Release Notes for Cisco Catalyst 8000V Edge Software, Cisco IOS XE Dublin 17.10.x

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Cisco Catalyst 8000V Edge Software Overview

About Cisco Catalyst 8000V

Cisco Catalyst 8000V Edge Software or Cisco Catalyst 8000V is a software-based, virtual router that combines the functionalities of Cisco Cloud Services Router (Cisco CSR1000V) and Cisco Integrated Services Virtual Router (Cisco ISRv) into a single image that is intended for deployment in on-prem branches, data centers, colocation data centers, and public clouds.

Cisco Catalyst 8000V supports NIM modules on Cisco ENCS platforms, runs on any x86 platform, and is supported on ESXi, KVM, and Cisco NFVIS hypervisors. Further, you can deploy this router on public cloud providers such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP), and Alibaba Cloud.

When you deploy Cisco Catalyst 8000V as a VM, the Cisco IOS XE software behaves similar to a traditional Cisco router (hardware platform). You can configure different features depending on the Cisco IOS XE software version.

Features

- **Hardware independence**: The Cisco Catalyst 8000V router uses the benefits of virtualization in the cloud to provide hardware independence. Since the Cisco Catalyst 8000V runs as a virtual machine, you can use this router on any x86 hardware that the virtualization platform supports.
- **Sharing of host hardware resources**: The host server hardware resources such as CPU cores, memory, and disk are managed by the hypervisor, and these resources are shared among the guest VMs. You can regulate the amount of hardware resources assigned to a specific Cisco Catalyst 8000V VM instance.
- **Flexibility in deployment**: You can easily move a VM from one server to another. Thus, you can move a Cisco Catalyst 8000V instance from a server in one physical location to a server in another physical location without moving any hardware resources.
- **Enhanced software security - Secure Object Store**: In Cisco Catalyst 8000V, storage partitions for NVRAM, licensing, and other data are created as object stores. The individual object stores are encrypted to ensure data security, and this product is Cisco Secure Development life cycle (CSDL) compliant. Further, Cisco Catalyst 8000V supports a 16G disk profile.

Hardware Requirements

For hardware requirements and installation instructions, see the Cisco Catalyst 8000V Edge Software Installation And Configuration Guide.

Software Images and Licenses

The following sections describe the licensing and software images for Cisco Catalyst 8000V.

Cisco Catalyst 8000V Software Licenses

The Cisco Catalyst 8000V is licensed based on throughput, feature-set, and the licensing term. This product supports Cisco Smart Licensing Usage Policy as well as Cisco DNA Licensing. Based on whether you want to opt for purchased licenses that go with the Cisco Catalyst 8000V instance, or a subscription-based license, choose one of the following options:

Subscription-Based Licensing via Cisco DNA

You can purchase a subscription license for Cisco Catalyst 8000V through the following licenses that are available via Cisco DNA:

- Cisco Catalyst 8000V - Network-Advantage
- Cisco Catalyst 8000V - Network-Essentials

For more information on Cisco Catalyst 8000V DNA licensing, see Cisco DNA Software for SD-Wan and Routing Ordering Guide.

Bring-Your-Own-Licensing

You also have an option to purchase and use licenses with Cisco Catalyst 8000V as a Bring-Your-Own-License (BYOL) instance or as a Pay-As-You-Go (PAYG) instance.

To use a Cisco Catalyst 8000V - BYOL license, see Licenses and Licensing Models to know to how install and configure your license.

If you have upgraded to Cisco Catalyst 8000V from a Cisco CSR 1000V or a Cisco ISRV, you must use Smart Licensing Using Policy (SLP). Traditional licenses do not work after the upgrade.

Pay-As-You-Go Licensing

Cisco Catalyst 8000V supports the PAYG Licensing model with Amazon Web Services (AWS) and Microsoft Azure Marketplace. Cisco Catalyst 8000V hourly-billed AMI or Pay As You Go licensing model allows you to consume an instance for a defined period of time. In this licensing model, you can directly launch the instance from the AWS or Azure Marketplace and start using the instances. The licenses are embedded in the image.

Note For demo or evaluation licenses, contact your Cisco Account Team if you have a direct purchase agreement with Cisco, or your Cisco Partner or Reseller.

For a more detailed overview on Cisco Licensing, go to https://cisco.com/go/licensingguide.

Software Image Nomenclature for Installation Files

The Cisco Catalyst 8000V installation file nomenclature indicates properties supported by the router in a given release.

For example, these are filename examples for the Cisco IOS XE Dublin 17.10.1a release:

- c8000v-universalk9.17.10.01a.ova

- c8000v-universalk9.17.10.01a.iso
- c8000v-universalk9.17.10.01a.qcow2

The following table lists the filename attributes along with its properties:

Table 1: Installation Filename Attributes

Filename Attribute	Properties
universalk9	Specifies the package that you are installing.
17.10.01a	Indicates that the software image is mapped to the Cisco IOS XE Dublin 17.10.1a release.

Product Field Notice

Cisco publishes Field Notices to notify customers and partners about significant issues in Cisco products that typically require an upgrade, workaround or other user action. For more information, see https://www.cisco.com/c/en/us/support/web/field-notice-overview.html.

We recommend that you review the field notices to determine whether your software or hardware platforms are affected. You can access the field notices from https://www.cisco.com/c/en/us/support/web/tsd-products-field-notice-summary.html#%7Etab-product-categories.

New and Enhanced Features for Cisco IOS XE Dublin 17.10.x

New and Enhanced Features for Cisco IOS XE 17.10.1a

Note Cisco IOS XE Dublin 17.10.1a is the first release for Cisco Catalyst 8000V in the Cisco IOS XE Dublin 17.10.x release series.

Table 2: Software Features

Feature	Description
Support for ED25519 SSH Key in AWS and GCP Deployments	Cisco Catalyst 8000V supports ED25519 SSH key type for authentication when you deploy an instance in Amazon Web Services 9 (AWS) and Google Cloud Platform (GCP). Although SSH-RSA keys are supported in these cloud providers, we recommend that you use the ED25519 SSH key for generating and verifying the keys faster. Also, this provides better collision resilience and security.

Feature	Description
Support for PCI Passthrough on NIC port with ixgbe Driver	Cisco Catalyst 8000V now supports the ixgbe Network Interface (vNIC) card for deployments in ESXi, KVM, and NFVIS (CSP) environments. This driver enables the Peripheral Component Interconnect (PCI) passthrough feature that allows you to access and manage the hardware from a virtual machine. For more information, see Installing in KVM Environments and Installing in an NFVIS Environment.
Packet Tracer with UDF Offset	Using this feature you can configure to match the packets based on user defined field position and length. This can be used by an ACL to match packets that cannot be classified easily with the traditional Layer 3 and Layer 4 field information.
Support for Secure Real-time Transport Protocol (SRTP) Dual-Tone Multi-Frequency (DTMF) Interworking	This feature provides support for Dual-Tone Multi-Frequency (DTMF) interworking between Cisco Unified Communications Manager (CUCM) and Secure Software MTP in pass-through mode. It is supported on both CUCM and Cisco IOS XE software.
Layer 2 BGP VXLAN EVPN	Border Gateway Protocol (BGP) Ethernet VPN (EVPN) Virtual Extensible LAN (VXLAN) is a campus and data center network solution for Cisco devices that run on Cisco IOS XE software. This feature allows Layer 2 segments to be supported across an IP core therefore allowing improved scalability with infrastructure. It also provides all the benefits of Layer 3 topologies.
Segment Routing Absolute One-Way Link Loss Measurement for GRE-IPSec Tunnel	This feature provides a mechanism for link loss measurement for point-to-point GRE-IPSec tunnel and identifies paths that meet specified loss criteria.
SHA2 support for SNMP v3 User Authentication	This feature provides support for SHA-2 as an additional authentication protocol to create an SNMPv3 user and associate a security level to each user. The SHA-256, SHA-384, and SHA-512 are the supported HMAC-SHA-2 protocols. You can configure the SHA-2 authentication protocol using a new keyword - **sha-2** - in the **snmp-server user** command, and extend the authentication level from the existing MD5 and SHA protocols. For more information, see Cisco IOS SNMP Support Command Reference.

Feature	Description
Support for YANG Operational Model in the GETVPN architecture	This feature enables the YANG operational model in the GETVPN architecture to support the crypto gdoi command which was previously enabled only for the CLI and SNMP models.

Table 3: Cisco Unified Border Element (CUBE) Features

Feature	Description
YANG model enhancements for Unified SRST and CUBE	Additional YANG configuration models are included in this release to enable Unified SRST secure calling, applications for CUBE, and additional codecs for voice class codec lists.

Table 4: Smart Licensing Using Policy Features

Feature	Description
Permanent License Reservation (PLR) in Smart Licensing Using Policy	A PLR enables you to use an unlimited count of any license on the product instance. It is suited to a high-security deployment or entirely air-gapped networks where a product instance cannot communicate online, with anything outside its network. See: Permanent License Reservation in the Smart Licensing Using Policy Environment.

Resolved and Open Bugs - Cisco IOS XE 17.10.x

Resolved Bugs - Cisco IOS XE 17.10.1a

Bug ID	Headline
CSCwc77981	C8000V crashed - track the FMAN-FP's memory leak caused by cond-debug
CSCwc70511	Router reloads unexpectedly during NHRP processing
CSCwb35303	X25 FRMR seen when switching from XOT to low speed serial
CSCwc29735	Improve debug for reload at crypto_dev_proxy_ipc_ipsec_sa_crt_hndlr when scale exceed limit
CSCwc06327	PFP policy in SRTE, RIB resolution in FC bring down ipsec tunnel interface- stuck at linestate down
CSCwc78021	Standby WLC crash @ fman_acl_remove_default_ace
CSCwd16664	GetVPN long SA - GM re-registration after encrypting 2^32-1 of packets in one IPSEC SA

Open Bugs - Cisco IOS XE 17.10.1a

Bug ID	Headline
CSCwc77570	C8000V: IOS-XE Web UI Licensing Service Settings page doesn't load
CSCwd07580	C8000V QFP uCode crash due to MLX4 low level drivers
CSCwd25107	Interface Vlan1 placed in "shutdown" state when configured with IP address pool
CSCwd23810	IOS-XE: A high CPU utilization caused by NHRP
CSCwd45402	MSR Unicast-To-Multicast not working if DST and SRC are the same in Service Reflect configuration
CSCwd61255	Data Plane Crash on the device when making QoS configuration changes
CSCwc65697	Device crashes and restarts during call flow with the new image
CSCwd53205	IKEv2 The RRI routes intermittently disappear from a FlexVPN hub
CSCwc99823	FMAN crash seen in SGACL@ fman_sgacl_calloc
CSCwd59722	Unexpected reboot due to IOSXE-WATCHDOG: Process = Crypto IKMP
CSCwd12828	Segmentation fault crash in CCSIP_SPI_CONTROL process
CSCwd74089	CUBE call leak at FPI layer
CSCwc66646	Unexpected reload due to segmentation fault in the CCSIP_SPI_CONTROL process
CSCwc23645	When using SRTP with higher ciphers, CUBE is inserting distortion in voice

Related Documentation

Cisco Catalyst 8000V Edge Software Product Page

Cisco Catalyst 8000V Edge Software Data Sheet

Cisco Catalyst 8000V Edge Software Installation And Configuration Guide

Cisco Catalyst 8000V Edge Software High Availability Configuration Guide

Troubleshooting Guide for Cisco Catalyst 8000V Edge Software

Smart Licensing Using Policy for Cisco Enterprise Routing Platforms

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- To obtain general networking, training, and certification titles, visit Cisco Press.
- To find warranty information for a specific product or product family, access Cisco Warranty Finder.

Cisco Bug Search Tool

Cisco Bug Search Tool (BST) is a web-based tool that acts as a gateway to the Cisco bug tracking system that maintains a comprehensive list of defects and vulnerabilities in Cisco products and software. BST provides you with detailed defect information about your products and software.

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