Release Notes for Cisco IOS XRv 9000 Routers, IOS XR Release 26.1.1

Contents

Cisco XRv 9000 Routers, IOS XR Release 26.1.1

Cisco IOS XR Release 26.1.1 for XRv 9000 routers adds support for Red Hat Enterprise Linux (RHEL) 8.10 and 9.6, enabling the latest virtualization enhancements for improved CPU, memory, and resource management, and strengthens system security by introducing automatic RSA 3072-bit SSH host key generation across supported platforms.

New software features

Table 1. New software features for IOS XRv 9000 Router, Release 26.1.1

Product impact	Feature	Description
Installation		
Software Reliability	Support for RHEL 8.10	This release introduces support of Red Hat Enterprise Linux (RHEL) 8.10 on Cisco XRv9000 Routers. It enables the latest RHEL virtualization enhancements for improved CPU, memory, and resource management.
Software Reliability	Support for RHEL 9.6	This release introduces support of Red Hat Enterprise Linux (RHEL) 9.6 on Cisco XRv9000 Routers. It enables the latest RHEL virtualization enhancements for improved CPU, memory, and resource management.
System Security		
Software Reliability	Strengthened SSH Host Key Generation with RSA 3072	This update enhances device security by automatically generating RSA 3072-bit SSH host keys during system boot, replacing the previous default of RSA 2048-bit keys. The stronger key size aligns with industry best practices and provides improved cryptographic protection, ensuring secure SSH access and compliance with future security requirements.

Changes in behavior

- The default minimum syslog TLS version is now TLS 1.2 to enhance security. A one-time syslog warning will be generated if TLS 1.0 or TLS 1.1 is used, and a continuous warning will occur if the syslog minimum TLS version is configured as TLS 1.0 or 1.1.
- Starting with the Cisco IOS XR Software Release 26.1.1, if the route-policy applied to the eBGP neighbor includes the set next-hop unchanged command, the system preserves and advertises both the received remote SRv6 SID and the remote next-hop when advertising the leaked route from GRT to the VRF table. The local SRv6 SID is no longer always sent.

Open issues

There are no open issues in this release.

Known issues

There are no known issues in this release.

Compatibility

Appliance model

Cisco IOS XRv 9000 Appliance is the pre-installed Cisco IOS XRv 9000 Router software that is sent from the factory on a bare metal UCS server hardware. It supports hyper scalability as it can scale to 70 million route prefixes when run as a Virtual Route Reflector. Therefore, the extra layer of software (hypervisor) is not required.

The Appliance also supports Zero Touch Provisioning (ZTP) which allows easier insertion into existing networks.

Table 2. Specification of the Cisco XRv 9000 Appliance

Parameters	Supported
Form Factor	1 RU
Processor	5th Gen Intel Xeon Scalable processor Intel(R) Xeon(R) Gold 5520+ 2.2GHz/205W 28C/52.5MB DDR5 4800MT/s
	4th Gen Intel Xeon Scalable processor Intel I5420+ 2GHz/205W 28C/52.5MB DDR5 4400MT/s
Memory size	128GB (8x16GB DDR5-4800 RDIMM 1Rx8)
Internal storage	480GB M.2 Boot SATA Intel SSD
Software version	Cisco IOS-XR version 24.4.2 and later
Firmware version	BIOS version: C220M7.6.0.1a.0_XRV9K CIMC/BMC version: 6.0(1.250129)
Physical NICs	25G Model: Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe 100G Model: Cisco-MLNX MCX623106AS-CDAT 2x100GbE QSFP56 PCIe Cisco-MLNX MCX623106AS-CDAT 2x100GbE QSFP56 PCIe

Hypervisors

A hypervisor enables multiple operating systems to share a single hardware host machine. While each operating system appears to have the dedicated use of the host's processor, memory, and other resources; the hypervisor controls and allocates only needed resources to each operating system and ensures that the operating systems (VMs) do not disrupt each other.

Installation of the Cisco IOS XRv 9000 Router is supported on selected Type 1 (native, bare metal) hypervisors. Installation is not supported on Type 2 (hosted) hypervisors, such as VMware Fusion, VMware Player, or Virtual Box. The following table lists release specific supported hypervisor versions.

Table 3. Support Matrix for Hypervisor Versions

Cisco IOS XR Version	VMWare ESXi	Kernel Based Virtual Machine (KVM)
Release 26.1.1	Version 8.0	Linux KVM based on Red Hat Enterprise Linux 8.10 and 9.6

Virtual machines

Cisco IOS XRv 9000 Router virtual machines must meet the following requirements:

Table 4. VM Requirement for VMware Environment

Parameters	Supported
VMware ESXi	Version 8.0
Virtual CPU cores	1 socket with a minimum of 4 cores Note: For multicast heavy deployments we recommend configuring 8 cores (with 4 assigned for control plane and 4 assigned for data plane). Note: For production environment minimum of 4 cores is recommended.
Virtual Machine memory size	24GB minimum for VRR, recommended to increase as per VM and scale requirements
Virtual Machine hard disk size	64GB minimum for vPE and vRR image variants
Virtual Interfaces	• E1000 • VMXNET3 for traffic interfaces only
Physical NICs	For pass-through: • Intel X710, XXV710 • Mellanox ConnectX 6 SR-IOV supported for: • Intel E810 XXV, E810 C • Intel X710, XXV710
Number of interfaces	Maximum of 11 NICs where: • 1 for management • 2 are reserved • 8 for traffic
Default video, SCSI controller set	Required SCSI controller not required for IDE disk.
Virtual CD/DVD drive installed	Virtual CD/DVD is required when installing the Cisco IOS XRv 9000 Router on the VM using ISO template.
IDE hard disk	Single IDE hard disk Note: Multiple hard disk drives on a VM are not supported.

Firmware update available for UCS M7 appliance (xrv9k-ucs-c220m7-huu-container-6.0.1.250127.tar.gz)

A firmware update package, xrv9k-ucs-c220m7-huu-container-6.0.1.250127.tar.gz, is now available for the UCS M7 appliance. This package includes firmware for both the CIMC and BIOS.

The SHA256SUM checksum for the package is:
5a7b409b58003f3b298227b6d3cc83325f0b3b0b4ef2181553209f4df942048e

The SHA256SUM checksum for the CIMC and BIOS binaries are:

- bios.pkg 5567aea1a085dd1e8300be692639fbad01f792d6aed39a5a7bad1e162673a031
- cimc.bin b5bace7d6126de3196057b08aa54391c2a178d3e7532ce62ef1c6803dfd75aec

For detailed instructions on extracting and installing the firmware, please refer to the documentation at Firmware Files.

Optics support

Table 5. Optics support for the XRv 9000 Routers

Product	Product Code	Product Recommendation
Cisco 100GBASE LR4 QSFP Transceiver, LC, 10km over SMF	Cisco QSFP-100G-LR4-S	XRv9000 Appliance with UCS-C220 M7 server, 2X100G
Cisco 100GBASE SR4 QSFP Transceiver, MPO, 100m over OM4 MMF	Cisco QSFP-100G-SR4-S	
Cisco 10GBASE SFP+, Short Range	Cisco SFP-10G-SR	XRv9000 Appliance with UCS-C220 M7 server - 4X10/25G
Cisco 10GBASE SFP+, Long Range	Cisco SFP-10G-LR	

Related resources

Table 6. Related resources

Resource	Description
Smart licensing	Provides information about Smart Licensing Using Policy solutions and their deployment on IOS XR routers.
Cisco XRv 9000 documentation	Provides CDC documentation for Cisco XRv 9000 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.
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.
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.
Cisco IOS XR MIBs	Allows selecting the MIB of your choice from a drop-down to explore an extensive repository of MIB information.

Resource	Description
Yang data models in GitHub	Provides yang data models introduced and enhanced in every IOS XR release.
Recommended release	Provides a general guide in case of upgrading IOS XR routers or new deployments that involve IOS XR routers.

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