



Release Notes for Cisco Catalyst 8000V Edge Software, Cisco IOS XE Cupertino 17.8.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 cloud and virtual data centers.

Cisco Catalyst 8000V supports NIM modules, runs on any x86 platform, and is supported on ESXi, KVM, 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 on a VM, the Cisco IOS XE software functions as if it were deployed on a traditional Cisco hardware platform. You can configure different features depending on the Cisco IOS XE software image.

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 on a virtual machine, you can use this router on any x86 hardware that the virtualization platform supports.
- **Sharing of resources:** The resources used by Cisco Catalyst 8000V are managed by the hypervisor, and these resources can be shared among the VMs. You can regulate the amount of hardware resources that the VM server allocates to a specific VM. You can reallocate resources to another VM on the server.
- **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 cycle 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 go 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 three licenses that are available via Cisco DNA:

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

For more information on Cisco Catalyst 8000V DNA licensing, see [Cisco DNA Software Routing Subscription 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 Cupertino 17.8.1a release:

- c8000v-universalk9.17.08.01a.ova
- c8000v-universalk9.17.08.01a.iso
- c8000v-universalk9.17.08.01a.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.
17.08.01a	Indicates that the software image is mapped to the Cisco IOS XE Cupertino 17.8.1a 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 Cupertino 17.8.x

New and Enhanced Features for Cisco IOS XE 17.8.1a



Note Cisco IOS XE Cupertino 17.8.1a is the first release for Cisco Catalyst 8000V in the Cisco IOS XE Cupertino 17.8.x release series.

Table 2: Software Features

Feature	Description
Support for Software Media Termination Point	A Software Media Termination Point (SWMTP) is an essential component of large-scale deployments of Cisco Unified Communications Manager (CUCM). In these deployments, the SWMTP bridges the media streams between two connections by allowing the CUCM to relay calls that are routed through SIP or H.323 endpoints. You can now configure support for the SWMTP is supported on Cisco Catalyst 8000V devices. To use voice functionalities with your the Cisco Catalyst 8000V device, leverage SWMTP to enable and use supplementary services such as Call Park and Call Transfer routed through an H.323 endpoint or an H.323 gateway.
Show Command to Debug Packet Drops	The Show Drops command introduced in this release allows you to troubleshoot the root cause for packet drops and identify: <ul style="list-style-type: none"> • The reason for the packet drop. • The dropped interface with Rx or Tx direction. • The root cause of the drop based on the feature or the protocol. Additionally, you can filter the packet drop based on the interface, protocol, or feature.
Download AnyConnect Profiles with IPsec IKEv2 VPN	This feature allows you to configure Internet Protocol Security (IPSec)-Internet Key Exchange (IKEv2) VPN to download AnyConnect profiles over SSL, for IOS-XE headends.
Support for bidirectional debugging	You can now enable bidirectional debugging of traffic using debug platform condition match command.

Table 3: Cisco Unified Border Element (CUBE) Features

Feature	Description
mTLS Client CN-SAN Validation	It is now possible to verify a client through the validation of the common name or subject alternate name fields in its certificate.
Unified Secure SRST: SHA2-Cipher-only Mode	To ensure that only the most robust cipher suites are used, Secure SRST (SCCP) may now be configured to only use TLS 1.2 Cipher Suites. Secure SIP SRST now supports the granular control of cipher suites used for both signaling (TLS) and media (SRTP).

Feature	Description
Unified Secure SRST: SIP OAuth Client Registration	IP Phones, Jabber clients, and the Webex app may now failover and register to Secure SIP SRST using OAuth authentication.
VRF-aware Listen Port per Tenant	SIP trunks configured using the CUBE tenant feature may now be configured with a specific listen port, allowing more flexibility in routing inbound calls to the correct trunk. This feature may be used together with VRF interface binding to further control the partition and routing of calls.

Table 4: Programmability Features

Feature	Description
IPSec YANG model	This feature introduces an YANG model for the show platform hardware qfp active feature ipsec state command. This model displays the Cisco Quantum Flow Processor (QFP) IPsec state information. You can view the different states and the number of messages exchanged for each state in QFP IPsec. With this information, you can troubleshoot issues related to IPsec flows. For more information about YANG models, see https://github.com/YangModels/yang/tree/master/vendor/cisco/xe .
YANG Model Version 1.1	Cisco IOS XE Cupertino 17.8.1a uses the YANG version 1.0; however, you can download the YANG version 1.1 from GitHub at https://github.com/YangModels/yang/tree/master/vendor/cisco/xe folder. For inquiries related to the migrate_yang_version.py script or the Cisco IOS XE YANG migration process, send an email to xe-yang-migration@cisco.com .

Resolved and Open Bugs for Cisco IOS XE Cupertino 17.8.x

Resolved Bugs - Cisco IOS XE 17.9.1a

Bug ID	Headline
CSCvz99455	36% Degradation seen with FNF on C8000V 1v CPU KVM
CSCwa15132	DMVPN over DMVPN with IPSEC - return packets are dropped with BadIpChecksum
CSCwa07494	IPSec tunnel not passing traffic when IPSec tunnel is sourced from VASI interface
CSCwa08378	C8000V Day0 ZTP ignores crypto configuration before licensing

Bug ID	Headline
CSCwa13553	C8000V QFP core due to NAT scaling issue
CSCvz34380	Multiple Cisco Products Snort Modbus Denial of Service Vulnerability
CSCwa92411	Slowness issues caused by intermittent traffic drop on Cisco ISRv ingress from GRE tunnel
CSCwa47219	Crash on ipv4_nat_get_all_mapping_stats due to NULL pointer of mapping_hash_table
CSCwb11389	NAT translation stops suddenly(ip nat inside doesn't work)
CSCvz98373	ZBFW : FirewallPolicy drops seen with RTSP traffic in steady state
CSCwa26412	ZBFW: OG lookups are missing from device for optimized policy
CSCwa36699	Prefetch CRL Download Fails
CSCvz74773	Discrepancies in CLI and GUI interface details (Truncating interface numbers)
CSCvt15177	Certificate Signing Request made by IOS-XE never show the Subject Alternate Name
CSCwa67398	NAT translations do not work for FTP traffic in the device
CSCvy78501	AAR not working properly as configured SLA classes are not shown under app-route stats
CSCwa51443	Incorrect check of the TCP sequence number causing return ICMP error packets to drop (ThousandEyes)
CSCwa93930	"alarms alarm bfd-state-change syslog" command is getting rejected while reconfiguring the device.
CSCvz80101	Policy XML pruning without ConfD dependency
CSCvz34668	Static mapping for the hub lost on one of the spokes
CSCwa15085	Router Crash due to Stuck Thread with appnav-xe dual controller mode.

Open Bugs - Cisco IOS XE 17.8.1a

Bug ID	Headline
CSCwb13850	License boot level not detected with Day0 after C8000V boots on the latest polaris image
CSCwb34625	C8000V auto mode: static IP from bootstrap config overwritten by dhcp on fresh install
CSCwb13820	C8000V crashes at high scale with IPSEC and heavy features configured
CSCvz28950	DMVPN phase 2 connectivity issue between two spokes
CSCvz65764	Peer MSS value shows incorrect
CSCwb11389	NAT translation stops suddenly(IP nat inside doesn't work)
CSCwa84919	"Revocation-check crl none" does not failover
CSCwb42807	After Enforce Software Version (ZTP) completes successfully, it automatically rolls back
CSCwb04815	NHRP process takes more CPU with IP nhrp redirect configured
CSCwa72273	ZBFW drops return packets post device upgrade
CSCwb25137	[XE NAT] Source address translation for multicast traffic fails with route-map

Bug ID	Headline
CSCwb18223	SNMP v2 community name encryption problem
CSCwb55683	Large number of IPSec tunnel flapping occurs when underlay is restored
CSCwb12647	Device crashes for stuck threads in cpp on packet processing
CSCwb24123	Registration of spoke fails with dissimilar capabilities
CSCwb21645	NAT traffic gets dropped when default route changes from OMP to NAT DIA route
CSCwa08847	ZBFW policy stops working after modifying the zone pair
CSCwb45422	Crash due to IPv4 reassembly
CSCvw50622	Nhrp network resolution not working with link-local ipv6 address.
CSCwb29362	Evaluation of IOS-XE for OpenSSL CVE-2022-0778 and CVE-2021-4160
CSCwa74499	ZBFW seeing the SIP ALG incorrectly dropping traffic and resetting connection
CSCwa68540	FTP data traffic broken when UTD IPS enabled in both service VPN
CSCwb27900	WebSocket forking connection failed for Voice VRF scenario
CSCwa48122	SIP OAuth http request to fetch keys from CUCM fails after bootup as interface is down

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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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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