



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
- ASR-920-12SZ-IM
- ASR-920-12SZ-A
- ASR-920-12SZ-D
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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**

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](#).

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

Supported HoFPGA and ROMMON Versions

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

Table 1: HoFPGA and ROMMON 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	ROMMON Version
Cisco IOS XE Gibraltar 16.12.8	0X00040043	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.7	0X00040043	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.6	0X00040043	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.5	0X00040043	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.4	0X00040043	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.2a	0x00040043 (BFD/default template) 0x00020009 (Netflow template)	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.1	0X00040043	15.6(32r)S

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

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Gibraltar 16.12.8	0X0001000A	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.7	0X0001000A	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.6	0X0001000A	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.5	0X0001000A	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.4	0X0001000A	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.2a	0x0001000A (BFD/default template) 0x0001000A (Netflow template)	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.1	0X0001000A	15.6(32r)S

Table 3: 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 Gibraltar 16.12.8	0X00040019	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.7	0X00040019	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.6	0X00040019	15.6(48r)S
Cisco IOS XE Gibraltar 16.12.5	0X00030015	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.4	0X00030015	15.6(32r)S

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Gibraltar 16.12.2a	0x00030014 (BFD/default template) 0x00030014 (Netflow template)	15.6(32r)S
Cisco IOS XE Gibraltar 16.12.1	0X00030014	15.6(32r)S

Table 4: HoFPGA and ROMMON Versions for the Cisco ASR-920-12SZ-IM

Release	HoFPGA Version	ROMMON Version
Cisco IOSXE Gibraltar 16.12.8	0X0003001B	15.6(46r)S
Cisco IOSXE Gibraltar 16.12.7	0X0003001B	15.6(46r)S
Cisco IOSXE Gibraltar 16.12.6	0X0003001B	15.6(46r)S
Cisco IOSXE Gibraltar 16.12.5	0X0003001B	15.6(24r)S
Cisco IOSXE Gibraltar 16.12.4	0X0003001B	15.6(24r)S
Csico IOS XE Gibraltar 16.12.2a	0x0003001B (BFD/default template) 0x00020008 (Netflow template)	15.6(24r)S
Cisco IOSXE Gibraltar 16.12.1	Cisco IOSXE Gibraltar 16.12.1	15.6(24r)S

Table 5: HoFPGA and ROMMON Versions for the Cisco ASR-920-12SZ-A and ASR-920-12SZ-D

Release	HoFPGA Version	ROMMON Version
Cisco IOS XE Gibraltar 16.12.8	0X10000008	15.6(46r)S
Cisco IOS XE Gibraltar 16.12.7	0X10000008	15.6(46r)S
Cisco IOS XE Gibraltar 16.12.6	0X10000008	15.6(46r)S
Cisco IOS XE Gibraltar 16.12.5	0X00010040	15.6(24r)S
Cisco IOS XE Gibraltar 16.12.4	0X00010040	15.6(24r)S
Csico IOS XE Gibraltar 16.12.2a	0x00010039 (BFD/default template) 0x10000007 (Netflow template)	15.6(24r)S
Cisco IOS XE Gibraltar 16.12.1	0x00010039 (BFD/default template) 0x10000007 (Netflow template)	15.6(29r)S

Table 6: 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 Gibraltar 16.12.8	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.7	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.6	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.5	0.49	69.24	0.54	0.54	0.46

Table 7: 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 Gibraltar 16.12.8	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.7	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.6	0.49	69.24	0.54	0.54	0.46
Cisco IOS XE Gibraltar 16.12.5	0.49	69.24	0.54	0.54	0.46

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 8: 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)
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** *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
```
- 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.
 - 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.
 - IPsec is *only* supported for TCP and UDP and is not supported for SCTP.
 - IPsec is supported *only* on the Cisco ASR-920-12SZ-A and Cisco ASR-920-12SZ-D 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.
- 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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