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Managing HSEC Licenses in Cisco Catalyst SD-WAN

Manage HSEC licenses

Table 1: Feature history

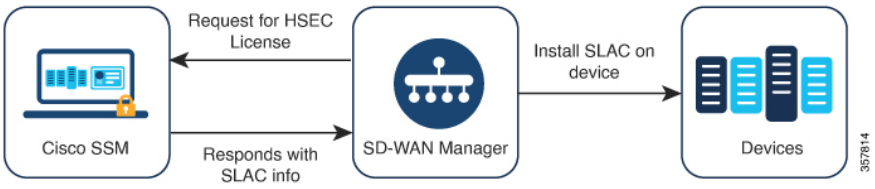
Feature Name	Release Information	Description
Manage HSEC Licenses	Cisco IOS XE Catalyst SD-WAN Release 17.9.2a Cisco vManage Release 20.9.2	This feature enables you to install high security (HSEC) licenses on devices managed by Cisco SD-WAN Manager. An HSEC license is required to enable devices to support encrypted traffic throughput of 250 Mbps or higher.

Information about managing HSEC licenses

Devices that use Smart Licensing Using Policy, and that must support an encrypted traffic throughput of 250 Mbps or greater, require an HSEC license. This is a requirement of US export control regulation.

You can use Cisco SD-WAN Manager to install HSEC licenses. Cisco SD-WAN Manager contacts Cisco Smart Software Manager (SSM), which provides a smart license authorization code (SLAC) to load onto a device. Loading the SLAC on a device enables an HSEC license.

Figure 1: Cisco SD-WAN Manager Requests HSEC Licenses for Devices



Use the following workflow:

1. Synchronize license information between Cisco Smart Software Manager (SSM) and Cisco SD-WAN Manager for all HSEC-compatible devices.

   See Synchronize HSEC licenses, online mode, on page 4 and Synchronize HSEC licenses, offline mode, on page 4.

2. Install the HSEC licenses on the desired devices.

   See Install HSEC licenses, on page 6.

Benefits of managing HSEC licenses

By addressing numerous license-related tasks, including the installation of HSEC and other licenses, Cisco SD-WAN Manager consolidates the workflow for license management. Installing HSEC licenses using Cisco SD-WAN Manager makes it unnecessary to install HSEC licenses individually by CLI.

For information about managing Smart Licensing Using Policy for devices in the network, see Manage Licenses for Smart Licensing Using Policy.

Supported devices for managing HSEC licenses

This table shows the devices that support Cisco SD-WAN Manager management of HSEC licenses.

Device	Minimum supported Cisco IOS XE Catalyst SD-WAN release
HSEC-compatible Cisco IOS XE Catalyst SD-WAN devices	Cisco IOS XE Catalyst SD-WAN Release 17.9.2a
Rugged series routers: **Cisco Catalyst IR1101 Rugged Series Router** **Cisco Catalyst IR1800 Rugged Series Routers** **Cisco Catalyst IR8140 Heavy Duty Series Router** **Cisco Catalyst IR8340 Rugged Series Router** **Cisco ESR6300 Embedded Series Router**	Cisco IOS XE Catalyst SD-WAN Release 17.18.2

Prerequisites for managing HSEC licenses

- Cisco SSM account with the required licenses.
- HSEC-compatible devices available in the Cisco SD-WAN Manager device list.
- Synchronizing license information between Cisco SSM and Cisco SD-WAN Manager requires one of the following:
  - Online method: Internet access for Cisco SD-WAN Manager.

    Cisco SD-WAN Manager must be able to connect to Cisco SSM.
  - Offline method: Access to your Cisco SSM account through an internet-connected web browser.

Restrictions for managing HSEC licenses

Restriction	Description
Installing HSEC licenses using Cisco SD-WAN Manager	Cisco SD-WAN Manager does not query devices to determine whether they have an HSEC license installed. If you install an HSEC license on a device without using Cisco SD-WAN Manager, then Cisco SD-WAN Manager does not account for that license, and continues to list the device as eligible for an HSEC license. If you use Cisco SD-WAN Manager to install the same HSEC license that has already been installed outside of Cisco SD-WAN Manager, there is no change to the license. If you use Cisco SD-WAN Manager to install a different HSEC license on the device, the device will have two HSEC licenses installed. You can use the **show license authorization** command on a device to check whether the device has an HSEC license installed.

Restriction	Description
Uninstalling an HSEC license	Cisco SD-WAN Manager does not support uninstalling an HSEC license from a device. If you need to do this to release the license for use elsewhere, contact Cisco TAC for assistance. If you uninstall the HSEC license from a device with assistance from TAC, Cisco SD-WAN Manager will not be able to correctly report the HSEC license status for the device.
Generic HSEC entitlement tag	Generic HSEC license entitlement The introduction of Cisco Digital Network Architecture (Cisco DNA) licensing changed how entitlement tags work for HSEC licenses. Instead of tagging licenses according to a router model (example: ISR_4331_Hsec), HSEC licenses are generic, tagged as DNA_HSEC. This change does not apply to the Cisco Catalyst 8000V. • For numerous platforms, generic HSEC licenses were introduced in Cisco IOS XE Release 17.6.1a. • For rugged series routers, generic HSEC licenses were introduced in Cisco IOS XE Release 17.18.2a. For devices using Cisco IOS XE Release 17.6.1a (most platforms) or 17.18.2a (rugged series routers), or later, use a generic HSEC license rather than a model-specific license.
	Model-specific HSEC license entitlement If you have a model-specific HSEC license (example: ISR_4331_Hsec), you can use one of these methods to continue using it or to convert it for a software release that supports generic HSEC licenses. • Option 1: Install a smart license authorization code (SLAC) for a device-specific HSEC license in offline mode. To do this, use the procedures described in the following sections of *Smart Licensing Using Policy for Cisco Enterprise Routing Platforms*: Generating and Downloading SLAC from CSSM to a File Installing a File on the Product Instance • Option 2: Convert a device-specific HSEC license to a DNA_HSEC license. **1.** Order a DNA-HSEC-UPGD= license, at no charge, from the Cisco Commerce Workspace. **2.** Convert the device-specific HSEC license to a DNA_HSEC license, using the Converting a Device-Specific HSECK9 License procedure described in *Smart Licensing Using Policy for Cisco Enterprise Routing Platforms*. **3.** Install a SLAC on the device to enable you to use the DNA_HSEC license. • Option 3: Downgrade and then upgrade. **1.** Downgrade the device to • a release earlier than Cisco IOS XE Release 17.6.1a for most platforms, or • a release earlier than Cisco IOS XE Release 17.18.2a for rugged series routers. **2.** Install the HSEC license. **3.** Upgrade the Cisco IOS XE software to a later release. The router continues to use the installed HSEC license.

Synchronize HSEC licenses, online mode

Information about synchronizing HSEC licenses in the online mode.

Before you begin

- This procedure requires Cisco SD-WAN Manager to have internet access. If Cisco SD-WAN Manager does not have internet access, such as for security reasons, use the Synchronize HSEC licenses, offline mode, on page 4 procedure.
- This procedure requires entering credentials for your Cisco Smart Account

Synchronize HSEC licenses, online mode

1. From the Cisco SD-WAN Manager menu, choose **Workflows** > **Workflow Library**.
2. Click the **Sync and Install HSEC Devices** workflow.
3. Click **Sync Licenses** and then click **Next**.
4. Click **Online** and then click **Next**.
5. Enter the credentials for your Cisco SSM account and then click **Next**.
6. On the **HSEC Device Activation Overview** page, click **Next**.
7. On the **Select Virtual Account** page, choose a virtual account from the drop-down list. The list is populated by the Cisco SSM account that you logged into in a previous step.
8. On the **Select HSEC-Compatible Devices** page, select the devices on which you want to install an HSEC license and then click **Summary**.

Note

If an HSEC-compatible device already has an HSEC license installed by Cisco SD-WAN Manager, then the device is not selectable.

9. Review the summary and then click **Assign** to begin the synchronization. Cisco SD-WAN Manager loads the requested licenses from Cisco SSM and assigns them to the devices.
10. The process of loading and assigning licenses may take several minutes. You can monitor the progress by viewing the Cisco SD-WAN Manager task list.
11. After the HSEC licenses have been loaded and assigned, to install them, use the Install HSEC licenses, on page 6 procedure.

Synchronize HSEC licenses, offline mode

Before you begin

- If Cisco SD-WAN Manager has internet access, we recommend using the Synchronize HSEC licenses, online mode, on page 4 procedure.
- Use this procedure if Cisco SD-WAN Manager does not have internet access, such as for security reasons.
- This procedure requires entering credentials for your Cisco SSM Account.

Synchronize HSEC licenses, offline mode

1. From the Cisco SD-WAN Manager menu, choose **Workflows** > **Workflow Library**.
2. Click the **Sync and Install HSEC Licenses** workflow.
3. Click **Sync Licenses** and then click **Next**.
4. Click **Offline** and then click **Next**.
5. On the **HSEC Device Activation Overview** page, click **Next**.
6. Click **Download Process** and then click **Next**.
7. On the **Offline Mode - Sync Licenses Task** page, select the devices on which to install an HSEC license.
8. Click **Next**.
9. Click **Download HSEC Device File**.
10. On the summary page, click **Download** to download a file to a local location.

    The file contains the list of devices that require an HSEC license.
11. Click **Done**.
12. Click **Cisco Smart Software Manager** to open Cisco SSM.
13. Log in to Cisco SSM and complete the following two steps:



Note

The details of procedures in the Cisco SSM portal are outside the scope of this documentation and subject to change.

    a. Upload the file that you downloaded from Cisco SD-WAN Manager. The procedure is identical to uploading a usage report file, as described in License Management Offline Mode.

    b. Download the Acknowledgement file.

    This file contains the HSEC licenses required for the devices that you selected.
14. From the Cisco SD-WAN Manager menu, choose **Workflows** > **Workflow Library**.
15. Click the **Sync and Install HSEC Devices** workflow.
16. Click **Sync Licenses** and then click **Next**.
17. Click **Offline** and then click **Next**.
18. On the **HSEC Device Activation Overview** page, click **Next**.
19. Click **Upload Process** and then click **Next**.
20. On the **Upload Smart License Authorization Code File** page, upload the acknowledgement file that you downloaded from Cisco SSM.
21. Click **Summary**.

    The process of loading and assigning licenses may take several minutes. You can monitor the progress by viewing the Cisco SD-WAN Manager task list.

After the HSEC licenses have been loaded and assigned, to install them, use the Install HSEC licenses, on page 6 procedure.

Install HSEC licenses

1. From the Cisco SD-WAN Manager menu, choose **Workflows** > **Workflow Library**.
2. Click the **Sync and Install HSEC Licenses** workflow.
3. Click **Install Devices**.
4. Select the desired devices on which to install an HSEC license.
5. Click **Install** to install the licenses.

   You can monitor the progress by viewing the Cisco SD-WAN Manager task list.
6. Reboot the Cisco IOS XE Catalyst SD-WAN device to complete the installation process.

For more information on HSEC licenses, see HSEC License FAQs.

Verify HSEC license installation

1. From the Cisco SD-WAN Manager menu, choose **Administration** > **License Management**.
2. Above the table click **Device**. The HSEC license information appears in two columns.

Column	Description
HSEC Compatible	**Yes** or **No** indicate HSEC compatibility.
HSEC Status	• **scheduled**: An HSEC license is pending installation on the device. • **success**: An HSEC license is installed on the device.

Related information

Table 2: General Information

Topic	Document Title
Monitor license usage, view device license status	Monitoring License Usage in Cisco Catalyst SD-WAN

Table 3: Troubleshooting

Topic	Document Title
Troubleshooting Smart License Using Policy	Troubleshooting Smart License Using Policy in Cisco Catalyst SD-WAN
Troubleshooting HSEC licenses	Troubleshooting HSEC Licenses in Cisco Catalyst SD-WAN