



Cisco IOS XR Software Release 4.3.2 for Cisco ASR 9000 Series Routers

PB729735

Product Overview

Cisco® ASR 9000 Series Aggregation Services Routers deliver unprecedented scale, service flexibility, and high availability for data centers, cloud networks, and business and residential services transport networks. The routers are powered by Cisco IOS® XR Software, an innovative, self-healing, distributed operating system designed for always-on operation while scaling system capacity into multiple terabits per second (Tbps).

Cisco IOS XR Software Release 4.3.2 expands the existing Cisco ASR 9000 Series portfolio with the introduction of the Cisco ASR 9912 Router. Cisco IOS XR Software Release 4.3.2 also introduces Cisco IOS XRv Route Reflector, our first of many virtualized software platforms. Cisco IOS-XRv is a virtual machine implementation of the Cisco IOS-XR operating system, which provides all the platform-independent capabilities of Cisco IOS-XR, allowing it to be used for control-plane applications such as route reflectors. Cisco IOS-XRv has “limited availability” in Cisco IOS XR Software Release 4.3.2 and will be generally available starting with Release 5.1.1. Please contact the Cisco ASR 9000 Series team for more information on this milestone, which is the first of our virtualized software offerings.

New Hardware Features

Cisco IOS XR Software Release 4.3.2 introduces support for the Cisco ASR 9912 Router. The Cisco ASR 9912 is the newest addition to the Cisco ASR 9000 Series, offering the highest density in a compact 30-RU form factor.

Table 1 lists the new hardware support added in Cisco IOS XR Software Release 4.3.2.

Table 1. New Hardware Supported on Cisco ASR 9000 Series Routers in Cisco IOS XR Software Release 4.3.2

Part Number	Description
ASR-9912-DC	ASR 9912 10 Line Card Slot DC Chassis with PEM V2
ASR-9912-FAN	ASR 9912 Fan Tray
ASR-9912-DC=	ASR 9912 10 Line Card Slot DC Chassis with PEM V2
ASR-9912-FAN=	ASR 9912 Fan Tray
ASR-9912-AC=	ASR 9912 10 Line Card Slot AC Chassis with PEM V2
ASR-9912-AC	ASR 9912 10 Line Card Slot AC Chassis with PEM V2
ASR-9912-SFC110	ASR 9912 Switch Fabric Card/110G
ASR-9912-SFC110=	ASR 9912 Switch Fabric Card/110G
ASR-9912-AIRREF	ASR 9912 Air Reflector
ASR-9900-FLTR-LR=	ASR 99xx Air Filter with Media, Left and Right
ASR-9900-SFC-FILR=	ASR 99xx Switch Fabric Card Slot Filler
ASR-9900-SFC-FILR	ASR 99xx Switch Fabric Card Slot Filler
ASR-9900-RP-TR=	ASR 99xx Route Processor 6GB for Packet Transport
ASR-9900-RP-TR	ASR 99xx Route Processor 6GB for Packet Transport

Part Number	Description
9900-LR-FLTRMED=	ASR 99xx Left and Right Filter Replaceable Media
9912-CEN-FLTRMED=	ASR 9912 Center Filter Replaceable Media
ASR-9900-RP-SE	ASR 99xx Route Processor 12GB for Service Edge
ASR-9912-FLTR-CEN=	ASR 9912 Air Filter with Media, Center
ASR-9912-PWR-COV=	ASR 9912 Accessory - Cover for Power Shelves and Modules
ASR-9900-RP-SE=	ASR 99xx Route Processor 12GB for Service Edge

New Software Features

Table 2 lists new software features in Cisco IOS XR Software Release 4.3.2 supported on Cisco ASR 9000 Series Aggregation Services Routers and on the Cisco IOS XRv virtualized platform.

Table 2. New Software Features Supported on Cisco ASR 9000 Series Routers in Cisco IOS XR Software Release 4.3.2

Feature	Description
Cisco ASR 9912 Router	The Cisco ASR 9000 Series product portfolio is extended with the introduction of the Cisco ASR 9912 Router, which delivers the most powerful 10-slot system in a 30-RU form factor.
Cisco IOS XRv Route Reflector	Because virtualization is important to customers, Cisco is introducing our first virtualized software platform, the Cisco IOS XRv Route Reflector. It offers Cisco IOS XR control-plane functionality in a virtual form. Customers can now choose between hardware-based route reflectors and pure software-based route reflectors.
Provider backbone bridging Ethernet VPN (PPB-EVPN)	PBB-EVPN is a next-generation Layer 2 VPN (L2VPN) technology with significant advantages, including benefits from load balancing capabilities inherent in Layer 3 forwarding technology, active-active redundancy, multihoming autosensing, and prefix-independent convergence. PBB-EVPN significantly reduces flooding in L2VPN networks by introducing control-plane MAC learning. At the same time, PBB encapsulation helps ensure high scale and customer MAC address space isolation. PBB-EVPN is available in Cisco IOS XR 4.3.2 on Cisco ASR 9000 Series routers.
N:1 Network Address Translation (NAT) feature	Prior to the Cisco IOS XR Software Release 4.3.2, the carrier-grade NAT solution on the Integrated Services Module assigned the private-to-public IP address in a random manner. This feature "hard limits" the process of assigning private IP addresses to public IP addresses, based on a configurable parameter (4, 8, 16, 32, or 64), so only a limited number of private IP addresses get mapped to a given public IP address.
TCP maximum segment size (MSS) adjustment	This feature available on the Typhoon line cards allows interception of TCP packets with SYN bit set.
Non-lawful intercept XR images Lawful intercept as a separate package	Lawful intercept feature allows VoIP and data traffic going through edge routers to be intercepted to meet the requirements of law enforcement agencies. Lawful intercept feature has been completely excluded from the base image for the Cisco ASR 9000 Series. Base images without lawful intercept feature is: asr9k-mini-px.vm . Lawful intercept feature is separated from the base image and built as a separate package. The lawful intercept package for the Cisco ASR 9000 Series platform is: asr9k-li-px.pie .
Install enhancements	Previously, Cisco IOS-XR install operations on platforms like the Cisco ASR 9000 Series and the Cisco Carrier Routing System were limited to a single flash disk (either disk0 or disk1, once booted, but not both). This release provides the support to install packet on multiple disks.

Ordering Information

Table 3 lists ordering information for Cisco IOS XR Software Release 4.3.2 for Cisco ASR 9000 Series Aggregation Services Routers. When future rebuilds of Cisco IOS XR Software Release 4.3.2 are available, the latest release is automatically shipped when this product is ordered.

Table 3. Ordering Information for Cisco IOS XR Software Release 4.3.2 for Cisco ASR 9000 Series Aggregation Services Routers

Product Name	Part Number
XR-A9K-PX-04.03	Cisco IOS-XR IP/MPLS Core Software
XR-A9K-PXK9-04.03	Cisco IOS-XR IP/MPLS Core Software 3DES

Release 4.3.2 Lifecycle

The Cisco IOS XR Software release strategy is time-based, with a fixed release date and lifecycle, rather than being a feature-based release strategy with a variable release date. Table 4 lists the major milestones of Cisco IOS XR Software Release 4.3.2 and later.

Table 4. Major Milestones for Cisco IOS XR Software Release 4.3.2

Milestone	Definition	Date
Availability of feature release	The date that Cisco IOS XR Software Release 4.3.0 information is published on Cisco.com and is available to the general public.	Dec. 14, 2012
Availability date	The date that Cisco IOS XR Software Release 4.3.2 information is published on Cisco.com and becomes available to the general public.	Sept. 9, 2013
End-of-life announcement date	The date when the official end-of-life documents announcing the end of sale and end of life of Cisco IOS XR Software Release 4.3 (and later versions of 4.3) are distributed to the general public.	June 14, 2013
End-of-sale date	The last date to order Cisco IOS XR Software Release 4.3.2 through Cisco point-of-sale mechanisms (The product is no longer for sale after this date.)	June 14, 2014
End of software maintenance	The last date that Cisco Engineering may release any final software maintenance releases or bug fixes (After this date, Cisco Engineering will no longer develop, repair, maintain, or test the product software.)	Dec. 14, 2014
End of software maintenance for Product Security Incident Response Team (PSIRT)	The last date that Cisco Engineering may release any final software maintenance releases or bug fixes for PSIRTs through Software Maintenance Unit to Release 4.3 (Beyond this date, PSIRT bugs become candidates for later feature releases.)	Dec. 14, 2016
Last date of support	The last date to receive applicable service and support for the product, as entitled by active service contracts or by warranty terms and conditions (After this date, all support services for the product are unavailable, and the product becomes obsolete.)	June 14, 2019

For More Information

For official end-of-life and end-of-sale announcements for Cisco IOS XR Software, please visit http://www.cisco.com/en/US/products/ps5845/prod_eol_notices_list.html, or contact your local Cisco account representative.

For more information about Cisco ASR 9000 Series Routers or Cisco IOS XR Software, visit <http://www.cisco.com/>, or contact your local Cisco account representative.



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