Release Notes for Cisco Enterprise Network Function Virtualization Infrastructure Software, Release 4.18.1

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Cisco Enterprise NFVIS, Release 4.18.1

This release introduces new network modules and software RAID support for the C8300-UCPE platform, adds English and Japanese language options to the NFVIS portal, extends NFVIS software support to UCS C-Series M5 and M7 Rack Servers, and enables new Day-N CD-ROM management and VM graceful shutdown features for improved maintenance and reliability.

Note: Rebranding: To achieve simplification and consistency, the Cisco SD-WAN solution has been rebranded as Cisco Catalyst SD-WAN. In addition, from Cisco IOS XE SD-WAN Release 17.12.1a and Cisco Catalyst SD-WAN Release 20.12.1, the following component changes are applicable: Cisco vManage to Cisco Catalyst SD-WAN Manager, Cisco vAnalytics to Cisco Catalyst SD-WAN Analytics, Cisco vBond to Cisco Catalyst SD-WAN Validator, Cisco vSmart to Cisco Catalyst SD-WAN Controller, and Cisco Controllers to Cisco Catalyst SD-WAN Control Components.

See the latest Release Notes for a comprehensive list of all the component brand name changes. While we transition to the new names, some inconsistencies might be present in the documentation set because of a phased approach to the user interface updates of the software product.

New software features

Cisco is constantly enhancing the Cisco Enterprise Network Function Virtualization Infrastructure Software with every release, and we try and keep the content in line with the latest enhancements. The following table lists new and modified features we documented in the Configuration, Command Reference, and Hardware Installation guide.

What's new for Cisco Enterprise NFVIS Release 4.18.1

Table 1. New software features for Cisco Enterprise NFVIS Release 4.18.1

Product Impact	Feature	Description
Cisco Enterprise NFVIS		
Ease of use	NFVIS Portal Language Preferences	The NFVIS portal now supports both English and Japanese languages. Administrators can set the preferred language for new user accounts, ensuring the portal displays in that language upon first login. Existing users can also change their interface language via user settings.
Upgrade	Cisco NFVIS Support For Cisco UCS C-Series M5 and M7 Rack Servers	Starting from Cisco NFVIS Release 4.18.1, Cisco NFVIS software is supported on Cisco UCS C-Series M5 and M7 Rack Servers with a term-based license. Order the Cisco NFVIS software smart license along with the Cisco UCS C-Series M5 and M7 Rack Servers product purchase.
Ease of use	Virtual Machine CDROM Attachment and Detachment	The Day N CDROM Attachment and Detachment feature introduces new actions for virtual machines, enabling you to attach and detach ISO images. This functionality allows you to utilize an ISO image to troubleshoot, repair, or restore a VM's operating system.

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Product Impact	Feature	Description
API experience	Graceful VM Stop	The Graceful Stop feature provides an enhanced method for terminating virtual machine operations. Unlike forceful stop, this option sends a signal to the VM, allowing its services to shut down gracefully. The Graceful stop checkbox is enabled by default for VMs deployed as OTHER type when initiating a VM shutdown.

New hardware features

This section provides a brief description of the new hardware features introduced in this release.

Table 2. New hardware features for Cisco Enterprise NFVIS Release 4.18.1

Product Impact	Feature	Description
Cisco Enterprise NFVIS		
Hardware Reliability	C-NIM-8T and C-NIM-4X Network Interface Modules (NIMs)	The C8300-UCPE platform now supports these new NIMs, expanding network connectivity options with additional ports for flexible deployment.
Hardware Reliability	Software RAID Support for U.2 NVMe drives	The platform introduces support for a software RAID controller, allowing users to create RAID1 or RAID0 arrays using two identical U.2 NVMe drives for improved data redundancy or performance.

Changes in behavior

The following notes highlight critical changes, requirements, and limitations introduced in Cisco NFVIS releases. Please review these carefully before proceeding with installation, upgrades, or configuration.

Starting from Cisco NFVIS Release 4.18.1, install Cisco NFVIS using a smart license on Cisco UCS C M5 and M7 Rack Servers.

- Starting from Cisco NFVIS Release 4.13.1, install Cisco NFVIS using a smart license on Cisco UCS C M6 Rack Servers.
- Starting from Cisco NFVIS Release 4.10.1, the guest VNF settings are automatically preserved from the previous release version, when you upgrade to a newer release version. You don't have to reinstall NFVIS to update the guest VNF settings. For more information see, Upgrade Cisco NFVIS.
- Starting from Cisco NFVIS Release 4.10.1, Cisco NFVIS is based on open source AlmaLinux distribution. In Cisco NFVIS Release 4.9.x and earlier releases, Cisco NFVIS was based on CentOS Linux distribution which is now end-of-life. The support for CentOS Linux distribution is discontinued since June 2024.
- If you are using I-350 based Network Interface Cards (NICs) that use IGB drivers, the Virtual Router Redundancy Protocol (VRRP) is not supported due to a limitation of MAC addresses that can be used in your network.

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Resolved issues

This table lists the resolved issues in this specific software release.

Note: Note: This software release may contain bug fixes first introduced in other releases. To see additional information, click the bug ID to access the Cisco Bug Tool.

Resolved issues for 4.18.1

Table 3. Resolved issues for Cisco Enterprise NFVIS 4.18.1

Bug ID	Description
CSCwo72198	Add support for Globalization on NFVIS Portal
CSCwp37824	Implement the functionality to support for normal and graceful shutdown of VM
CSCwq15743	UCSC-C220-M6S-WMP2721000Q : configStatusMessage(UCSC-C220-M6S-WMP2721000Q)-Sync Pending and config Pull failed
CSCwp67773	Day-N CD-ROM support on NFVIS portal
CSCwp29367	Add support to upload files through Datastore Page in NFV<E2><80><A6>
CSCwp04419	ISO Day0 Support from NFVIS Portal from Deploy Page
CSCwj81271	Enable UCSE-M6(orion) NFVIS support
CSCwp25909	hugepages lost after Upgrading from 4.9 to 4.12
CSCwo83758	Evaluation of Enterprise NFV Infrastructure Software (NFVIS) for Erlang-OTP SSH vulnerability

Open issues

This table lists the open issues in this specific software release.

This software release may contain open bugs first identified in other releases. To see additional information, click the bug ID to access the Cisco Bug Tool.

Open issues for 4.18.1

Table 4. Open issues for Cisco Enterprise NFVIS 4.18.1

Bug ID	Description
CSCwq69586	uCPE8300-1n20 Error=nfvis_101 snmp_ifmib_walk Caught Exception NFVIS 4.18.1

Scalability

The following resources are required for a standalone Cisco Enterprise NFVIS:

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- For a system that has 16 or less CPU cores, one CPU core is reserved for NFVIS. For a system that has more than 16 CPU cores, 2 CPU cores are reserved for NFVIS except C8300-UCPE. C8300-UCPE-1N20 (20 cores system) will reserve 1 CPU core for NFVIS.
- NFVIS needs 5GB of system memory.
- 20 GB storage.
- For NFVIS portal, the minimum supported version of browsers are:
    - Mozilla Firefox 66
    - Google Chrome 71
    - Windows 10 Edge
    - MacOS 10.15 Safari
- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have more than 128 GB RAM:
    - For a Cisco Catalyst Edge uCPE 8300 on numa node 0, 16 GB is reserved. A total of 16 GB is reserved .
- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have more than 64 GB RAM:
    - For a Cisco Catalyst Edge uCPE 8300 on numa node 0, 13 GB is reserved. A total of 13 GB is reserved .
    - For a UCS M6, numa node 0 reserves 11 GB and numa node 1 reserves 2 GB, totaling 13 GB. For other NFVIS devices, 11 GB is reserved on numa node 0, totaling 11 GB.
- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have more than 32 GB RAM:
    - For a Cisco Catalyst Edge uCPE 8300 on numa node 0, 8 GB is reserved. A total of 8 GB is reserved .
    - For a Cisco UCS C M6 Rack servers on numa node 0, 11 GB is reserved and 1 GB is reserved on the numa node 1. A total of 12 GB is reserved.
    - For other Cisco NFVIS devices on numa node 0, 5 GB is reserved and 1 GB on the numa node 1 is reserved (if applicable).
- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have less than 32 GB RAM:
    - For a Cisco Catalyst Edge uCPE 8300, 8 GB on numa node 0 is reserved. A total of 8 GB is reserved .
    - For a Cisco UCS C M6 Rack servers, 7 GB is reserved on numa node 0 and 1 GB is reserved on the numa node 1. A total of 8 GB is reserved.
    - For other Cisco NFVIS devices on numa node 0, 5 GB is reserved and 1 GB on the numa node 1 is reserved (if applicable).
- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have less than 16 GB RAM:

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- For a Cisco Catalyst Edge uCPE 8300, 8 GB on numa node 0 is reserved and 1 GB is reserved on the numa node 1. A total of 9 GB is reserved .
- For other Cisco NFVIS devices on numa node 0, 5 GB is reserved and 1 GB on the numa node 1 is reserved (if applicable).

- Starting from Cisco NFVIS Release 4.14.1, the following are the system requirements for Cisco NFVIS devices that have 8 GB RAM:
  - 3 GB is reserved for the Cisco NFVIS devices.

Note: More memory and disk space are required to be added to the system, depending on VM deployments.

Supported hardware

Supported platforms

The following table lists the only supported platforms and firmware for Cisco ENFV.

Table 5. Cisco ENFV

Platform	Firmware	Version
C8200-UCPE-1N8	BIOS	C8200-UCPE_1.04.103020201614
	MCU	240.52
C8300-UCPE-1N20	BIOS	C83uCPE_BIOS_1.05.SPA
	CIMC	CIMC_4.15.0.2R.bin
UCS C-Series 240 M6 Rack Servers	BIOS	C240M6.4.3.2c.0.0726232000
	CIMC	HUU version 4.3(2.230207)
UCS C-Series 220 M7 Rack Servers	BIOS	C220M7.4.3.5a.0.0905240935
	CIMC	HUU version 4.3(5.240021)
UCS C-Series 220 M6 Rack Servers	BIOS	C220M6.4.3.2c.0.0726232000
	CIMC	HUU version 4.3(2.230207)
UCS C-Series 240 M7 Rack Servers	BIOS	C240M7.4.3.5a.0.0905240935
	CIMC	HUU version 4.3(5.240021)
UCS C-Series 220 M5 Rack Servers	BIOS	C220M5.4.1.3i.0.0713210713
	CIMC	HUU version 4.1(3d)
UCS C-Series 240 M5 Rack Servers	BIOS	C240M5.4.1.3i.0.0713210713
	CIMC	HUU version 4.1(3d)

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Platform	Firmware	Version
UCS E-Series double-wide server module [UCS-E1100D-M6]	NA	NA

Note: The last supported software release for ENCS5400 will be NFVIS 4.15 and Cisco IOS XE Catalyst SD-WAN Release 17.15.1a. For more information, see, ENCS 5400 EOL.

Table 6. Third party

Platform	Platform Description
M3X-APP	Cubic Expeditionary Networking and Compute Platform

Supported software packages

This section provides information about the release packages associated with Cisco Enterprise NFVIS.

NFVIS Software Upgrade Image Details

The Cisco Enterprise NFVIS upgrade image is available as *.iso* file. Currently, downgrades are not supported.

For more details on the software upgrade, see the Upgrading Cisco Enterprise NFVIS section in the Cisco Network Function Virtualization Infrastructure Software Getting Started Guide.

Supported programs

The Cisco Meraki vMX solution is supported on Cisco's Enterprise NFV Infrastructure Software (NFVIS). For more information see, vMX Setup Guide for NFVIS.

Guest VNFs

This section provides support statements for different guest Virtual Network Functions (VNFs) that you can run on Cisco Routing virtual platforms that are enabled by the Cisco NFVIS Release 4.18.1.

Cisco Router VNFs

Note:

- Cisco provides deployment and configuration support for the VNF versions listed below, when these VNFs are deployed on Cisco Routing virtual platforms that are enabled by Cisco NFVIS Release 4.16.1.
- Cisco provides support on a case-by-case basis for unlisted combinations of Cisco NFVIS releases and VNF version combinations.

Table 7. Software Download Links

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Product Homepage	Software Download
Cisco Catalyst 8000V Edge Software	17.18.1 17.16.1 17.15.1 17.12.4 17.12.3 17.12.2 17.12.1 17.11.1 17.10.1 17.9.3 17.9.1
Cisco vEdge	20.9.1 20.9.3 20.6.5 20.3.7 20.8.1 20.7.1

Table 8. Supported Linux Drivers for SR-IOV Acceleration

Platform	NIC Type	VM OS Kernel Driver Version	VM OS DPDK Version
Cisco Catalyst 8200 Series Edge uCPE	2.3.9.6 or higher (igbvf)	2.3.9.6 or higher (igbvf)	DPDK 19.11 or higher
	Intel-I X553 1GbE for GEO-0 and GEO-1	4.9.3 or higher version (ixgbevf)	DPDK 19.11 or higher
Cisco Catalyst 8300 Series Edge uCPE	Intel E810 GEO-0 to GEO-6	iavf 4.18.7 or Higher	DPDK 21.11.2 or higher
Cisco UCS C M6 Rack Servers	Intel X550 LOM GE0-0 & GE0-6	4.9.3 or higher version (ixgbevf)	DPDK 19.11 or higher
Cisco UCS C M6 Rack Servers	UCSE-PCIE-1D 10GF (Intel X710-DA4 Quad port 10 GB)	iavf 4.5.3 or higher	DPDK 19.11 or higher
Cisco UCS C M6 Rack Servers	Intel i350 Quad Port 1 GB Adapter	2.3.9.6 or higher (igbuf)	DPDK 19.11 or higher

Note: The last supported software release for ENCS5400 will be NFVIS 4.15 and Cisco IOS XE Catalyst SD-WAN Release 17.15.1a. For more information, see, ENCS 5400 EOL

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Other Cisco Owned VNFs

Note:

- Limited testing is done to ensure you can create a guest VM instance using the software download image for these versions, as posted on Cisco Software download page.
- For full-support statement see the individual product release documentation.

The following section provides information about generic Linux Distro Images (Ubuntu 22.10 & Alma 8.6 or similar) that can be deployed on Cisco NFVIS Release 4.13.1. See the above table for details on the SRIOV driver that is required on the guest Linux VM based on the platform.

Table 9. Software Download Links

Product Homepage	Software Download
Security VNFs	
Cisco NGFW (FTDv)	6.6.1-91 6.6.0-90
Cisco ASAv	9.14.2 9.14.1
WAN Optimization VNFs	
Cisco vWAAS	6.4.5a-b-50 6.4.5-b-75 6.4.3c-b-42

Non-Cisco Vendor Owned VNFs

You can run VNFs owned by various vendors on Cisco's NFV platforms enabled by NFVIS . Formal support for these VNFs requires a joint effort between Cisco and the VNF vendor.

Cisco offers VNF vendors a "for-fee" NFVIS 3rd-party certification program to test and certify their VNFs on Cisco's virtualized platforms. After testing and certification is complete, the results are published on this page- _

For more specific support details about VNF versions and test compatibility matrix with NFVIS releases, see the VNF release documentation on the vendor support site.

As a NFVIS customer, if you need a unique combination of NFVIS release and a specific VNF version, you may submit your certification request to Cisco at nfv-ecosystem@cisco.com or reach out to the VNF vendor support team asking them to initiate a certification on the Cisco platform.

Related resources

User documentation

- Cisco Network Function Virtualization Infrastructure Software Getting Started Guide
- Cisco Enterprise Network Function Virtualization Infrastructure Software Configuration Guide, Release 4.x

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- Cisco Enterprise Network Function Virtualization Infrastructure Software Command Reference
- Design and Deployment Guide of Cisco NFVIS SD-Branch using Cisco SD-WAN Manager
- Configuration Guide for Cisco Network Plug and Play on Cisco APIC-EM, Release 1.5.x

Hardware documentation

- Cisco Catalyst 8200 Series Edge uCPE Data Sheet
- Cisco Cloud Services Platform 5000 Series Data Sheet
- Cisco 5400 Enterprise Network Compute System Hardware Installation Guide
- Cisco 5400 Enterprise Network Compute System Data Sheet

Release and compatibility information

Upgrade Matrix for Upgrading Cisco NFVIS

API documentation

- For information on NFVIS API documentation (NFVIS API release 4.14.1 and later), see NFVIS API
- For information on NFVIS API documentation (NFVIS API releases earlier than 4.14.1), see API Reference for Cisco Enterprise Network Function Virtualization Infrastructure Software

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