA backup paths, and Microloop Avoidance paths for a particular Flexible Algorithm using the same constraints as the calculation of the primary paths for such Flexible Algorithms, for IS-IS. See <a href="#">Calculation of Flexible Algorithm Path</a>.</p> <p>Inter-area leaking of Flexible Algorithm SIDs and prefixes and selectively filtering the paths that are installed to the MFI are also supported. See <a href="#">Flexible Algorithm Prefix-SID Advertisement</a> and <a href="#">Installation of Forwarding Entries for Flexible Algorithm Paths</a>.</p>
<a href="#">Telemetry (Model-Based Telemetry and Event-Based Telemetry) Support for Performance Measurement</a>	<p>This feature enables Model-Based Telemetry (MDT) and Event-Based Telemetry (EDT) that allow the data to be directed to a configured receiver. This data can be used for analysis and troubleshooting purposes to maintain the health of the network.</p> <p>The <b>sr_5_label_push_enable</b> SDM template is mandatory for this feature to function.</p>
<b>Upgrading the Software on the Cisco ASR 920 Series Routers</b>	
<a href="#">Secure SD Card Configuration</a>	<p>The features uses the following command to provide enhanced security to the routers:</p> <p><b>platform secure-cfg</b></p> <p>When you enable the command, the router does not boot if the SD card is replaced, swapped, or modified externally. Thus, you cannot format the SD card externally and this prevents the misuse of the router.</p>

### Other Supported Features

- GRPC telemetry is now supported on Cisco ASR 920 routers, for non-default VRF.

- Complete YANG Model for Ethernet EVC Configuration – An Ethernet Virtual Connection (EVC) is defined by the Metro-Ethernet Forum (MEF) as an association between two or more user network interfaces that identifies a point-to-point or multipoint-to-multipoint path within the service provider network. An EVC is a conceptual service pipe within the service provider network.

YANG Data Models—For the list of Cisco IOS XE YANG models available with this release, navigate to <https://github.com/YangModels/yang/tree/master/vendor/cisco/xe/1741>.

Revision statements embedded in the YANG files indicate if there has been a model revision. The README.md file in the same GitHub location highlights changes that have been made in the release.

- Complete YANG Model for CFM Configuration – Ethernet Connectivity Fault Management (CFM) is an end-to-end per-service-instance Ethernet layer operations, administration, and maintenance (OAM) protocol. It includes proactive connectivity monitoring, fault verification, and fault isolation for large Ethernet metropolitan-area networks (MANs) and WANs.

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