

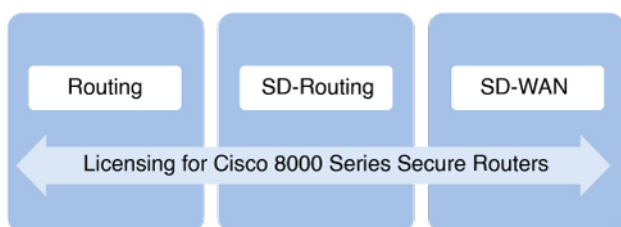
Revised: August 28, 2025

Cisco 8000 Series Secure Routers Licensing

Scope of this document

This document provides information about licensing, including the concepts, configuration, and license assignment for all the Cisco 8000 Series Secure Routers.

These platforms operate in the autonomous routing mode, the SD-Routing mode, and in the SD-WAN controller mode and this document covers platform-based licensing in the context of all these modes.



What's new and changed

This table provides a summary of license related changes applicable to the Cisco 8000 Series Secure Routers. These features are available in all the releases subsequent to the one they were introduced in, unless noted otherwise.

Feature Name	Release	Feature Information
Platform-Based Licensing	Cisco IOS XE 17.15.3a Cisco Catalyst SD-WAN Manager Release 20.15.3	Support for platform-based licensing was introduced on Cisco 8000 Series Secure Routers: C8375-E-G2, C8455-G2, C8475-G2, C8550-G2, C8570-G2. Platform-based licensing is a way of grouping licenses and devices based on platform-classes. A platform class is a hierarchical categorization based on product family and place in the network.

Platform-Based licensing

Platform-based licensing primarily focuses on simplification and flexibility. This section outlines some of the features of this licensing model.

- Licenses and devices are grouped by platform-class, which is a hierarchical categorization based on the product family and a device's place in the network. Platform-based licensing takes its name from this central concept. The licenses are not associated with a bandwidth tier.

A High Security license, also referred to as a HSEC or a HSECK9 license, is not applicable and not required for the Cisco 8000 Series Secure Routers

- This licensing model supports license portability across devices within the same platform-class. For example, you can use a license for C8455-G2, which can also be used on a C8475-G2 platform.
- This licensing model also supports usage of the same license across different modes. For example, you can use an SD-WAN license in the SD-Routing mode for a device.

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

Available licenses

The licenses available to Cisco 8000 Series Secure Routers differ depending on the operating mode.

The licenses available for Cisco 8000 Series Secure Routers include:

- **Routing-Essentials:** The Routing-essentials license is automatically available with a hardware order. This is a perpetual license and is the default license if you don't configure any other license on your device. The Routing-Essentials license is not deposited into your smart account, nor do you need to report this license. When your device uses a Routing-Essentials license, the device will limit the aggregated crypto throughput to 250Mbps.
- **Routing-Advantage:** This license is only offered with a 7-year subscription, and be used for a device in autonomous mode or SD-Routing mode.
- **WAN-Essentials:** These are subscription-only licenses that have a 1-year, 3-year, 5-year, or a 7-year subscription term. These licenses can be used for devices in SD-Routing mode or SD-WAN mode.
- **WAN-Advantage:** These are subscription-only licenses that have a 1-year, 3-year, 5-year, or a 7-year subscription term. These licenses can be used for devices in sd-routing mode or SD-WAN mode.

Platform class

A platform class is a hierarchical categorization of devices based on the device's product family and place in the network.

Knowing the available platform-classes ensures that the correct licenses are purchased and assigned to a device, because the available licenses are also categorised the same way.

Refer to this table which provides the license type and the platform class that are available for the Cisco 8000 Series Secure Routers.

Platform class and PIDs	Licenses available in the autonomous mode	Licenses available in the SD-Routing mode	Licenses available in the SD-WAN controller mode
Large <ul style="list-style-type: none">• C8375-E-G2	Large_Routing_Essentials Large_Routing_Advantage	Large_Routing_Advantage Large_SDWAN_Essentials Large_SDWAN_Advantage	Large_SDWAN_Essentials Large_SDWAN_Advantage
Xlarge <ul style="list-style-type: none">• C8455-G2• C8475-G2• C8550-G2• C8570-G2	Xlarge_Routing_Essentials Xlarge_Routing_Advantage	Xlarge_Routing_Advantage Xlarge_SDWAN_Essentials Xlarge_SDWAN_Advantage	Xlarge_SDWAN_Essentials Xlarge_SDWAN_Advantage

Ordering considerations

Based on your requirements, refer to the [Available Licenses](#) section in this document to know the license types and classes that are available for the Cisco 8000 Series Secure Routers. Based on this information, purchase the required licenses.

After you purchase the required licenses, they are deposited in the Smart Account and under the Virtual Account specified at the time of purchase on [CCW](#) (Cisco Commerce Workspace). Ensure you provide the correct smart account information.

For more information, see the [Cisco 8000 Series Secure Routers Ordering Guide](#).

Configure a license for a routing device

Follow these steps to configure a boot level license. This task applies only for Cisco 8000 Series Secure Routers running in the autonomous mode.

```
Device# show version
<output truncated>
Router operating mode: Autonomous
```

When you order a license along with a new hardware, the license is not preconfigured or factory-installed on the device. You must configure the license you purchased before the features available with the license can be used. This applies to a new device where a license is not configured and an existing device where you want to change the configured license.

If you do not configure the license you purchased, the device comes up with the default Routing-Essentials license and the aggregated crypto throughput is limited to 250Mbps.

Ensure a positive balance of the required licenses in Cisco SSM.

Step 1 **show version**

Displays the currently configured boot level license. Run this command to verify whether you have Routing-Essentials or Routing-Advantage configured.

In the example, Routing-Advantage is the currently configured boot level license.

Example:

```
Device# show version
<output truncated>
Technology Package License Information:
Technology      Type      Technology-package Technology-package
                  Current      Next Reboot
-----
Smart License   Subscription advantage      advantage

The current crypto throughput level is unthrottled
<output truncated>
```

Step 2 **configure terminal**

Enters global configuration mode.

Example:

```
Device# configure terminal
```

Step 3 **[no] license boot level advantage**

Configures the boot level license.

In the example, routing Advantage is configured.

Example:

```
Device(config)# license boot level advantage  
% use 'write' command to make license boot config take effect on next boot
```

Step 4 **exit**

Exits global configuration mode and returns to privileged EXEC mode.

Example:

```
Device# exit
```

Step 5 **write running-config startup-config**

Saves the changes in the configuration file.

Example:

```
Device# copy running-config startup-config  
Destination filename [startup-config]?  
Building configuration...  
[OK]  
<output truncated>
```

Step 6 **reload**

Reloads the device. The configured license level is effective only after this reload. After the device restarts, the device comes up with the routing-Advantage license and crypto throughput is unthrottled.

Example:

```
Device# reload  
Proceed with reload? [confirm]  
  
%SYS-5-RELOAD: Reload requested by console.  
Reload Reason: Reload Command.  
<output truncated>  
  
<output truncated>
```

Step 7 **show version**

Displays the currently configured boot level license.

In the example, the output confirms that the routing advantage license is configured.

Example:

```
Device# show version  
<output truncated>  
  
License Type: is subscription  
License Level: advantage  
Next reload license Level: advantage  
The current crypto throughput level is unthrottled  
  
<output truncated>
```

Step 8 **show license summary**

Displays a summary of license usage, which includes information about the licenses being used, the count, and status.

Example:

```
Device# show license summary  
Account Information:
```

```

Smart Account: <none>
Virtual Account: <none>

License Usage:
License                               Entitlement Tag                Count Status
-----
advantage                             (C8K_LARGE_ROUTING_A)          1 IN USE

```

What's next

Complete usage reporting, if required. This licensing uses the Smart Licensing Using Policy infrastructure for license reporting.

After you configure a license level in the autonomous mode, you might have to send a RUM report (Resource Utilization Measurement Report), also referred to as a license usage report, to Cisco SSM, and check that a RUM acknowledgement (RUM ACK) from Cisco SSM is installed on the device, to ensure compliance.

To know if reporting is required, you can wait for a system message or use **show license** command.

- If reporting is required, the system displays this message:

```

Reporting ACK required: yes (CISCO default)
Unenforced/Non-Export Perpetual Attributes:
First report requirement (days): 365 (CISCO default)
Reporting frequency (days): 0 (CISCO default)
Report on change (days): 90 (CISCO default)

```

- If you're using **show** commands, refer to the output of the **show license status** privileged EXEC command and check the `Next ACK deadline` field. This means a RUM report must be sent and the acknowledgement (ACK) from CSSM must be installed by this date.

How you send the RUM report, depends on how you implement the Smart Licensing Using Policy solution. For more information, see [Supported Topologies](#) and [How to Configure Smart Licensing Using Policy: Workflows by Topology](#).

Assign licenses to SD-Routing and SD-WAN devices

Assigning licenses enables the use of a set of software features on your device.

Licenses for SD-Routing and SD-WAN devices are assigned in Cisco Catalyst SD-WAN Manager, and the steps to assign a license is similar. However, the licenses available for SD-Routing and SD-WAN devices could differ.

For SD-Routing devices, see [Assign Licenses to SD-Routing Devices](#).

For SD-WAN devices, see [Assign Licenses to Devices, Cisco Catalyst SD-WAN Manager](#).