



Managing Licenses

The **Administration > Licenses and Software Updates > Licenses** page allows you to manage traditional Cisco Prime Infrastructure, wireless LAN controllers, and Mobility Services Engine (MSE) licenses.

Although Prime Infrastructure and MSE licenses can be fully managed from the **Administration > Licenses and Software Updates > Licenses** page, you can only view Cisco Wireless LAN Controllers (WLC). You must use Cisco WLC or Cisco License Manager (CLM) to manage Cisco WLC licenses.

The **Administration > Licenses and Software Updates > Smart Software Licensing** page allows you to manage smart licenses. This feature is supported from Cisco Prime Infrastructure 3.1 version onwards.

Related Topics

- [Prime Infrastructure Licensing](#)
- [Controller Licensing](#)
- [MSE Licensing](#)
- [Assurance Licensing](#)
- [Smart Licensing](#)

Prime Infrastructure Licensing

You purchase licenses to access the Prime Infrastructure features required to manage your network. Each license also controls the number of devices you can manage using those features. The maximum number of license files that can be added to Prime Infrastructure is 25.

You need a base license and the corresponding feature licenses (such as Assurance or Data Center licenses) to get full access to the respective Prime Infrastructure features to manage a set number of devices.

If you have installed Prime Infrastructure for the first time you may access the lifecycle and assurance features using the built-in evaluation license that is available by default. The default evaluation license is valid for 60 days for 100 devices. You can send a request to ask-prime-infrastructure@cisco.com if:

- You need to extend the evaluation period
- You need to increase the device count
- You already have a particular feature license and need to evaluate the other feature licenses

You will need to order a base license and then purchase the corresponding feature license before the evaluation license expires. The license that you purchase must be sufficient to:

- Enable access to all the Prime Infrastructure features you want to use to manage your network.
- Include all the devices in your network that you want to manage using Prime Infrastructure.

To ensure you have the licenses to achieve these goals, do the following:

1. Familiarize yourself with the types of license packages available to you, and their requirements.
2. View the existing licenses. See for help on ordering and downloading licenses.
3. Calculate the number of licenses you will need, based both on the package of features you want and the number of devices you need to manage.
4. Add new licenses.
5. Delete existing licenses.

Related Topics

- [Cisco Prime Infrastructure Ordering and Licensing Guide](#)
- [Verifying License Details](#)
- [Adding Licenses](#)
- [Deleting Licenses](#)

Purchasing Prime Infrastructure Licenses

Prime Infrastructure licenses control the features you can use and the number of devices you can manage using those features. For more information about Prime Infrastructure license types and how to order them, see the *Cisco Prime Infrastructure Ordering and Licensing Guide* for the version of Prime Infrastructure that you want to use.

You can ignore warning messages like “Base license is missing” or “Multiple base licenses present, use only one” displayed in the **Administration > Licenses and Software Updates > Licenses > Files > License Files** area.

Related Topics

- [Cisco Prime Infrastructure Ordering and Licensing Guide](#)

Verifying License Details

Before you order new licenses, you might want to get details about your existing licenses. For example, number of devices managed by your system.

To verify license details, choose **Administration > Licenses and Software Updates > Licenses**.

Related Topics

- [Prime Infrastructure Licensing](#)
- [Controller Licensing](#)
- [MSE Licensing](#)
- [Assurance Licensing](#)

Adding Licenses

You need to add new licenses when:

- You have purchased a new Prime Infrastructure license.
- You are already using Prime Infrastructure and have bought additional licenses.

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses**.
- Step 2** In the **Summary** folder, click **Files**, then click **License Files**.
- Step 3** Click **Add**.
- Step 4** Browse to the location of the license file, then click **OK**.
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Related Topics

- [Deleting Licenses](#)
- [Troubleshooting Licenses](#)
- [MSE License Structure Matrix](#)
- [Verifying Assurance License Details](#)

Deleting Licenses

When you delete licenses from Prime Infrastructure, all licensing information is removed from the server. Make a copy of your original license file in case you want to add it again later. There are several reasons you might want to delete licenses:

- You installed temporary licenses and want to delete them before applying your permanent licenses.
- You want to move your licenses to a different server. You must first delete the licenses from the original server, then send an email to licensing@cisco.com requesting a re-host for your licenses. You can then apply the re-hosted licenses to the new server.

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses**.
- Step 2** Click **Files > License Files**.
- Step 3** Select the license file you want to delete, then click **Delete**.
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Related Topics

- [Adding Licenses](#)
- [Troubleshooting Licenses](#)
- [MSE License Structure Matrix](#)
- [Verifying Assurance License Details](#)

Troubleshooting Licenses

To troubleshoot licenses, you will need to get details about the licenses that are installed on your system. to:

- Get a quick list of the licenses you have: Click **Help > About Prime Infrastructure**
- Get license details: Choose **Administration > Licenses and Software Updates > Licenses**.

When troubleshooting licenses, it is important to remember that Prime Infrastructure has six types of licenses:

- **Base:** Required for every Prime Infrastructure installation. The requirement stems primarily from the need to do accurate royalty accounting by knowing how many Prime Infrastructure instances have been purchased. A Base license is required for each instance of Prime Infrastructure, and is a prerequisite for all other license types.
- **Lifecycle:** Regulates the total number of devices under Prime Infrastructure management.
- **Assurance:** Regulates the total number of NetFlow devices under Prime Infrastructure management.
- **Collector:** Regulates the total number of NetFlow data flows per second that Prime Infrastructure can process.
- **Data Center:** Regulates the number of blade servers being managed by UCS device(s) in Prime Infrastructure. The license count matches the number of blades or rack units associated with any UCS device.

Datacenter licenses are specific only to UCS devices (Blade count). Other Data Center devices, such as Nexus switches and MDS devices, are managed using a normal Lifecycle license.

- **Data Center Hypervisor:** Regulates the total number of host(s) managed by Prime Infrastructure management. This license manages Discovery Sources (Vcenters) in Prime Infrastructure. This license type was introduced with Prime Infrastructure version 3.0.

Lifecycle, Assurance and Data Center licenses are supplied in either evaluation or permanent form (there is no explicit evaluation version of the Base, Collector, or Data Center Hypervisor licenses):

- **Evaluation:** These licenses permit or extend access to Prime Infrastructure for a pre-set period. You can apply only one evaluation license of each type (that is, only one Lifecycle evaluation license, one Assurance evaluation license, and so on). You cannot apply an evaluation license over a permanent form of the same license.
- **Permanent License:** These permit access to Prime Infrastructure features as specified and are not time-limited. Permanent licenses can be applied over evaluation licenses, and can also be applied incrementally (that is, you can have multiple permanent Assurance licenses, and so on).

Prime Infrastructure also performs the following basic license checks:

- A Lifecycle license is a required prerequisite for Assurance licenses.
- An Assurance license is a required prerequisite for Collector licenses.
- Lifecycle, Data Center and Data Center Hypervisor licenses can be added independently of each other.

Also note that:

- Prime Infrastructure 3.0 enables the user to set threshold limit for generating an alarm for all licenses except Data Center Hypervisor license. To set threshold limit for licenses, see “Configuring Notifications” in Related Topics.

- Prime Infrastructure hides Assurance-related features, menu options and links until an Assurance license is applied. Even if you have purchased an Assurance license, these features remain hidden until you apply it.
- Whenever you apply an Assurance license, you automatically apply a Collector license permitting an instance of Prime Infrastructure to process up to 20,000 NetFlow data flows per second. Collector licenses permitting 80,000 flows per second can be applied only with the Professional or equivalent configurations, due to the hard disk requirements imposed by this data rate.
- You can add Lifecycle, Assurance and Data Center permanent licenses incrementally. However, you can add only one Collector 80K license, and then only with the Professional or equivalent configuration.

The following table provides some scenarios and tips for troubleshooting.

Table 13-1 *Troubleshooting Scenarios*

Scenario	Possible Cause	Resolution
Prime Infrastructure reports a Licensing error.	The license file may be corrupted and unusable. This can occur anyone attempts to modify the license file.	<ol style="list-style-type: none"> 1. Delete the existing license. 2. Download and install a new license.
Unable to add new licenses.	Some types of license must be added in the correct order. The Base license is a prerequisite for adding Lifecycle licenses. A Lifecycle license is a prerequisite for adding an Assurance or Data Center license. An Assurance license is a prerequisite for adding a Collector license (a Collector license is added automatically with the Assurance license).	<ol style="list-style-type: none"> 1. Add the Base license 2. Add Lifecycle licenses 3. Add Assurance licenses 4. Add Datacenter licenses 5. Add Collector licenses
The state of the devices has changed to unmanaged.	The device limit must be less than or equal to lifecycle license limit. The state of the inventoried devices will change to unmanaged if you add or delete devices.	<ol style="list-style-type: none"> 1. Delete the additional devices. 2. The state of the devices will change to managed after the 24 hours synchronization. <p>To verify that the status of the inventoried devices has changed to “managed” after synchronization:</p> <ol style="list-style-type: none"> 1. Choose Monitor > Network Devices 2. Check the Inventory Collection Status column for the row listing the devices in which you are interested. This will give you a summary of current collection status efforts for those devices. 3. For details about the collection status, hover the mouse cursor over the cross-hair icon in the Inventory Collection Status column.

Related Topics

- [Configuring Notifications](#)
- [Adding Licenses](#)

- [Deleting Licenses](#)
- [MSE License Structure Matrix](#)
- [Verifying Assurance License Details](#)

Controller Licensing

To view controller licenses, choose **Administration > Licenses and Software Updates > Licenses**, then select **Files > Controller Files** from the left sidebar menu.



Note

Prime Infrastructure does not directly manage controller licenses, rather it simply monitors the licenses. To manage the licenses you can use command-line interface (CLI) commands, Web UI, or Cisco License Manager (CLM).

This page displays the following parameters:

- Controller Name
- Controller IP—The IP address of the controller.
- Feature—License features include wplus-ap-count, wplus, base-ap-count, and base.
For every physical license installed, two license files display in the controller: a feature level license and an ap-count license. For example if you install a “WPlus 500” license on the controller, “wplus” and “wplus-ap-count” features display. There are always two of these features active at any one time that combine to enable the feature level (WPlus or Base) and the AP count.
You can have both a WPlus and a Base license, but only one can be active at any given time.
- AP Limit—The maximum capacity of access points allowed to join this controller.
- EULA status—Displays the status of the End User License Agreement and is either Accepted or Not Accepted.
- Comments—User entered comments when the license is installed.
- Type—The four different types of licenses are as follows:
 - Permanent—Licenses are node locked and have no usage period associated with them. They are issued by Cisco licensing portal and must be installed using management interfaces on the device. Upon installation of these licenses, you have the necessary permissions across different versions.
 - Evaluation—Licenses are non-node locked and are valid only for a limited time period. They are used only when no permanent, extension, or grace period licenses exist. Before using an evaluation license, you must accept an End User License Agreement (EULA). Even though they are non-node locked, their usage is recorded on the device. The number of days left displays for the evaluation license with the fewest number of remaining active license days.
 - Extension—Licenses are node locked and metered. They are issued by Cisco licensing portal and must be installed using management interfaces on the device. Before using an extension license, you must accept a EULA during installation.

- Grace Period—Licenses are node locked and metered. These licenses are issued by Cisco licensing portal as part of the permission ticket to rehost a license. They are installed on the device as part of the rehost operation, and you must accept a EULA as part of the rehost operation.

Types other than Permanent display the number of days left until the license expires. Licenses not currently in use do not have their counts reduced until they become “In Use.”

- Status
 - In Use—The license level and the license are in use.
 - Inactive—The license level is being used, but this license is not being used.
 - Not In Use—The license level is not being used and this license is not currently recognized.
 - Expired In Use—The license is being used, but is expired and will not be used upon next reboot.
 - Expired Not In Use—The license has expired and can no longer be used.
 - Count Consumed—The ap-count license is In Use.

If you need to filter the list of license files, you can enter a controller name, feature, or type and click **Go**.

MSE Licensing

The MSE packages together multiple product features related to network topology, design such as NMSP, Network Repository along with related Service Engines, and application processes, such as the following:

- Context-Aware Service
- Wireless Intrusion Prevention System (WIPS)

To enable smooth management of MSE and its services, various licenses are offered.

You must have a Cisco Prime Infrastructure license to use MSE and its associated services.

Related Topics

- [MSE License Structure Matrix](#)
- [Sample MSE License File](#)
- [Revoking and Reusing an MSE License](#)
- [MSE Services Coexistence](#)
- [Managing MSE Licenses](#)

MSE License Structure Matrix

The following table lists the breakdown of the licenses between the High end, Low end and Evaluation licenses for MSE, Location services, SCM, wIPS, and MIR.

Table 13-2 MSE License Structure Matrix

	High End	Low End	Evaluation
MSE Platform	High-end appliance and infrastructure platform, such as the Cisco 3350 and 3355 mobility services engines	Low-end appliance and infrastructure platform, such as Cisco 3310 mobility services engine	—
Context Aware Service	25,000 Tags	2000 Tags	Validity 60 days, 100 Tags and 100 Elements
	25,000 Elements	2000 Elements	
wIPS	3000 access points	2000 access points	Validity 60 days, 20 access points

Related Topics

- [Sample MSE License File](#)
- [Revoking and Reusing an MSE License](#)
- [MSE Services Coexistence](#)
- [Managing MSE Licenses](#)

Sample MSE License File

The following is a sample MSE license file:

```
FEATURE MSE cisco 1.0 permanent uncounted \
  VENDOR_STRING=UDI=udi,COUNT=1 \
  HOST ID=ANY \
  NOTICE="<LicFileID>MSELicense</LicFileID><LicLineID>0</LicLineID> \
  <PAK>dummyPak</PAK>" \
  SIGN="0C04 1EBA BE34 F208 404F 98ED 43EC \
  45D7 F881 08F6 7FA5 4DED 43BC AF5C C359 0444 36B2 45CF 6EA6 \
  1DB1 899F 413F F543 F426 B055 4C7A D95D 2139 191F 04DE"
```

This sample file has five license entries. The first word of the first line of any license entry tells you what type of license it is. It can either be a Feature or Increment license. A feature license is a static lone item to license. There can be multiple services engines running in MSE. An Increment license is an additive license. In MSE, the individual service engines are treated as increment licenses.

The second word of the first line defines the specific component to be licensed. For example, MSE, LOCATION_TAG. The third word depicts the vendor of the license, for example Cisco. The fourth word denotes the version of the license, for example 1.0. The fifth word denotes the expiration date; this can be permanent for licenses that never expire or a date in the format dd-mm-yyyy. The last word defines whether this license is counted.

Related Topics

- [MSE License Structure Matrix](#)
- [Revoking and Reusing an MSE License](#)
- [MSE Services Coexistence](#)
- [Managing MSE Licenses](#)

Revoking and Reusing an MSE License

You can revoke an MSE appliance license from one system and reuse it on another system. When you revoke a license, the license file is deleted from the system. If you want to reuse the license on another system, then the license needs to be rehosted.

If you want to reuse a license with an upgrade stock keeping unit (SKU) on another system, then you must have the corresponding base license SKU installed in the system to which you want to reuse the upgrade SKU. You cannot reuse the upgrade license SKU in a system if the corresponding base license SKU is deleted from it.

When you revoke a license, MSE restarts the individual service engines to reflect the changes to the licenses. Then the service engines receives the updated capacity from MSE during startup.

Related Topics

- [MSE License Structure Matrix](#)
- [Sample MSE License File](#)
- [MSE Services Coexistence](#)
- [Managing MSE Licenses](#)

MSE Services Coexistence

With MSE 6.0 and later, you can enable multiple services (Context Aware and wIPS) to run concurrently. Before Version 6.0, mobility services engines only supported one active service at a time.

The following must be considered with coexistence of multiple services:

- Coexistence of services might be impacted by license enforcement. As long as the license is not expired, you can enable multiple services.



Note Limits for individual services differ. For example, a low-end mobility services engine (MSE-3310) tracks a total of 2,000 CAS elements; a high-end mobility services engine (MSE-3350) tracks a total of 25,000 CAS elements.
A low-end mobility services engine has a maximum limit of 2000 wIPS elements; a high-end mobility services engine has a maximum limit of 3000 wIPS elements.

- Expired evaluation licenses prevent the service from coming up.
- If a CAS license is added or removed, this process restarts all services on the mobility services engine including wIPS. If a wIPS license is added or removed, the process does not impact CAS; only wIPS restarts.
- Other services can be enabled in evaluation mode even if a permanent license for the maximum number of elements has been applied.

Whenever one of the services has been enabled to run with its maximum license, another service cannot be enabled to run concurrently because the capacity of the MSE is not sufficient to support both services concurrently. For example, on MSE-3310, if you install a wIPS license of 2000, then you cannot enable CAS to run concurrently. However, evaluation licenses are not subject to this limitation.

Related Topics

- [MSE License Structure Matrix](#)
- [Sample MSE License File](#)
- [Revoking and Reusing an MSE License](#)
- [Managing MSE Licenses](#)

Managing MSE Licenses

To view Mobility Services Engine (MSE) licenses, choose **Administration > Licenses and Software Updates > Licenses**, then select **Files > MSE Files** from the left sidebar menu.

The page displays the MSE licenses found and includes the following information:

- **MSE License File**—Indicates the MSE License.
- **MSE**—Indicates the MSE name.
- **Type**—Indicates the type of mobility services engine (client elements, wIPS local mode or wIPS monitor mode access points).
- **Limit**—Displays the total number of client elements or wIPS monitor mode access points licensed across the mobility services engine.
- **License Type**—Permanent licenses are the only license types displayed on this page. Permanent licenses are node locked and have no usage period associated with them. They are issued by Cisco licensing portal and must be installed using management interfaces on the device. Upon installation of these licenses, you have the necessary permissions across different versions.

Tag licenses are installed using the *AeroScout System Manager* only if the tags are tracked using the Partner engine. Otherwise the tags will be counted along with the CAS element license. Because tag licenses are added and managed using appropriate vendor applications, tag licenses are not displayed in this page. For more information, see the AeroScout Support Page in Related Topics. Evaluation (demo) licenses are also not displayed.

Related Topics

- [AeroScout Support Page](#)
- [Registering Product Authorization Keys](#)
- [Installing Client and wIPS License Files](#)
- [Deleting Mobility Services Engine License Files](#)

Registering Product Authorization Keys

You receive a product authorization key (PAK) when you order a client, wIPS, or tag license from Cisco. You must register the PAK to receive the license file for installation on the mobility services engine. License files are emailed to you after successfully registering a PAK.

Client and wIPS PAKs are registered with Cisco.

Tag PAKs are registered with AeroScout. To register your tag PAK, navigate to the AeroScout Support Page given in Related Topics.

To register a product authoritative key (PAK) and obtain a license file for installation, follow these steps:

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- Step 1** Point your browser to the Cisco Product License Registration Portal (see Related Topics).
You can also access this site by clicking the Product License Registration link located on the License Center page of Prime Infrastructure.
 - Step 2** Enter the PAK and click **SUBMIT**.
 - Step 3** Verify the license purchase. Click **Continue** if correct. The licensee entry page appears.
If the license is incorrect, click the **TAC Service Request Tool** link to report the problem.
 - Step 4** In the Designate Licensee page, enter the mobility service engine UDI in the host ID text box. This is the mobility services engine on which the license will be installed.
UDI information for a mobility services engine is found in the General Properties area at **Services > Mobility Services Engine > Device Name > System**.
 - Step 5** Select the **Agreement** check box. Registrant information appears beneath the check box.
Modify information as necessary.
Ensure that the phone number does not include any characters in the string for the registrant and end user. For example, enter 408 555 1212 rather than 408.555.1212 or 408-555-1212.
 - Step 6** If registrant and end user are not the same person, select the **Licensee (End-User)** check box beneath registrant information and enter the end-user information.
 - Step 7** Click **Continue**.
 - Step 8** At the Finish and Submit page, review registrant and end-user data. Click **Edit Details** to correct information, if necessary, then click **Submit**.
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Related Topics

- [AeroScout Support Page](#)
- [Cisco Product License Registration Portal](#)
- [Installing Client and wIPS License Files](#)
- [Deleting Mobility Services Engine License Files](#)

Installing Client and wIPS License Files

You can install CAS element licenses and wIPS licenses from Prime Infrastructure.

Tag licenses are installed using the AeroScout System Manager (see the AeroScout Support Page in Related Topics).

To add a client or wIPS license to Prime Infrastructure after registering the PAK, follow these steps

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses**.
 - Step 2** From the left sidebar menu, choose **Files > MSE Files**.
 - Step 3** Click **Add** to open the Add a License File dialog box.
 - Step 4** From the **MSE Name** drop-down list, choose the mobility services engine to which you want to add the license file.



Note Verify that the UDI of the selected mobility services engine matches the one you entered when registering the PAK.

- Step 5** Enter the license file in the **License File** text box or browse to the applicable license file.
- Step 6** Once displayed in the License File text box, click **Upload**. Newly added license appears in mobility services engine license file list.



Note A Context Aware Service (CAS) restarts if a client or tag license is installed; a wIPS service restarts if a wIPS license is installed.



Note Services must come up before attempting to add or delete another license.

Related Topics

- [AeroScout Support Page](#)
- [Installing Client and wIPS License Files](#)
- [Deleting Mobility Services Engine License Files](#)

Deleting Mobility Services Engine License Files

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses**, then select **Files > MSE Files** from the left sidebar menu.
- Step 2** Select the check box of the mobility services engine license file that you want to delete.
- Step 3** Click **Delete**, then click **OK** to confirm the deletion.
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Related Topics

- [Registering Product Authorization Keys](#)
- [Installing Client and wIPS License Files](#)

Assurance Licensing

As explained in “Purchasing Prime Infrastructure Licenses” (see Related Topics), licenses for Assurance features are based on the number of NetFlow-monitored devices and Network Analysis Module (NAM) data collection-enabled devices you have in your network. You manage, verify, and troubleshoot Assurance licenses much as you do with other feature licenses, as explained in “Adding Licenses”, “Deleting Licenses” and “Troubleshooting Licenses”.

In addition to these functions, Prime Infrastructure also lets you choose which NetFlow and NAM devices you want to manage using Assurance features. For example, if you have only 50 Assurance feature licenses and more than 50 NetFlow and NAM devices, you can choose to manage only your most critical devices. If you later purchase additional Assurance licenses, you can add license coverage for the devices previously left unmanaged.

Related Topics

- [Purchasing Prime Infrastructure Licenses](#)
- [Verifying Assurance License Details](#)
- [Adding Licenses](#)
- [Deleting Licenses](#)
- [Troubleshooting Licenses](#)

Verifying Assurance License Details

Before you buy new Assurance licenses, you may want to get details about your existing Assurance licenses and how they are being used. You can find Assurance license information using the resources in the following table.

Table 13-3 Finding Assurance License Information

To see	Choose
The NetFlow-enabled devices in your network that are under Assurance management, as a percentage of the total number of Assurance licenses you have.	Administration > Licenses and Software Updates > Licenses > Summary.
The total number of Assurance licenses you have and the files associated with them.	Administration > Licenses and Software Updates > Licenses > Files.
A list of the devices sending NetFlow or NAM polling data to Prime Infrastructure.	Administration > Licenses and Software Updates > Licenses > Assurance Licenses (link is in upper right corner of the page)
The number of Assurance Licenses in use.	
The maximum number of Assurance licenses available to you.	

By default, the total count of Assurance licenses on the Assurance Licenses page and on the Summary and Files > License Files pages is always updated whenever you add or delete Assurance licenses. Addition or removal of devices covered under these added or deleted Assurance licenses takes place as part of a System Defined Job, which runs automatically once every 12 hours. It can take up to 12 hours for the added or deleted devices to appear.

You can always access the **Administration > Licenses and Software Updates > Licenses > Assurance Licenses page** from the **Assurance Licenses** link in the upper right corner of the **Administration > Licenses and Software Updates > Licenses > Summary** and **Administration > Licenses and Software Updates > Licenses > Files** pages.

Related Topics

- [Verifying Assurance License Details](#)
- [Installing Client and wIPS License Files](#)
- [Deleting Mobility Services Engine License Files](#)

Adding License Coverage For NetFlow and NAM Devices

You want to add license coverage for NetFlow or NAM devices when:

- You have purchased new or additional Assurance licenses.
- You have NetFlow and NAM devices not already licensed for Assurance management.

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses > Assurance Licenses** (the **Assurance Licenses** link is in the upper right corner of the page).
- Step 2** Above the list of devices currently under Assurance management, click **Add Device**.
- Step 3** Select the check box next to each device you want to put under Assurance management, then click **Add License**. Prime Infrastructure adds the devices immediately.
- Step 4** When you are finished, click **Cancel**.
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Related Topics

- [Deleting License Coverage for NetFlow and NAM Devices](#)

Deleting License Coverage for NetFlow and NAM Devices

You may need to delete license coverage for a NetFlow or NAM device when:

- You have too many NetFlow and NAM devices for the number of Assurance licenses you have.
- You want to stop using Assurance management features with one or more NetFlow and NAM devices

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- Step 1** Choose **Administration > Licenses and Software Updates > Licenses > Assurance Licenses** (the **Assurance Licenses** link is in the upper right corner of the page).
- Prime Infrastructure displays the list of devices currently under Assurance management. It also displays the total number of Assurance licenses you have, and the total number of devices under Assurance management.
- Step 2** Select the check box next to each device you want to remove from Assurance management, then click **Remove Device**.
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Related Topics

- [Adding License Coverage For NetFlow and NAM Devices](#)

Smart Licensing

Smart Licensing feature provides a standardized licensing platform that simplifies user experience. When Smart Licensing is first enabled, Prime Infrastructure is in Evaluation mode until you register Prime Infrastructure with the Smart Software Manager (which resides on a centralized Cisco web site).

If you are currently using traditional licensing, Cisco recommends that you convert to Smart Licensing. For information on the differences between the two types of licensing, refer to the Cisco Smart Licensing Overview on [Cisco.com](https://www.cisco.com).

The purpose of the smart licensing feature is to reduce license-related complexity by enabling users to:

- Purchase additional licenses and automatically update the information.
- Monitor current purchases and entitlements (duration and number of units).
- Monitor current usage information and trending information.
- Easily track if adequate licenses are purchased.
- Save time with the ability to transfer licenses across the company.

The limitations of smart licensing feature are:

- In HA (High Availability), you can perform smart license actions (enable, register, deregister and disable) on the HA Primary server and these actions are not permitted on the HA Secondary server.
- While performing backup and restore operation, the license supported during backup will be restored. Smart licensing registration state cannot be restored on another server and in that case user has to register once again on the restored setup.
- While performing an upgrade from an older version, the license supported in the older version will be enabled by default in the new version.

Related Topics

- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Choosing Smart Software Licenses](#)
- [Configuring License Thresholds for the Prime Infrastructure License Dashboard](#)
- [Performing Additional Actions](#)
- [Viewing the LicenseDashboard](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Setting Up Cisco Smart Licensing on Prime Infrastructure

Follow these steps to set up Cisco Smart Licensing. If you are currently using traditional licensing, use these same procedures to convert to Cisco Smart Licensing.

	Step	See:
1.	Create a Smart Account with Cisco Systems.	Go to: Smart Account Request and follow the instructions on the web site
2.	Set up communication between Prime Infrastructure and the Cisco Smart Software Manager (CSSM) on Cisco.com.	Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager

	Step	See:
3.	Enable Smart Licensing in Prime Infrastructure (you will have to restart the web GUI).	Enabling Smart License on Prime Infrastructure
4.	Register Prime Infrastructure with the CSSM on Cisco.com, then enter the license tokens into the Prime Infrastructure web GUI (you will have to restart the web GUI).	Registering Prime Infrastructure with the Cisco Smart Software Manager
5.	Choose the licenses you want to use in Prime Infrastructure.	Choosing Smart Software Licenses
6.	Set up the Smart License Dashboard to signal when you are running out of licenses.	Configuring License Thresholds for the Prime Infrastructure License Dashboard

Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager

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- Step 1** Choose **Administration > Settings > System Settings > General > Account Credentials** and select **Smart Licensing Transport** tab.
- Alternatively, you can click the link mentioned in the **Smart Software Licensing** page to direct you to the **Smart Licensing Transport** tab to set up transport settings.
- Step 2** You can select any of the following three modes:
- **Direct mode**—Select this option to send data directly to Cisco cloud. The Smart Call Home Server URL is a read-only and cannot be modified.
 - **Transport Gateway**—Uses a Cisco Call Home transport gateway or a Cisco Smart Licensing Software satellite. (A Cisco Smart Licensing Software satellite is installed on customer premises and provides a subset of CSSM functionality. See [Cisco.com](#) for more information about satellites.) Specify the URL for the respective Smart Software Manager Satellite or Smart Software Manager. Refer [Smart Software Manager User Guide](#) for details.
 - **HTTP Proxy**—Select this option to use an intermediate HTTP/HTTPS proxy between Prime Infrastructure and the Cisco cloud. To enable this option, you must first configure the proxy settings in the **Proxy** tab.
- Step 3** Click **Test Connectivity** to test the connection status. Click **Save** to update the smart licensing transport mode.
- Step 4** Proceed to [Enabling Smart License on Prime Infrastructure](#).
-

Related Topics

- [Smart Licensing](#)
- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Performing Additional Actions](#)
- [Viewing the LicenseDashboard](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Enabling Smart License on Prime Infrastructure

Before You Begin

Make sure you have set up the transport mode. See [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#).

To enable smart license, follow these steps:

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- Step 1 Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
 - Step 2 In the **Licensing Settings** tab, select **Smart Software Licensing**.
 - Step 3 Choose **Prime Infrastructure** from the **Product Name** drop-down list.
 - Step 4 Click **Enable Smart Software Licensing**. Prime Infrastructure displays a dialog box informing you that you must log out of Prime Infrastructure and log back in, before you can proceed to the configuration step.
 - Step 5 Click **OK** in the dialog box.
Once the smart license is enabled and before it is registered, the product will be in **Evaluation Mode** for 90 days and you can manage any number of devices.
 - Step 6 Log out of Prime Infrastructure, then log back in.
 - Step 7 Perform one of the following:
 - If you have not yet registered with the CSSM on Cisco.com, proceed to [Registering Prime Infrastructure with the Cisco Smart Software Manager](#).
 - If you have registered with the CSSM, proceed to [Choosing Smart Software Licenses](#).



Note

If you prefer traditional licenses, then in the **Licensing Settings** tab, select **Traditional Licensing** as the **Licensing Mode** and click **Register**. The **Administration > Licenses and Software Updates > Licenses** page is displayed.

Related Topics

- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#)
- [Performing Additional Actions](#)
- [Viewing the LicenseDashboard](#)
- [Disabling Smart Licensing](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Registering Prime Infrastructure with the Cisco Smart Software Manager

This procedure creates a token which you will use to register your product instance with the CSSM. For information on how to use the CSSM, see the [Cisco Smart Software Manager User Guide](#).

**Note**

Refer to the *Cisco Smart Software Manager User Guide* for information on other actions you can perform from the CSSM—for example, renewing license registration and license authorization, unregistering the product from Cisco Smart Licensing, and so forth.

Related Topics

- [Generating Token ID](#)
- [Registering Product Instance](#)

Generating Token ID

Before You Begin

If your organization does not have a Smart Account, go to software.cisco.com, choose **Request a Smart Account** (under Administration), and follow the instructions to create an account. If you are converting from traditional licensing, refer [Converting from Traditional Licensing](#).

If this is a new installation (you are not converting from traditional licensing), follow these steps:

-
- Step 1** Go to the Cisco Software Central web site (software.cisco.com).
 - Step 2** On Cisco Software Central, choose **License > Smart Software Licensing**.
 - Step 3** Select the appropriate virtual account (virtual accounts are automatically created when you create a Smart Account).
 - Step 4** Click the **General** tab, then click **New Token**.
 - Step 5** Follow the instructions to provide a name, duration, and export compliance applicability before accepting the terms and responsibilities
 - Step 6** Click **Create Token**.
 - Step 7** Copy the Token ID to your clipboard and proceed to [Registering Product Instance](#).
-

Converting from Traditional Licensing

If you are converting from traditional licensing, follow these steps:

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- Step 1** Go to the Cisco Software Central web site (software.cisco.com).
 - Step 2** On Cisco Software Central, choose **License > Traditional Licensing**.
 - Step 3** Click **Continue to Product License Registration**.
 - Step 4** In the **Manage** area of the Product License Registration page, click the **PAKs/Tokens** tab and choose the entitlements you want to convert.
 - Step 5** From the **Actions** drop-down list, choose **Convert to Smart Entitlements**.
 - Step 6** Copy the Token ID to your clipboard and proceed to [Registering Product Instance](#).
-

Registering Product Instance

Enter the token IDs into the Prime Infrastructure web GUI and register the product.

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- Step 1 Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
 - Step 2 Under the **Licensing Settings** tab, paste your token into the **Registration Token** field.
 - Step 3 Click **Register**.
 - Step 4 Log out of Prime Infrastructure, then log back in.
 - Step 5 Proceed to [Choosing Smart Software Licenses](#).
-

Related Topics

- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Choosing Smart Software Licenses](#)
- [Smart Licensing](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#)
- [Performing Additional Actions](#)
- [Viewing the LicenseDashboard](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Choosing Smart Software Licenses



Note

If no Smart licenses are being used when you log into Prime Infrastructure (for example, you are converting to using Smart Licensing), Prime Infrastructure features will be disabled. This is normal.

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- Step 1 If this is the first time you are choosing Smart licenses:
 - a. Choose **Administration > Licenses and Software Updates > Licenses**.
After a few moments, Prime Infrastructure displays a dialog box informing you that you cannot access the page because you are not using traditional licensing. This is normal.
 - b. In the dialog box, click **Smart License Settings**.
 - c. Click the **Licensing Settings** tab.
 - Step 2 If you are already using Smart Licensing:
 - a. Choose **Administration > Licenses and Software Updates > Smart Software Licensing**.
 - a. Click the **Licensing Settings** tab.
 - Step 3 Under Smart License Usage, click **Choose Licenses**.
 - Step 4 Select the licenses in the Available Licenses dialog box, then click **Save**.

- Step 5 Proceed to [Configuring License Thresholds for the Prime Infrastructure License Dashboard](#).
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Configuring License Thresholds for the Prime Infrastructure License Dashboard

To manage your licenses more efficiently, configure the License Dashboard to indicate when you are nearing the point where your license count is depleted. The settings you configure here apply across the system.

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- Step 1 Choose **Administration > Licenses and Software Updates > Smart Software Licensing**, then click the **License Dashboard Settings** tab.
- Step 2 Select a license from the **License Type** drop-down list.
- Step 3 Enter a value in the Threshold Value field.
- Step 4 Click **Save**.
-

The threshold value is displayed as a straight line in the graphical representation of the **License Summary** and the **Device Distribution for License** dashlets.

Related Topics

- [Viewing the LicenseDashboard](#)
- [Choosing Smart Software Licenses](#)
- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Disabling Smart Licensing](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Viewing the LicenseDashboard

Choose **Administration > Dashboards > Licensing Dashboard**.

Alternatively, you can view the **Licensing Dashboard** page by clicking the **Licensing Dashboard** link at the top-right corner of the **Smart Software Licensing** page.

The Licensing dashboard shows the details of smart software licensing or traditional licensing based on the licensing mode set in **Administration > Licenses and Software Updates > Smart Software Licensing**. The Active Licensing mode in the **Licensing Dashboard** page shows the licensing mode set in the **Smart Software Licensing** page.

If you have enabled smart software licensing in the **Smart Software Licensing** page, you can view the following dashlets in the Licensing dashboard.

- License Summary Count area—Displays the number of licenses consumed and the compliance status for each license type. The number of licenses displayed is based on the current date.

- License Summary dashlet—Displays a bar chart of the licenses consumed for each license type in a particular time period. You can filter the required information for a specific period (a week or month), which can be viewed as a bar chart. Hover the mouse over the chart to view the details.
- Device Distribution for License dashlet—To view the device distribution chart, click the required license link at the top of the chart in the License Summary dashlet. The device distribution of the corresponding selected license will be displayed. Hover the mouse over the chart to view the details.

**Note**

The details in the **License Dashboard** will be refreshed once the SmartLicense job runs. The SmartLicense job under **Administration > Dashboards > Job Dashboard** runs at 02:00 A.M. (pre-configured time) everyday.

If you have enabled traditional licensing in the **Smart Software Licensing** page, you can view the **Traditional Licensing** dashlet in the Licensing dashboard.

The **Traditional Licensing** dashlet allows you to choose either **Life Cycle** license or **Assurance** license from the **License Type** drop-down list. The Traditional Licensing dashlet shows the Device Family, Sub-type, Device Count, Tokens per device, and Token Count in a tabular form and also a summary of the Tokens consumed, Installed Tokens, Grandfathered Tokens and Unused Tokens.

Related Topics

- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Configuring License Thresholds for the Prime Infrastructure License Dashboard](#)
- [Disabling Smart Licensing](#)
- [Reference: Product Registration and License Authorization Statuses](#)

Disabling Smart Licensing

- Step 1** Disable Smart licensing.
- Choose **Administration > Licenses and Software Updates > Smart Software Licensing**, then click the **Licensing Settings** tab.
 - At the bottom of the window, click **Disable Smart Licensing** and confirm your choice.
- Step 2** Log out of Prime Infrastructure, then log back in.
- Because Prime Infrastructure is not yet registered to use traditional licensing, when you log back in, all features are disabled. This is normal.
- Step 3** Enable traditional licensing. (This is done from the Smart License Settings page.)
- Choose **Administration > Licenses and Software Updates > Licenses**.
After a few moments, Prime Infrastructure displays a dialog box informing you that you cannot access the page because you are not using traditional licensing. This is normal.
 - In the dialog box, click **Smart License Settings**.
 - Click the **Licensing Settings** tab.
 - For the Licensing Mode, select **Traditional Licensing**.

- e. Click **Register**.

Step 4 Log out of Prime Infrastructure, then log back in.

Related Topics

- [Performing Additional Actions](#)
- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Configuring License Thresholds for the Prime Infrastructure License Dashboard](#)

Performing Additional Actions

Choose any of the following actions from the **Actions** drop-down list. To know more about the status of licenses and product registration, refer [Reference: Product Registration and License Authorization Statuses](#).

- **Renew Authorization Now**—Click **Renew Authorization Now** to renew authorization with CSSM to enable Prime Infrastructure to remain compliant. By default, authorization periods are renewed every 30 days.
- **Renew Registration Now**—Click **Renew Registration Now** to renew the ID certificate that needs to be renewed every year for Prime Infrastructure to remain registered.
- **Deregister**—Prime Infrastructure will be de-registered from Smart Software Licensing and goes back to evaluation mode.
- **Disable Smart Software Licensing**—Prime Infrastructure will be unregistered from Smart Licensing and will be unlicensed. Once disabled, only **Administration** menu will be available on logging in. See [Disabling Smart Licensing](#).

Related Topics

- [Reference: Product Registration and License Authorization Statuses](#)
- [Setting Up Cisco Smart Licensing on Prime Infrastructure](#)
- [Viewing the LicenseDashboard](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Disabling Smart Licensing](#)

Reference: Product Registration and License Authorization Statuses

Product Registration Status

The Product Registration Status reflects whether the product is properly registered with Cisco Smart Software Licensing on Cisco.com.

Product Registration Status	Description
Unregistered	Smart Software Licensing is enabled on Prime Infrastructure, but Prime Infrastructure is not registered with the CSSM.
Registered	Prime Infrastructure is registered with the CSSM. Prime Infrastructure has received an ID certificate that will be used for future communication with the Cisco licensing authority.
Registration Expired	Prime Infrastructure did not successfully renew its registration prior to the expiration date and has been removed from CSSM.

License Authorization Status

The License Authorization Status reflects usage against purchased licenses and whether you are in compliance with Cisco Smart Licensing. If you exceed the number of purchased licenses, you will be Out of Compliance.

License Authorization Status	Description
Evaluation Mode	Prime Infrastructure is running in evaluation mode until the evaluation period expires (90 days).
Authorized	Prime Infrastructure has a valid Smart Account and is registered. All licenses requested by the product are authorized for use.
Out of Compliance	Prime Infrastructure has exceeded the number of licenses that were purchased. The Virtual account containing the product instance has a shortage of one or more of license types used.
Evaluation Expired	The Evaluation period has expired and Prime Infrastructure will be in unlicensed state.
Authorization Expired	Prime Infrastructure did not successfully renew its license authorization prior to the authorization expiration date.

Related Topics

- [Smart Licensing](#)
- [Enabling Smart License on Prime Infrastructure](#)
- [Setting Up the Transport Mode Between Prime Infrastructure and Cisco Smart Software Manager](#)
- [Registering Prime Infrastructure with the Cisco Smart Software Manager](#)
- [Performing Additional Actions](#)