

Overview of Cisco Catalyst 8000V Edge Software on Amazon Web Services

Cisco Catalyst 8000V Edge Software is a virtual router that offers routing, security, and network management functionalities as a cloud service, with multitenancy.

This router is supported on the Amazon Virtual Private Cloud (Amazon VPC), which enables you to provision a logically isolated section of the AWS Cloud. By doing so, you can launch the AWS resources in a virtual network that you've defined.

Cisco Catalyst 8000V has the ability to boot in either the autonomous or the controller mode. By default, Cisco Catalyst 8000V boots in the autonomous mode. If you wish to deploy and use Cisco Catalyst 8000V in the autonomous mode, continue with this guide.

This guide specifies the deployment options, procedures, and the configurations for Cisco Catalyst 8000V running on Amazon Web Services (AWS) for public and private cloud solutions.

For Cisco SD-WAN deployments or Cisco Catalyst 8000V in the controller mode, see Getting Started With the Cisco SD-WAN.

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Deployment Options for Cisco Catalyst 8000V Running on Amazon Web Services

To use Cisco Catalyst 8000V on Amazon Web Services (AWS), purchase and launch the Cisco Catalyst 8000V instance as an Amazon Machine Image (AMI) on AWS Marketplace.

An Amazon Machine Image (AMI) provides the information required to launch your instance. You need to specify an AMI when you launch an instance. Note that you can launch as many instances from the AMI as you need.

Choose one of the following deployment options from the AWS Marketplace:

- Cisco Catalyst 8000V SD-WAN & Router - PAYG - DNA Advantage
- Cisco Catalyst 8000V SD-WAN & Router - PAYG - DNA Essentials

- Cisco Catalyst 8000V for SD-WAN & Routing

If you choose one of the first three options, proceed to licensing after choosing your deployment option. If you choose the Cisco SD-WAN option, see the *Getting Started with Cisco SD-WAN* guide.

Note If you are upgrading from an earlier version, use the Cisco Catalyst 8000V .bin file to upgrade the version of the Cisco Catalyst 8000V instance without having to recreate an AWS EC2 instance from a new AMI.

Licensing

After you visit the AWS Marketplace, purchase and launch the Cisco Catalyst 8000V device as an Amazon Machine Image (AMI) on the AWS Marketplace.

To use the Cisco Catalyst 8000V device, first choose the image or solution listing, purchase the image, and deploy the AMI. The next step is to either purchase the Cisco Catalyst 8000V software license(s) directly from Cisco, or use a Pay-As-You-Go (PAYG) license that is already embedded with the image.

If you are using the Bring Your Own license (BYOL) licensing model,continue reading this section. Else, see the *Pay As You Go* section in this guide.

Bring Your Own Licensing Model

Bring Your Own License is the model where you buy a license from Cisco or a partner and install the license on the Cisco Catalyst 8000V device. If you choose the BYOL licensing model, after you deploy the Cisco Catalyst 8000V AMI from the AWS Marketplace and launch the instance, you must install the licenses using Cisco Smart Licensing Usage Policy.

Cisco Smart Licensing Usage Policy is an evolved version of the existing Smart Licensing model with the overarching objective of providing a licensing solution that does not interrupt the operations of your network. Rather, this model enables a compliance relationship to account for the hardware and software licenses you purchase and use.

After you purchase a license, no preliminary steps, such as registration or generation of keys etc., are required unless you use an export-controlled or enfored license. These licenses require authorization before use. For all the other licenses, you can configure the product features on the device right-away.

For more information about the Cisco Catalyst 8000V software licenses and the process for rehosting a license, see the *Cisco Catalyst 8000V Edge Software Configuration Guide*. For a list of license SKUs, see the latest Cisco Catalyst 8000V Release Notes.

Pay-As-You-Go Licensing

To use Cisco Catalyst 8000V on AWS, you must purchase and launch Cisco Catalyst 8000V as an Amazon Machine Image (AMI) on the AWS Marketplace. Further, you must choose either the BYOL or the Pay-As-You-Go (PAYG) licensing model.

If you have chosen the BYOL model, go to the *Licensing* section in this guide. If you have chosen the PAYG licensing model, continue to read this section.

The 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 Marketplace and start using the instances. The licenses are embedded in the image.

The following Cisco IOS XE Technology Packages are available in this licensing model: **Cisco Catalyst 8000V - Essentials PAYG** and **Cisco Catalyst 8000V - Advantage PAYG**.

Notes

PAYG licensing is subject to the following conditions:

- You are billed hourly by Amazon Web Services (AWS) for using the Cisco Catalyst 8000V AMI. This hourly usage fee is in addition to the VPC usage fees charged by AWS.
- You do not purchase the licenses directly from Cisco for Cisco Catalyst 8000V.
- You do not install the Cisco licenses on the router.
- You cannot rehost hourly-billed AMIs.
- Pay-As-You-Go license type is not supported in SD Routing devices.

For more information about the features contained in the Cisco Catalyst 8000V technology packages, see the *Cisco Catalyst 8000V Edge Software Configuration Guide*.

Cisco IOS XE Technologies Not Supported

When you deploy your Cisco Catalyst 8000V instance on an AWS instance, Cisco Catalyst 8000V supports fewer Cisco IOS XE technologies than are supported by other hypervisors. Some technologies might not be available because they are not supported in an Amazon cloud.

The following restrictions apply when you deploy Cisco Catalyst 8000V on an AWS instance:

- Although CLI commands for unsupported features may be visible on Cisco Catalyst 8000V, testing by Cisco has determined that the unsupported features (mentioned in the table in this section) do not work in AWS deployments.
- Routing protocols are supported over a tunnel only.
- The Cisco Catalyst 8000V AMI does not support remote management of the router using Cisco Prime Network Services Controller.

The following table lists the Cisco IOS XE technologies that are not supported when deploying Cisco Catalyst 8000V on an AWS instance.

Table 1: Cisco IOS XE Technologies Not Supported on AWS Deployments

Technology	Non-Supported Features
Basic Routing	OSPF
Data Center Interconnect	OTV and WCCPv2
MPLS	MPLS, EoMPLS, VRF and VPLS

Technology	Non-Supported Features
Redundancy	HSRP
WAAS	Integrated AppNav-XE

The following caveats apply to the Cisco IOS XE technology support on AWS deployments:

- You cannot apply NAT PAT on the same interface that is configured with a crypto map. The workaround is to use a different IP Security feature such as SVTI or DMVPN, or you can configure a two-router solution with one router for NAT and another router for the IP Security crypto map.
- You cannot configure HSRP between the Cisco Catalyst 8000V nodes in an Amazon cloud. Amazon does not allow running HSRP on the hosts in the VPC. Amazon AWS blocks all broadcast and multicast traffic in a VPC.
- It is recommended that you disable the Source/Destination check on the Cisco Catalyst 8000V interfaces.
- EtherChannel is not supported.
- IP Multicast only works with the Amazon Transit Gateway solution.