

Introduction

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.

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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-920-20SZ-M

Note The Cisco IOS XE Gibraltar 16.11.1a does not support the Cisco ASR-920-12SZ-IM, Cisco ASR-920-12SZ-A and Cisco ASR-920-12SZ-D routers.

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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.

Determining the Software Version

Use the following commands to verify your software version:

- Consolidated Package— **show version**

Supported HoFPGA Versions

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

Table 1: HoFPGA Versions for the Cisco ASR-920-12CZ-A, ASR-920-12CZ-D, ASR-920-4SZ-A, ASR-920-4SZ-D, and ASR-920-10SZ-PD

Release	HoFPGA Version
Csico IOS XE Gibraltar 16.11.1	0X00020029

Table 2: HoFPGA Versions for the Cisco ASR-920-20SZ-M

Release	HoFPGA Version
Cisco IOSXE Gibraltar 16.11.1	0X00010006

Table 3: HoFPGA Versions for the Cisco ASR-920-24SZ-IM, ASR-920-24SZ-M, and ASR-920-24TZ-M

Release	HoFPGA Version
Cisco IOSXE Gibraltar 16.11.1	0X0003000c

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 4: 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)
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)

Metro Services	Metro IP Services	Metro Aggregation Services
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

Limitations and Restrictions on the Cisco ASR 920 Series Routers

- The default interface 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
  ```

- 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 following restriction is applicable only to:
  - Cisco ASR-920-24SZ-IM, Cisco ASR-920-24SZ-M, and Cisco ASR-920-24TZ-M

- Cisco ASR-920-20SZ-M
  - 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.

- 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.

- Portchannel 61–64 is not supported. The maximum port-channel interfaces limit (64) has been changed to 60.

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.
- Bulletins—You can find bulletins at 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.

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.

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.

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

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

- Portchannel 61–64 is not supported. The maximum port-channel interfaces limit (64) has been changed to 60.

Important Notes



Note Port channels 61-64 are not supported in the 16.11.1a release. The range of configurable port channel interfaces is limited to 60.