



Overview of Cisco CSR 1000v Deployment on Amazon Web Services

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Introduction

The Cisco CSR 1000V can be deployed on Amazon Web Services (AWS) for public and private cloud solutions. The implementation and installation on AWS is different than for the other supported hypervisors. The Cisco CSR 1000V is supported on the following AWS platform:

- AWS Virtual Private Cloud (VPC)

For more information, see the AWS VPC documentation at:

<http://aws.amazon.com/documentation/vpc/>

Note that the Cisco CSR 1000V is currently not supported on AWS Elastic Compute Cloud (EC2).

Cisco CSR 1000v AMI Options for Amazon Web Services

The Cisco CSR 1000v for AWS is purchased and launched as an Amazon Machine Image (AMI) on [AWS Marketplace](#). See [Bring Your Own License, on page 2](#) and [Cisco CSR 1000v Hourly-Billed AMIs, on page 2](#).

Notes

(Cisco IOS XE Everest 16.5 and later) You can use the Cisco CSR 1000v .bin file to upgrade the version of the Cisco CSR 1000v, without having to recreate AWS EC2 instance from a new AMI.

(Cisco IOS XE Everest 16.4 and earlier) You cannot use the Cisco CSR 1000v .bin file to upgrade the release version of an AMI. You must create a new AMI instance and migrate your configuration and license(s).

(Cisco IOS XE 3.11 or 3.12) If you are using a BYOL AMI, the Cisco IOS XE technology packages that are available are: Advanced and Premium.

(Cisco IOS XE 3.11 or 3.12) If you are using an hourly billed AMI, the Cisco IOS XE technology package that is available is: Advanced.

Bring Your Own License

The Cisco CSR 1000v for AWS is purchased and launched as an Amazon Machine Image (AMI) on [AWS Marketplace](#).

To use the BYOL AMI, you purchase the Cisco CSR 1000v software license(s) directly from Cisco and launch the Bring Your Own license (BYOL) AMI from the AWS Marketplace. After you deploy the Cisco CSR 1000v AMI from AWS Marketplace and launch the instance, you install the Cisco licenses using the standard Cisco Software Activation process.

Licensing for the Cisco CSR 1000v BYOL AMI has the following characteristics:

- You purchase the Cisco CSR 1000v software licenses directly from Cisco, and you pay only the hourly usage fees for the AWS VPC.
- Each software license can be used for only on AWS instance.
- You can install more than one license on an AWS instance, but the multiple licenses can apply only to that instance.
- You can rehost the license if required using the Cisco Software Licensing tool. The process for rehosting a license used on a BYOL AMI is the same as for other Cisco CSR 1000v licenses.
- Cisco CSR 1000v License Activation Required using the Cisco IOS XE software activation commands after first booting the Cisco CSR 1000v.

The following Cisco IOS XE Technology Packages are available: (Cisco IOS XE 3.13S and later) IPBase, Security, AX and APPX.

**Note**

The 1-Click Launch option is not currently supported for BYOL AMIs.

For more information about the Cisco CSR 1000v software licenses and the process for rehosting a license, see the [Cisco CSR 1000V Series Cloud Services Router Software Configuration Guide](#). For a list of license SKUs, see the [Cisco CSR 1000v Series Release Notes](#).

Cisco CSR 1000v Hourly-Billed AMIs

The Cisco CSR 1000v for AWS is purchased and launched as an Amazon Machine Image (AMI) on [AWS Marketplace](#). This section describes the Hourly-Billed AMI.

A Cisco CSR 1000v hourly-billed AMI, launched directly from AWS Marketplace, is subject to the following conditions:

- You are billed hourly by Amazon Web Services (AWS) for using the Cisco CSR 1000v AMI. This hourly usage fee is in addition to the VPC usage fees charged by AWS.
- You do not purchase licenses directly from Cisco for the Cisco CSR 1000v.
- You do not install Cisco licenses on the router using the Cisco Software Activation process.
- The feature content of the hourly-billed AMIs corresponds to the Advanced or Premium technology package license available for the Cisco CSR 1000v. Note that some features and technologies are not supported on AWS deployments. See [Cisco IOS XE Technologies Not Supported](#), on page 3.

The following Cisco IOS XE Technology Packages are available (Cisco IOS XE 3.13S and later): Security and AX.



Note

Cisco CSR 1000v hourly-billed AMIs that correspond to the Standard technology package are not available.

- You cannot change the feature package of hourly-billed AMIs using the **license boot level** command.
- Hourly-billed AMIs cannot be rehosted.
- For more information about the features contained in the Cisco CSR 1000v technology packages, see the [Cisco CSR 1000V Series Cloud Services Router Software Configuration Guide](#).

Cisco IOS XE Technologies Not Supported

When deployed on an AWS instance, the Cisco CSR 1000v supports fewer Cisco IOS XE technologies than are supported by other hypervisors. Some technologies may not be available because they are not supported in an Amazon cloud.

The following restrictions apply to deploying the Cisco CSR 1000v on an AWS instance:

- Although CLI commands for unsupported features may be visible on the Cisco CSR 1000v, testing by Cisco has determined that these unsupported features do not work in AWS deployments.
- Routing protocols are supported over a tunnel only.
- (Cisco IOS XE 3.11S and 3.12S) The following restrictions apply for supporting management of the router using the REST API or remote management using Cisco Prime Network Services Controller: The Cisco CSR 1000v AMI does not support management of the router using the REST API.
- (Cisco IOS XE 3.13S) The following restrictions apply for supporting management of the router using the REST API or remote management using Cisco Prime Network Services Controller: The Cisco CSR 1000v AMI supports management of the router using the REST API, but only if the shared management interface is used. For more information, see the “Configuring Support for Management Using the REST API” chapter in the [Cisco CSR 1000v Series Cloud Services Router Software Configuration Guide](#)
- (All Releases of Cisco IOS XE) The following restrictions apply for supporting management of the router using the REST API or remote management using Cisco Prime Network Services Controller: The Cisco CSR 1000V 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 the Cisco CSR 1000v on an AWS instance.

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

Technology	Non-Supported Features
IP	IPv6 Forwarding and IPv6 Routing.
Basic Routing	OSPF
IP Multicast	IGMP and PIM
Data Center Interconnect	OTV, VxLAN and WCCPv2.
MPLS	MPLS, EoMPLS, VRF and VPLS.
Redundancy	HSRP
WAAS	Integrated AppNav-XE

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

- Only one interface can be configured with the **ip address dhcp** command.
- 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 CSR 1000V 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.
- We recommend that you disable the Source/Destination check on the Cisco CSR 1000V interfaces.
- EtherChannel is not supported.