



Release Notes for Cisco ASR 9000 Series Routers, IOS XR Release 26.3.1



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Cisco ASR 9000 Series Routers, IOS XR Release 26.3.1

Cisco IOS XR Release 26.3.1 for Cisco ASR 9000 Series Routers introduces robust enhancements across architecture, routing, security, and operational simplification. Architectural scalability is advanced with Enhanced monitoring capability supporting 128k GRE tunnels, static pseudowires, and L2 transport interfaces, while persistent logging preserves syslog continuity across reloads and failovers. Routing reliability improves with eBGP RT-constraint multipath for resilient VPN route propagation, inter-area route propagation limits in IS-IS, and gNMI Internal Path sharing for optimized telemetry. Security is strengthened through PQC-enabled MACsec with EAP-TLS, gated shell access, SSH client strict host key check, upgraded CURL libraries, and SNMP secure-v3 configuration with SHA-2 and AES-based privacy. Operational efficiency is supported by Smart Licensing Using Policy for FCM platforms and XR version formats for service packs and special releases, delivering a comprehensive platform for scalable, secure, and simplified network operations.

For more details on the Cisco IOS XR release model and associated support, see [Software Lifecycle Support Statement - IOS XR](#).

New software features

Table 1. New software features for ASR 9000 Series Aggregation Services Routers, Release 26.3.1

Product impact	Feature	Description
BGP		
Software reliability	eBGP RT-constraint multipath	This feature enables more complete and resilient VPN route propagation in environments with redundant external peers, while preserving existing best-path behavior and operational consistency by extending RTC (route target constraint) processing on ASBRs (autonomous systems border routers). This is achieved by installing RT membership state on all qualified eBGP multipath neighbors instead of only the best-path neighbor.
Interface and Hardware Component		
Upgrade	Enhanced monitoring capability	This release enhances the monitoring capability of the interfaces by enabling 128k GRE tunnels, static pseudowires, and L2 transport interfaces that operate without MAC address learning. Increasing the scale to 128k interfaces enables higher service density per chassis, reduces physical hardware requirements, optimizes operational efficiency, and supports larger, more complex network topologies without sacrificing telemetry performance. No additional configuration is required to achieve this higher scale.
MACsec		
Software reliability	PQC-enabled MACsec with EAP-TLS	This feature is supported on all MACsec-supported IOS XR platforms. Introduces PQC-capable TLS key exchange support for EAP-TLS and configurable 128-bit or 256-bit EAP-derived MACsec CAK length.
Routing		
Software reliability	Inter-area route propagation limits in IS-IS	This feature helps protect the network from excessive inter-area route propagation caused by misconfiguration or unexpected route

Product impact	Feature	Description
		growth by limiting the number of prefixes propagated between IS-IS levels. This feature, using the new maximum-propagated-prefixes command, allows operators to define propagation thresholds, receive early warnings, and optionally stop advertising additional prefixes when limits are exceeded.
Setup and Upgrade		
Upgrade	XR version formats for service packs and special releases	This enhancement introduces support for new XR release version formats for service pack (SP) and special release (SR) in the install infrastructure so that XR software can correctly recognize, compare, display, and validate SP and SR versions.
System Management		
Ease of use	Configure device data privacy for Smart Licensing	Provides controls to suppress the device hostname and smart agent version in smart licensing usage reports.
Software stability	Isolate Foreign Masters Causing Packet Timing Signal Fail	This feature permits the flexible selection of timing sources by filtering out Foreign Master (FM) clocks that exhibit unstable timing. This filtering causes the secondary clocks to produce a signal deemed Packet Timing Signal Fail (PTSF)-unusable, from consideration within the Best Master Clock Algorithm (BMCA). The system continuously monitors these clocks for timing stabilization, and upon detecting enhanced stability, it may reevaluate and possibly reintegrate them as suitable time sources.
System Monitoring		
Software reliability	Persistent logging	This feature preserves the contents of the IOS XR logging buffer across node reloads, router reloads, and RP failovers. Syslog messages are written to both the in-memory logging buffer and a persistent file on local storage. After a reload or failover, the system restores the logging buffer from persistent storage so that retained log messages before the event and current logs, are displayed.
System Security		
Software reliability	Upgrade CURL libraries	You gain enhanced security and improved reliability through an upgraded embedded libcurl library. This transparent update preserves existing functionality and continues to support HTTP/1.0 and HTTP/1.1.
Software reliability	Gated shell access	Gated shell access requires consent token authorization for direct root shell access initiated through supported shell commands. You gain secure, auditable control over root shell access by requiring cryptographic Consent Token authorization before granting access. This feature persists your security settings across reloads and high-availability events, helping prevent unauthorized or accidental changes while retaining familiar shell workflows after authorization.
Software reliability	SSH client strict host key check	You enhance SSH security by enforcing strict host key checking, allowing you to control how the SSH client handles new or changed server keys - accept, reject, or prompt for approval. Trusted host keys are stored system-wide and persist across

Product impact	Feature	Description
		reloads, ensuring consistent validation for your outbound SSH connections.
Telemetry		
Software reliability	gNMI Internal Path sharing	You can now reduce redundant processing and ensure that collectors receive synchronized, reliable data. With Internal Path sharing, the router automatically detects duplicate Internal Paths across different gNMI subscription lists and consolidates data collection for those paths. This optimization provides consistent data snapshots to collectors without requiring any user configuration. This feature introduces these changes: CLI: • show telemetry subscriptions [id <id>] • show telemetry destination endpoints [id <id>] • show telemetry collections [id <id>]

New hardware

Hardware	Description
Optics	This release introduces the following new optic on selective hardware within the product portfolio. For details, refer to the Transceiver Module Group (TMG) Compatibility Matrix Cisco 10GBASE SFP+ modules • SFP-10G-ZR-I

Changes in behavior

Deprecation and phasing out features with insecure capabilities and its secure alternatives

In Release 26.3.1, Cisco IOS XR software displays warning messages when you configure features or protocols that lack sufficient security, such as those that transmit sensitive data without encryption or use outdated encryption mechanisms. The software also shows warnings when you do not follow security best practices, and it provides suggestions for secure alternatives.

This list may change, but Cisco plans to generate warnings for the following features and protocols from Release 25.3.1. Each Release Notes will describe the exact changes for that version. These documents list all features planned for removal, including insecure commands, and provide recommended secure alternatives to help you maintain network security and compliance.

[Feature deprecation phasing out insecure capabilities](#)

[Feature deprecation and removal details](#)

[Feature removal and suggested alternatives](#)

Table 2. Deprecation and phasing out features with insecure capabilities and its secure alternatives

If you are using the following insecure features...	Then follow these secure alternatives...
TLS 1.0 TLS 1.1	Use TLS 1.2 or TLS 1.3.
SSH key-exchange algorithm diffie-hellman-group1-sha1	Use stronger SSH key-exchange algorithms. Do not configure diffie-hellman-group1-sha1.
SSH ciphers 3des-cbc	Use stronger SSH ciphers.
SSH host-key DSA algorithm	Use ECDSA, ED25519, or RSA host keys. Note: The SSH host-key DSA algorithm is not recommended. However, it has not been removed. If required, you can still generate and use DSA host keys. Cisco recommends using ECDSA, ED25519, or RSA host keys.
SSHv1	Use SSHv2.

This section provides a brief description of the behavior changes introduced in this release.

- Deprecation of PCE NETCONF CLI

Starting with Cisco IOS XR Release 26.3.1, the PCE NETCONF CLI configuration is deprecated. Previously, you could configure NETCONF attributes directly for the Path Computation Element by using the pce netconf CLI commands. Because there is no actual operational use case for this configuration, it has been removed entirely. You do not need to perform any configuration migration or apply replacement commands, as there is no impact from this deprecation.

- Boolean values in gNMI path keys

Starting with Cisco IOS XR Release 26.3.1, Boolean list keys in gNMI Subscribe responses that use proto or JSON_IETF encoding are represented by the canonical strings **true** and **false** instead of **1** and **0**. If your collector explicitly expects or compares the earlier numeric strings, update its parsing logic. You do not need to make any router configuration changes.

- Enable automatic Docker Daemon startup with Application Manager

The **appmgr docker start** command enables the Docker Daemon to start automatically when Application Manager starts.

```
Router(config)# appmgr docker start
```

```
Router(config)# commit
```

- Increased CPU and memory limits for TPAs

Starting with Cisco IOS XR Release 26.3.1, the maximum configurable hard resource limits for Third-Party Applications (TPAs) are increased to 100 percent of total system CPU and 80 percent of overall system memory. These limits prevent TPAs from exceeding the CPU and memory thresholds, regardless of resource usage by other IOS XR processes.

- VRF Naming Restriction

Starting with Cisco IOS-XR Release 26.3.1, the uppercase name "DEFAULT" is reserved for the OpenConfig default network instance. You must choose a different name for any user-defined VRF. This restriction applies to global VRF configuration, interface VRF assignments, and dynamic-template VRF configurations across both CLI and YANG management interfaces. Before upgrading,

you must rename or remove any user-defined VRF named "DEFAULT" to prevent startup configuration validation failures. Note that VRF names are case-sensitive; variations such as "Default" or "DEFAULT1" remain valid, and the system default VRF is not affected.

- Standards-compliant OpenConfig BGP identity values

Starting with Cisco IOS XR Release 26.3.1, selected OpenConfig BGP operational values use the module-qualified identity format, such as `openconfig-bgp-types:<identity>`, instead of `<identity>`. This format clearly identifies the YANG module defining each identity. These values include notification error codes and subcodes, `remove-private-AS` state, and supported capabilities. Clients and automation should process the module-qualified format.

- Default values restored after delete operations

Starting with Cisco IOS XR Release 26.3.1, deleting a leaf in a native YANG configuration container restores its defined default value, ensuring consistent configuration data in `show running-config` and `NETCONF get-config` output.

- Deprecation of the `show install packages` command family

Starting with Cisco IOS XR Release 26.3.1, the "show install packages..." family of commands such as the commands to show install packages information, `show install packages search`, and `show install packages` are marked as deprecated. For package names and repository information for uninstalled packages, use the **show install active**, **show install committed**, and **show install available** commands.

- Recommended workflows for removing or deactivating bug fixes

The `show install fixes deactivate` command is no longer the recommended workflow for removing or deactivating a bug fix. Select one of the following workflows based on the software images and rollback points available in your environment:

- Use `install rollback` when a previous rollback point exists where the same Cisco IOS XR version was loaded without the bug fix.
- Use `show install rollback ?` to identify a suitable rollback point.
- Use `install replace` when a suitable previous golden ISO image is available without the bug fix.
- If no previous rollback point or suitable golden ISO image exists, build a new golden ISO image with the desired set of fixes.
- If the golden ISO build fails or still includes the unwanted bug fix, the desired set of fixes cannot be built with the available fixes. Contact Cisco Support for a new version of the unwanted fix.

- Provider Backbone Bridging Removed

Starting from Cisco IOS XR Release 26.3.1, Provider Backbone Bridging (PBB), including IEEE 802.1ah PBB, PBB-VPLS, and PBB-EVPN related configuration and operational commands, is removed. PBB has been deprecated since Cisco IOS XR Release 7.11.1. PBB configuration is no longer available in the configuration interface. In earlier releases, PBB configuration, if present, has no operational effect.

- ZTP provisioning in nV Satellite mode

When the device is in nV Satellite mode, ZTP does not bring interfaces up or down and does not attempt to download or apply configuration. This preserves host-controlled satellite operation.

Open issues

There are no open issues in this release.

Known issues

There are no known issues in this release.

Compatibility

Compatibility matrix for EPNM and Crosswork with Cisco IOS XR software

The compatibility matrix lists the version of EPNM and Crosswork that are supported with Cisco IOS XR software in this release.

Cisco IOS XR	Crosswork	EPNM
Release 26.3.1	Cisco Crosswork Network Controller 6.0	Evolved Programmable Network Manager 8.1.1

Memory

The available memory for Cisco ASR 9000 Series Aggregation Services Router running Cisco IOS XR Software Release consists of the following:

- 32 GB memory on the A99-RP-F
- 24 GB memory on the RP3 transport optimised (TR) variant and 40 GB memory on the RP3 service edge (SE) variant
- 24 GB memory on the RP3-X transport optimized (TR) variant and 48 GB memory on the RP3-X service edge (SE) variant
- 24 GB memory on the RSP5 transport optimized (TR) variant and 40 GB memory on the RSP5 service edge (SE) variant
- 24 GB memory on the RSP5-X transport optimized (TR) variant and 48 GB memory on the RSP5-X service edge (SE) variant
- 2 GB compact flash on route switch processors (RSPs)
- 8 GB memory on the line cards (LCs) running Cisco IOS XR 64-bit image

Caution: Do not remove the media where the software image or configuration is stored. Removing this media may make the router unstable and can cause failure.

Software compatibility

Cisco IOS XR Software Release is compatible with the following Cisco ASR 9000 Series Aggregation Services Router systems.

- Cisco ASR 9900 Series Chassis
 - Cisco ASR 9922 Chassis
 - Cisco ASR 9912 Chassis
 - Cisco ASR 9910 Chassis
 - Cisco ASR 9906 Chassis

- Cisco ASR 9904 Chassis
- Cisco ASR 9903 Chassis
- Cisco ASR 9902 Chassis
- Cisco ASR 9000 Series Chassis
 - Cisco ASR 9010 Chassis
 - Cisco ASR 9006 Chassis

For Cisco license support, please contact your Cisco Sales Representative or Customer Service at 800-553-NETS (6387) or 408-526-4000. For questions on the program other than ordering, please send e-mail to: cwm-license@cisco.com.

Supported hardware

Table of supported hardware components and the minimum required software versions.

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
Cisco ASR 9000 Series Aggregation Services Router - Route Switch Processor Cards		
A9K-RSP5-X-SE	ASR 9000 Series Route Switch Processor 5 for Service Edge, Premium	Release 7.6.2
A9K-RSP5-X-TR	ASR 9000 Series Route Switch Processor 5 for Packet Transport, Premium	Release 7.6.2
A9K-RSP5-SE	ASR 9000 Route Switch Processor 5 for Service Edge	Release 6.5.15
A9K-RSP5-TR	ASR 9000 Route Switch Processor 5 for Packet Transport	Release 6.5.15
Cisco ASR 9000 Series Aggregation Services Router - Route Processor Cards		
A99-RP3-X-SE	ASR 9900 Route Processor 3 for Service Edge, Premium	Release 7.6.2
A99-RP3-X-TR	ASR 9900 Route Processor 3 for Packet Transport, Premium	Release 7.6.2
A99-RP3-SE	ASR 9900 Route Processor 3 for Service Edge	Release 6.5.15
A99-RP3-TR	ASR 9900 Route Processor 3 for Packet Transport	Release 6.5.15
Cisco ASR 9902 Router		
ASR-9902	Cisco ASR 9902 2RU Chassis with fixed ports	Release 7.4.1
A99-RP-F	Cisco ASR 9900 Fixed Chassis Route Processor	Release 7.1.3
ASR-9902-4P-KIT	Cisco ASR 9902 4-Post Mounting Kit for 19-Inch and 23-Inch Rack	Release 7.4.1
ASR-9902-4P-KIT-L	ASR 9902 4-Post Mounting Kit for 19 and 23 inch Rack - Long	Release 7.4.1

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
ASR-9902-2P-KIT	Cisco ASR 9902 2-Post Mounting Kit for 19-Inch and 23-Inch Rack	Release 7.4.1
ASR-9902-CAB-MGMT	Cisco ASR 9902 Cable Management	Release 7.4.1
ASR-9902-FILTER	Cisco ASR 9902 Air Filter	Release 7.4.1
ASR-9902-FAN	Cisco ASR 9902 Fan Tray	Release 7.4.1
Cisco ASR 9903 Router		
ASR-9903	Cisco ASR 9903 Compact High-Performance Router with fixed ports and PEC (Port Expansion Card) slot.	Release 7.1.3
A99-RP-F	Cisco ASR 9900 Fixed Chassis Route Processor	Release 7.1.3
ASR-9903-FAN	Cisco ASR 9903 Router Fan Tray	Release 7.1.3
ASR-9903-4P-KIT	ASR 9903 4-Post Mounting Kit for 19-inch Rack	Release 7.1.3
ASR-9903-CAB-MGMT	ASR 9903 Cable Management Brackets	Release 7.1.3
ASR-9903-FILTER	ASR 9903 Air Filter	Release 7.1.3
Cisco ASR 9904 Router		
ASR-9904	Cisco ASR 9000 Series Aggregation Services Router 4-Slot 2 Line Card Slot Chassis, 6 RU	Release 6.1.2
ASR-9904-AC	Cisco ASR 9000 Series Aggregation Services Router 4-Slot 2 Line Card Slot AC Chassis w/ PEM V2	Release 6.1.2
ASR-9904-DC	Cisco ASR 9000 Series Aggregation Services Router 4-Slot 2 Line Card Slot DC Chassis w/ PEM V2	Release 6.1.2
ASR-9904-FAN	Cisco ASR 9000 Series Aggregation Services Router 4-Slot Fan Tray	Release 6.1.2
ASR-9904-FILTER	Cisco ASR 9000 Series Aggregation Services Router 4-Slot Filter	Release 6.1.2
ASR-9904-BAFFLE	Cisco ASR 9000 Series Aggregation Services Router 4-Slot Baffle	Release 6.1.2
Cisco ASR 9912 Router		
ASR-9912	Cisco ASR 9000 Series Aggregation Services Router 12-Slot 10 Line Card Slot Chassis	Release 6.1.2
ASR-9912-AC	Cisco ASR 9000 Series Aggregation Services Router 12-Slot 10 Line Card Slot AC Chassis w/ PEM V2	Release 6.1.2

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
ASR-9912-DC	Cisco ASR 9000 Series Aggregation Services Router 12-Slot 10 Line Card Slot DC Chassis w/ PEM V2	Release 6.1.2
A99-SFC3	Cisco ASR 9900 Switch Fabric Card 3	Release 6.5.15
ASR-9912-FAN	Cisco ASR 9000 Series Aggregation Services Router 12-Slot Fan Tray	Release 6.1.2
Cisco ASR 9922 Router		
ASR-9922	Cisco ASR 9922 20 Line Card Slot Chassis, 44 RU	Release 6.1.2
ASR-9922-AC	Cisco ASR 9000 Series Aggregation Services Router 22-Slot 20 Line Card Slot AC Chassis w/ PEM V2	Release 6.1.2
ASR-9922-DC	Cisco ASR 9000 Series Aggregation Services Router 22-Slot 20 Line Card Slot DC Chassis w/ PEM V2	Release 6.1.2
A99-SFC3	Cisco ASR 9900 Switch Fabric Card 3	Release 6.5.15
ASR-9922-FAN-V3	Cisco ASR 9000 Series Aggregation Services Router 22-Slot Fan Tray version 3	Release 6.5.15
ASR-9922-FLTR-CV2	Cisco ASR 9000 Series Aggregation Services Router 22-Slot Air Filter with Media, Center	Release 6.1.2
ASR-9922-FLTR-LR	Cisco ASR 9000 Series Aggregation Services Router 22-Slot Air Filter with Media, Left & Right	Release 6.1.2
ASR-9922-RP-FILR	Cisco ASR 9000 Series Aggregation Services Router 22-Slot Route Processor Filler	Release 6.1.2
ASR-9922-FAN-V2	Cisco ASR 9000 Series Aggregation Services Router 22-Slot Version 2 Fan Tray	Release 6.1.2
Cisco ASR 9006 Router		
ASR-9006-SYS	Cisco ASR 9000 Series Aggregation Services Router 6-Slot System	Release 6.1.2
ASR-9006-AC-V2	Cisco ASR 9000 Series Aggregation Services Router 6-Slot AC Chassis Version 2	Release 6.1.2
ASR-9006-DC-V2	Cisco ASR 9000 Series Aggregation Services Router 6-Slot DC Chassis Version 2	Release 6.1.2
ASR-9006-FAN	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Fan Tray	Release 6.1.2
ASR-9006-FAN-V2	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Version 2 Fan Tray	Release 6.1.2
ASR-9006-DOOR	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Door Kit	Release 6.1.2
ASR-9006-FILTER	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Air Filter	Release 6.1.2

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
Cisco ASR 9906 Router		
ASR-9906	Cisco ASR 9000 Series Aggregation Services Router 6-Slot chassis	Release 6.3.1
ASR-9906-FAN	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Fan Tray	Release 6.3.1
ASR-9906-FILTER	Cisco ASR 9000 Series Aggregation Services Router 6-Slot Fan Filter	Release 6.3.1
A99-SFC3-T	ASR 9906 Switch Fabric Card	Release 6.5.15
Cisco ASR 9010 Router		
ASR-9010-SYS	Cisco ASR 9000 Series Aggregation Services Router 10-Slot System	Release 6.1.2
ASR-9010-AC-V2	Cisco ASR 9000 Series Aggregation Services Router 10-Slot AC Chassis Version 2	Release 6.1.2
ASR-9010-DC-V2	Cisco ASR 9000 Series Aggregation Services Router 10-Slot DC Chassis Version 2	Release 6.1.2
ASR-9010-FAN	Cisco ASR 9000 Series Aggregation Services Router 10-Slot Fan Tray	Release 6.1.2
ASR-9010-FAN-V2	Cisco ASR 9000 Series Aggregation Services Router 10-Slot Version 2 Fan Tray	Release 6.1.2
ASR-9010-DOOR	Cisco ASR 9000 Series Aggregation Services Router 10-Slot Door Kit	Release 6.1.2
ASR-9010-2P-KIT	Cisco ASR 9000 Series Aggregation Services Router 2 Post Mounting Kit	Release 6.1.2
ASR-9010-4P-KIT	Cisco ASR 9000 Series Aggregation Services Router 4 Post Mounting Kit	Release 6.1.2
ASR-9010-FILTER	Cisco ASR 9000 Series Aggregation Services Router 10-Slot Air Filter	Release 6.1.2
Cisco ASR 9910 Router		
ASR-9910	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) System	Release 6.2.1
ASR-9910-FAN	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) Fan Tray	Release 6.2.1
ASR-9910-ACC-KIT	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) Accessory Kit	Release 6.2.1
ASR-9910-4P-KIT	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) 4 Post Rack Mounting Kit	Release 6.2.1
ASR-9910-2P-KIT	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) 2 Post Rack Mounting Kit	Release 6.2.1

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
ASR-9910-AIRREF	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) Air Reflector	Release 6.2.1
ASR-9910-FILTER	Cisco ASR 9000 Series Aggregation Services Router 10-Slot (9910) Air Filter	Release 6.2.1
A99-SFC3-S	ASR 9910 Switch Fabric Card 3	Release 6.5.15
Cisco ASR 9000 Series Aggregation Services Router - Route Switch Processor Cards		
A9K-RSP5-X-SE	ASR 9000 Series Route Switch Processor 5 for Service Edge, Premium	Release 7.6.2
A9K-RSP5-X-TR	ASR 9000 Series Route Switch Processor 5 for Packet Transport, Premium	Release 7.6.2
A9K-RSP5-SE	ASR 9000 Route Switch Processor 5 for Service Edge	Release 6.5.15
A9K-RSP5-TR	ASR 9000 Route Switch Processor 5 for Packet Transport	Release 6.5.15
Cisco ASR 9000 Series Aggregation Services Router - Power Modules		
PWR-2KW-DC-V2	Cisco ASR 9000 Series Aggregation Services Router 2KW DC Power Module, version 2	Release 6.1.2
PWR-3KW-AC-V2	Cisco ASR 9000 Series Aggregation Services Router 3KW AC Power Module, version 2	Release 6.1.2
A9K-AC-PEM-V2	Cisco ASR 9000 Series Aggregation Services Router AC Power Entry Module Version 2	Release 6.1.2
A9K-DC-PEM-V2	Cisco ASR 9000 Series Aggregation Services Router DC Power Entry Module Version 2	Release 6.1.2
A9K-PEM-V2-FILR	Cisco ASR 9000 Series Aggregation Services Router Power Entry Module Version 2 Filler	Release 6.1.2
A9K-AC-PEM-V3	Cisco ASR 9000 Series Aggregation Services Router AC Power Enclosure Module Version 3	Release 6.1.2
A9K-DC-PEM-V3	Cisco ASR 9000 Series Aggregation Services Router DC Power Enclosure Module Version 3	Release 6.1.2
PWR-6KW-AC-V3	Cisco ASR 9000 Series Aggregation Services Router 6kW AC Power Module Version 3	Release 6.1.2
PWR-4.4KW-DC-V3	Cisco ASR 9000 Series Aggregation Services Router 4.4kW DC Power Module Version 3	Release 6.1.2
PWR-1.6KW-AC	ASR 9900 Fixed Chassis AC Power Supply	Release 7.1.25
PWR-1.6KW-DC	ASR 9900 Fixed Chassis DC Power Supply	Release 7.1.25
Cisco ASR 9000 Series Aggregation Services Router - Line Cards		

Part Number	Description	Support Initially Provided in IOS XR 64 bit Release
A99-4HG-FLEX-X-SE	ASR 9900 400GE Combo Service Edge Line Card Enhanced - 5th Generation	Release 25.2.1
A9K-4HG-FLEX-X-SE	ASR 9000 400GE Combo Service Edge Line Card Enhanced - 5th Generation	Release 25.1.1
A9K-4HG-FLEX-SE	ASR 9000 400GE Combo Service Edge Line Card - 5th Generation	Release 7.4.1
A9K-4HG-FLEX-TR	ASR 9000 400GE Combo Packet Transport Line Card - 5th Generation	Release 7.4.1
A99-4HG-FLEX-SE	ASR 9900 400GE Combo Service Edge Line Card - 5th Generation	Release 7.4.1
A99-4HG-FLEX-TR	ASR 9900 400GE Combo Packet Transport Line Card - 5th Generation	Release 7.4.1
A9903-8HG-PEC	ASR 9903 800G Multi-rate Port Expansion Card	Release 7.4.1
A99-10X400GE-X-SE	ASR 9900 4T Service Edge Line Card - 5th Generation	Release 7.3.1
A99-10X400GE-X-TR	ASR 9900 4T Packet Transport Line Card - 5th Generation	Release 7.3.1
A9903-20HG-PEC	ASR 9903 2T Multi-rate Port Expansion Card	Release 7.1.3
A99-32X100GE-X-SE	ASR 9000 32-Port 100GE QSFP28/QSFP+ Service Edge optimized Line Card - 5th Generation	Release 7.1.15
A99-32X100GE-X-TR	ASR 9000 32-Port 100GE QSFP28/QSFP+ Packet Transport optimized Line Card - 5th Generation	Release 7.1.15
A9K-20HG-FLEX-SE	ASR 9000 2T Service Edge Combo Line Card - 5th Generation	Release 7.1.15
A9K-20HG-FLEX-TR	ASR 9000 2T Packet Transport Combo Line Card - 5th Generation	Release 7.1.15
A9K-8HG-FLEX-SE	ASR 9000 800G Service Edge Combo Line Card - 5th Generation	Release 7.1.15
A9K-8HG-FLEX-TR	ASR 9000 800G Packet Transport Combo Line Card - 5th Generation	Release 7.1.15

Supported software packages

Feature set (software images)

Visit the [Cisco Software Download](#) page to download the Cisco IOS XR software.

Cisco IOS XR 64 bit

This table lists the feature set matrix (ISO and RPM files) and associated filenames available for the Cisco IOS XR 64 bit 26.3.1 Release supported on the Cisco ASR 9000 Series Aggregation Services Router.

Feature Set	Filename	Description
Cisco IOS XR IP/MPLS Core Software [for RSP and RP systems]	ASR9K-x64-iosxr-px-26.3.1.tar	Cisco IOS XR Manageability Package Cisco IOS XR MPLS Package Cisco IOS XR MPLS -TE and RSVP Package Cisco IOS XR Multicast Package Cisco IOS XR Optics Package Cisco IOS XR BNG Package Cisco IOS XR Lawful Intercept Package Cisco IOS XR Satellite Package Cisco IOS XR EIGRP Package Cisco IOS XR ISIS Package Cisco IOS XR OSPF Package Cisco IOS XR Service Package
Cisco IOS XR IP/MPLS Core Software 3DES [for RSP and RP systems]	ASR9K-x64-iosxr-px-k9-26.3.1.tar	Cisco IOS XR Manageability Package Cisco IOS XR MPLS Package Cisco IOS XR MPLS -TE and RSVP Package Cisco IOS XR Multicast Package Cisco IOS XR Optics Package Cisco IOS XR BNG Package Cisco IOS XR Lawful Intercept Package Cisco IOS XR Satellite Package Cisco IOS XR Security Package Cisco IOS XR EIGRP Package Cisco IOS XR ISIS Package Cisco IOS XR OSPF Package Cisco IOS XR Service Package
Cisco IOS XR IP Unicast Routing Core Bundle and Migration to IOS XR 64 bit tar image	asr9k-mini-x64-migrate_to_eXR.tar-26.3.1	Contains the required core packages, including OS, Admin, Base, Forwarding, Modular Services Card, Routing, FPD, SNMP Agent, and Alarm Correlation. Contains mini.iso file for XR 64 bit 24.3.2 and additional software for migration to 64 bit.

Feature Set	Filename	Description
Composite Package		
Cisco IOS XR IP Unicast Routing Core Bundle	asr9k-mini-x64-26.3.1.iso	Contains the required core packages, including OS, Admin, Base, Forwarding, Modular Services Card, Routing, FPD, SNMP Agent, and Alarm Correlation. The mini iso file is used for upgrading to the new release.

Feature Set	Filename	Description
Individually Installable Optional Packages		
Cisco IOS XR 64 bit EIGRP package	asr9k-eigrp-x64-1.0.0.0-r2631.x86_64.rpm	Includes EIGRP protocol support software
Cisco IOS XR BNG Package	asr9k-bng-x64-1.1.0.0-r2631.x86_64.rpm	Includes binaries to support BNG features.
Cisco IOS XR 64 bit ISIS package	asr9k-isis-x64-1.1.0.0-r2631.x86_64.rpm	Includes IS-IS Link state protocol support software
Cisco IOS XR 64 bit OSPF package	asr9k-ospf-x64-1.1.0.0-r2631.x86_64.rpm	Includes OSPF link state protocol support software
Cisco IOS XR Manageability Package	asr9k-mgbl-x64-3.0.0.0-r2631.x86_64.rpm	CORBA2 agent, XML3 Parser, and HTTP server packages. This RPM also contains some SNMP MIB infrastructure. Certain MIBs won't work if this RPM is not installed. IPSLA and environment MIBs are part of the mgbl rpm.
Cisco IOS XR 64 bit MPLS-TE and RSVP package	asr9k-mpls-te-rsvp-x64-1.2.0.0-r2631.x86_64.rpm	MPLS Traffic Engineering (MPLS-TE), Resource Reservation Protocol (RSVP).
Cisco IOS XR 64 bit MPLS Package	asr9k-mpls-x64-2.1.0.0-r2631.x86_64.rpm	Label Distribution Protocol (LDP), MPLS Forwarding, MPLS Operations, Administration, and Maintenance (OAM), Link Manager Protocol (LMP), Optical User Network Interface (OUNI) and Layer-3 VPN.
Cisco IOS XR 64 bit Multicast Package	asr9k-mcast-x64-2.0.0.0-r2631.x86_64.rpm	Multicast Routing Protocols (PIM, Multicast Source Discovery Protocol [MSDP], Internet Group Management Protocol [IGMP], Auto-RP), Tools (SAP, MTrace), and Infrastructure [(Multicast Routing Information Base [MRIB], Multicast-Unicast RIB [MURIB], Multicast forwarding [MFWD]), and Bidirectional Protocol Independent Multicast (BIDIR-PIM).
Cisco IOS XR 64 bit Optics Package	asr9k-optic-x64-1.0.0.0-r2631.x86_64.rpm	Firmware for the optics feature for Cisco ASR 9000 Series Aggregation Services Router Chassis. It enables Transport / OTN feature under interfaces.
Cisco IOS XR 64 bit Lawful Intercept (LI) Package	asr9k-li-x64-1.1.0.0-r2631.x86_64.rpm	Includes LI software images.
Cisco IOS XR Security Package	asr9k-k9sec-x64-3.1.0.0-r2631.x86_64.rpm	Support for Encryption, Decryption,, Secure Shell (SSH), Secure Socket Layer (SSL), and Public-key infrastructure (PKI).

Feature Set	Filename	Description
Cisco IOS XR Satellite Package - ASR9000v	asr9k-9000v-nV-x64-1.0.0.0-r2631.x86_64.rpm	Includes RPM to support Cisco ASR9000v Series Router Software and to support Cisco ASR 9000v Series Router as a satellite for Cisco ASR 9000 Series Router
Cisco IOS XR 64 bit Services Package	asr9k-services-x64-1.0.0.0-r2631.x86_64.rpm	Includes RPM to support Cisco IOS XR 64-bit inline MAP-T function

Related resources

Resource	Description
Ask AI about this product	Provides access to Cisco product documentation for checking product support details. Start by selecting the product family, then use <i>Ask AI About This Product</i> tab for further information.
Cisco ASR 9000 documentation	Provides CDC documentation for Cisco ASR 9000 series routers.
Cisco IOS XR Error messages	Allows searching by release number, error strings, or comparing release numbers to view a detailed repository of error messages and descriptions.
Cisco IOS XR MIBs	Allows selecting the MIB of your choice from a drop-down to explore an extensive repository of MIB information.
Feature deprecation and removal details	Outlines the features currently supported by each operating system.
Feature deprecation phasing out insecure capabilities	Provides a list of insecure features and protocols that are scheduled for systematic deprecation and eventual removal from specified Cisco products.
Feature removal and suggested alternatives	Details the reasons why certain features or protocols are deemed insecure and offers secure alternatives when available.
Recommended release	Provides a general guide in case of upgrading IOS XR routers or new deployments that involve IOS XR routers.
Smart licensing	Provides information about Smart Licensing Using Policy solutions and their deployment on IOS XR routers.
Transceiver Module Group (TMG) compatibility matrix	Allows searching by product family, product ID, data rate, reach, cable type, or form factor to determine the transceivers that Cisco hardware device supports.
Yang data models in GitHub	Provides yang data models introduced and enhanced in every IOS XR release.

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