

Cisco Optical Site Manager Settings

This chapter explains how to configure the Cisco Optical Site Manager timezone and node information. It also covers additional settings such as the default order of the right panel list, the opacity and width of the left panel rack, and Smart Licensing configuration tasks.

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Configure time zone and measurement units

Configure the display format, time zone, measurement units, and data channel preferences in the Cisco Optical Site Manager application.

Follow these steps to configure preferences for the Cisco Optical Site Manager application.

Before you begin

Log into Cisco Optical Site Manager

Procedure

Step 1 Click **Settings**.

Step 2 Click the **Preferences** tab.

Step 3 Configure the date format, time zone, channel configuration, and length unit in the **General** section.

Step 4 Click **Apply**.

A confirmation message appears.

Step 5 Click **Yes**.

Step 6 Reload the browser to apply the updated settings.

Download device diagnostics

Use this task to retrieve and download Cisco Optical Site Manager diagnostic logs for troubleshooting and support. Download a ZIP file that contains the selected COSM and device diagnostic logs.

Cisco Optical Site Manager diagnostics help you collect operational data such as alarms, audit logs, and device diagnostics, which can be shared with Cisco TAC or used for internal troubleshooting.

To avoid timeouts, retrieve only the required log types and devices.

Before you begin

Log into Cisco Optical Site Manager

Follow these steps to retrieve and download device diagnostics information.

Procedure

Step 1 Click **Diagnostic** in the left panel.

The **Diagnostic** page appears.

Step 2 Click the **Logs** tab.

Step 3 To collect and download Cisco Optical Site Manager diagnostic logs, perform these steps:

a) In the **Application** section, select the check boxes for the logs that you want to retrieve.

Note By default, all the check boxes are selected except **NCS Callback Log**.

Table 1: Log types

Fields	Description
Alarms	Collects the active alarms.
Audit Logs	Collects NSO audit logs.
Conditions	Collects the active conditions.
Admin Logs	Collects the admin logs.
Engineer Logs	Collects all the system software logs.

Fields	Description
History Logs	Collects the alarms history logs.
Inventory Logs	Collects the hardware inventory logs.
NCS Callback Log	Collects information about the implementation status and return values of the entire NSO data tree.
Device Audit Log	Collects the audit logs for the device.
Device Diagnostics	Collects the diagnostic logs for the device.

b) From the **Devices** section, select the devices for which you want to retrieve the logs.
c) Click **Retrieve**.

A confirmation message appears.

d) Click **Yes**.

Wait until the **Progress Status** indicates that the diagnostic log collection is *completed*.

e) Click **Download Diagnostic** to download the diagnostics report.

Note If the diagnostic log download fails in a browser, retry the download or use an alternate browser.

A ZIP file containing the selected logs is downloaded.

Configure NTP servers for node time synchronization

Set up primary and secondary NTP servers so the node always maintains the correct time.

Accurate time synchronization ensures reliable alarm reporting, generates log entries, and supports coordination across network devices. If the primary NTP server is unreachable, the node switches to the backup server. If neither server is available, the system raises an alarm.

Before you begin

Log into Cisco Optical Site Manager

Follow these steps to configure NTP servers for the node:

Procedure

Step 1 Click **Settings**.
Step 2 Click the **NTP** tab.
Step 3 Click **Edit**.

The NTP fields become editable.

Step 4 Enter the **Server Address** and **Backup Server Address**.

- **Server Address**—Enter the IP address of the primary NTP server.
- **Backup Server Address**—Enter the IP address of the secondary NTP server.

The node checks the availability of the primary NTP server first. If it is unavailable, the node checks the secondary NTP server.

Table 2: NTP Server Behavior

If...	Then...
The primary NTP server is reachable	The node synchronizes its date and time with the primary server.
The primary NTP server fails or is unreachable	The node uses the secondary NTP server to synchronize date and time.
Both NTP servers are unreachable	The SNTP-FAIL alarm is raised until synchronization is restored.

The node retries synchronization at regular intervals and synchronizes its date and time every hour. The system clears the SNTP-FAIL alarm upon successful synchronization.

Step 5 Click **Apply**.

A confirmation message appears.

Step 6 Click **Yes** to confirm the update to initiate synchronization.

The node synchronizes its date and time with the configured NTP server.

View Audit Logs

Use this task to retrieve and download Cisco Optical Site Manager audit logs.

Before you begin

Log into Cisco Optical Site Manager

Procedure

Step 1 Click **Diagnostic** in the left panel.
The **Diagnostic** page appears.

Step 2 Click the **Audit** tab.

Step 3 Select the search criteria from the **Filters** section and click **Filter**.

Details of each event including the date, user type, SID and event details are displayed in a table.

Smart licensing for Cisco Optical Site Manager

Table 3: Feature History

Feature Name	Release Information	Feature Description
Cisco Optical Site Manager Smart Licensing	Cisco IOS XR Release 24.3.1	Cisco Optical Site Manager now supports the smart licensing. It enables you to automate the time-consuming manual licensing tasks and allows you to easily track the status of your license and software usage trends.

Smart Licensing is a cloud-based, software license management solution that enables you to automate time-consuming, manual licensing tasks. The solution allows you to easily track the status of your license and software usage trends.



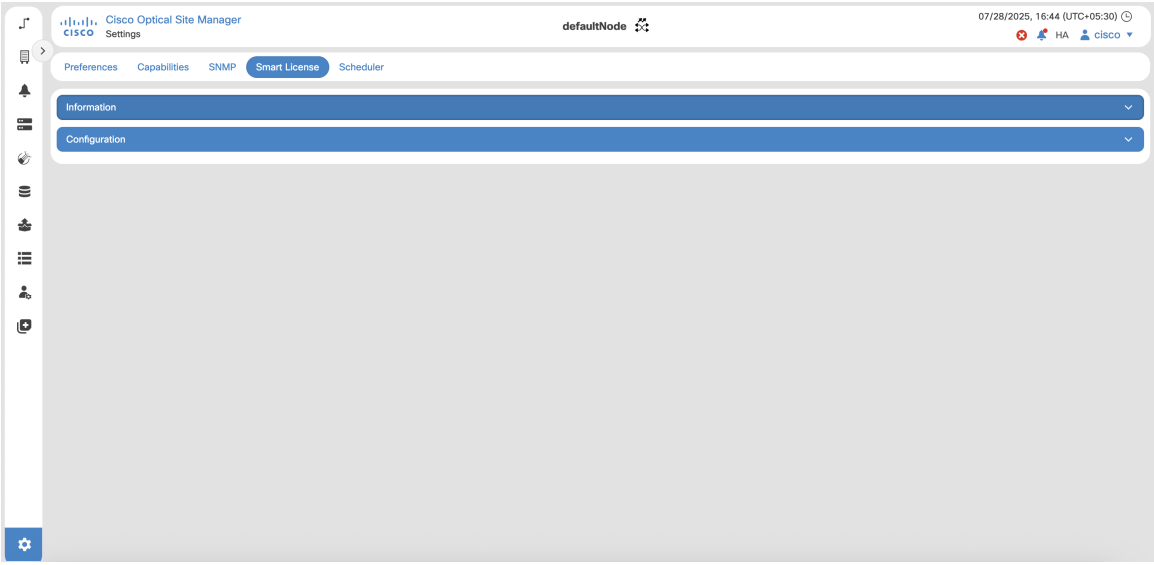
Restriction For NCS 2000, Cisco Optical Site Manager must be running on the SVO line card.

Smart licensing core functions

Smart Licensing helps you simplify three core functions:

- **Purchasing:** Register installed software without needing Product Activation Keys.
- **Management:** Automatically track license usage across your network without installing license files on each node. Create license pools to match your organizational structure. Use Cisco Smart Software Manager, a centralized portal, to manage all Cisco licenses in one place.
- **Reporting:** Access a unified view of purchased and deployed licenses through the portal. This visibility helps you make informed purchasing decisions based on actual usage.

Figure 1: Smart Licensing



These are the key features of Smart Licensing:

- **Direct and proxy registration**: registers Cisco Optical Site Manager application.
- **Centralized management**: manages your license inventory using CSSM, simplifying software asset tracking and management.
- **License portability**: moves or transfers your licenses easily between devices, offering flexibility in deploying software assets within the organization.
- **Simplified activation**: simplifies this process by using a pool of licenses that aren't tied to a specific device as against Traditional licensing.
- **Automatic license renewal**: renews licenses automatically, reducing the administrative burden of tracking license expiration dates and manual renewals.
- **Usage reporting**: generates detailed reports on license usage to understand device software consumption, optimizing your license investments.
- **Compliance assurance**: provides visibility into license entitlements versus actual usage, helping that you stay compliant.
- **Support for hybrid environments**: supports both on-premises and cloud-based environments, allowing for consistent license management across different deployment models.
- **Real-time updates**: receives real-time updates from Cisco, ensuring that you have access to the latest features and compliance information.

Cisco Smart Account

Cisco Optical Site Manager integrates with Cisco Smart Accounts to simplify license management.

Smart Accounts provide a centralized, organized, and simple-to-use solution for managing Cisco software licenses across an entire organization. They act as a container that holds all Cisco software assets, allowing customers to view, store, manage, and move these assets as needed. Smart Accounts enable full visibility into

license entitlements and usage, helping optimize software management. Smart Accounts support license pooling, portability, and provide compliance reporting.

When creating a Smart Account, you must have the authority to represent the requesting organization. After submitting, the request goes through a brief approval process. See http://software.cisco.com to learn about, set up, or manage Smart Accounts.

Cisco Smart Software Manager

Cisco Smart Software Manager enables you to manage all of your Cisco Smart software licenses from one centralized website. With Cisco Smart Software Manager, you organize and view your licenses in groups called virtual accounts (collections of licenses and product instances). Use the Cisco Smart Software Manager to do the following tasks:

- Create, manage or view virtual accounts.
- Create and manage Product Instance Registration Tokens.
- Transfer licenses between virtual accounts or view licenses.
- Transfer, remove or view product instances.
- Run reports against your virtual accounts.
- Modify your email notification settings.
- View overall account information.

Virtual accounts

Virtual Accounts are customizable subaccounts within a Smart Account used to organize and optimize Cisco licenses. They can be structured to reflect business units, product types, or geographic locations, allowing better planning and utilization of assets. They are created and maintained by the Smart Account administrator. Smart Licencing allows you to create multiple license pools or virtual accounts within the Smart Software Manager portal. Using the Virtual Accounts option you can aggregate licenses into discrete bundles associated with a cost center so that one section of an organization cannot use the licenses of another section of the organization. For example, if you segregate your company into different geographic regions, you can create a virtual account for each region to hold the licenses and product instances for that region.

All new licenses and product instances are placed in the default virtual account in the Smart Software Manager, unless you specify a different one during the order process. Once in the default account, you may choose to transfer them to any other account as desired, provided you have the required access permissions.

Use the Smart Software Manager portal to create license pools or transfer licenses.

Configure smart licensing workflow

The Cisco Smart Software Licensing service registers the product instance, reports license usage, and obtains the necessary authorization from Cisco Smart Software Manager or Cisco Smart Software Manager satellite.

For NCS 2000, NCS 1014, NCS 1004, and NCS 1001 the license count is based on the number of line cards available on Cisco Optical Site Manager application. Each line card consumes one license. Controller cards do not consume licenses. NCS2K-SVO-K9 or NCS 2000 SVO line cards do not consume licenses. For NCS 1010, the license count is based on the number of chassis. There are two main deployment options for Smart Licensing:

- Cisco Smart Software Manager (CSSM): Smart Licensing offers you Cisco Smart Software Manager, a centralized portal that enables you to manage all your Cisco software licenses from one centralized website so that you do not have to install the license file on every node. You can create license pools (logical grouping of licenses) to reflect your organization structure.
- On-Premise software: You may want to operate totally offline with On-Premise software that allows you to have only this On-Premise host to do the talking for licensing information exchange with the Cisco Cloud and in turn provide information to the end devices as to their state of compliance.

Follow these tasks to configure smart licensing:

Before you begin

Log into Cisco Optical Site Manager

Procedure

Step 1 Order your license from Cisco Commerce Workspace (CCW).

Step 2 Access CSSM and create the smart account and virtual accounts to organize your licenses.

Step 3 Perform any of these tasks to configure the smart licensing modes:

To configure	Follow this workflow
Smart transport mode	Smart transport mode workflow, on page 9
CSLU mode	Smart licensing CSLU mode workflow, on page 9
Offline mode	Smart licensing offline mode workflow, on page 14

Note The UNTRUSTED-APPLICATION and USAGE-NOT-REPORTED alarms are raised when Smart License is not configured. These alarms are cleared once the trust is properly established with CSSM.

Step 4 Configure the smart license transport mode and register the device with CSSM.

For more details, see Configure transport mode, on page 11.

Step 5 Generate your report from the device. Synchronize the report with CSSM either automatically or manually.

Monitor the license usage and compliance status through the CSSM portal.

Smart transport mode

The Smart Transport mode is a method that enables Cisco devices to send license usage information directly over the internet to the Cisco Smart Software Manager (CSSM). Here are the benefits of this mode:

- Simplifies license usage reporting by enabling direct communication with CSSM.
- Eliminates the need for intermediate servers or manual file exchanges.

- Supports secure, automated license management suitable for connected environments.

Smart transport mode workflow

The smart transport mode workflow involves:

- Create a Token
- Configure DNS to Access Cisco Optical Site Manager
- Configure transport mode, on page 11
- Establish trust, on page 13

Smart licensing CSLU mode

The Cisco Smart Licensing Utility (CSLU) mode is a transport mode used in Cisco Smart Licensing to manage licenses on-premises without requiring direct device connectivity to the Cisco Smart Software Manager (CSSM). CSLU provides the following key functions:

- Collects license usage data from Cisco Optical Site Manager and acts as an intermediary between Cisco Optical Site Manager and Cisco Smart Software Manager (CSSM).
- Ideal for environments with restricted or no internet access as Cisco Optical Site Manager communicates with CSLU instead of directly connecting to CSSM.

Smart licensing CSLU mode workflow

The smart licensing CSLU mode workflow involves:

- Configure transport mode, on page 11
- Establish trust, on page 13

Create a Token

A token acts as a registration key that securely connects your device to your Cisco Smart Software Manager (CSSM) virtual account, establishing trust and authorization between the device and Cisco's licensing system. This enables the device to be identified and managed within your organization's smart licensing account.

Procedure

Step 1 Log in to the Cisco Smart Software Manager.

Step 2 Click the **Inventory** tab, and select your virtual account from the **Virtual Account** drop-down list.

The **Create Registration Token** dialog box appears.

Step 3 Click the **General** tab, then select **New Token**.

Step 4 Enter the token description.

Step 5 Specify the token's active duration in days.

Step 6 Select the **Allow export-controlled functionality on the products registered with this token** check box.

Step 7 Click **Create Token**.
The token ID is created and displayed.

Step 8 Copy the token ID and register Cisco Optical Site Manager with the same token ID.

Example:

An example of the token ID:

```
YzY2ZjYyNjktY2NlOS00NTc4LWIxNTAtMjZkNmNiNzMxMTY1LTE2NjAzNjQ3
%0ANzY4Njl8ZVJSckxKN2pFV2tIeHVoMUkxbGxTazFDVm9kc1B5MGlHQmlFWUJi%0Ac3VNRT0%3D%0A
```

What to do next

Configure DNS to Access Cisco Optical Site Manager.

Configure DNS to Access Cisco Optical Site Manager

Configure the DNS for Cisco Optical Site Manager to communicate with Cisco Smart Software Manager (CSSM) and other Cisco licensing services.

Before you begin

- If Cisco Optical Site Manager and the DNS or proxy server are in different subnets, configure a static route for server reachability. For configuration instructions, see Configure static routes for proxy server reachability
- Create a Token

Follow these steps to configure the DNS server for Cisco Optical Site Manager from your network.

Procedure

Step 1 Run the **cosm** command to enter into COSM configuration mode.

Example:

```
RP/0/RP0/CPU0:ios#cosm
```

Step 2 Run the **config** command to enter into the configuration mode.

Example:

```
RP/0/RP0/CPU0:cosm#config
```

Step 3 Run the **admin server-information networking dns-configuration dns-server <ipaddress>** command to configure the DNS.

Example:

```
RP/0/RP0/CPU0:cosm(config)#admin server-information networking dns-configuration dns-server
 10.0.1.2
```

Step 4 Run the **Commit** and **Exit** command to commit the changes and exit the configuration mode.

Example:

```
commit
exit
```

This example shows how to configure DNS for Cisco Optical Site Manager:

```
RP/0/RP0/CPU0:ios#cosm
RP/0/RP0/CPU0:cosm#config
RP/0/RP0/CPU0:cosm(config)#admin server-information networking dns-configuration dns-server
 10.0.1.2
RP/0/RP0/CPU0:cosm(config)#commit
RP/0/RP0/CPU0:cosm(config)#exit
```

What to do next

Configure transport mode

Configure transport mode

Configure the transport mode as Smart Transport, CSLU, or Offline to send usage information directly over the internet, administer licenses and associated product instances from an on-premises environment, or manage devices on premises without connecting to CSSM.

Follow these steps to configure transport mode.

Before you begin

- Log into Cisco Optical Site Manager
- After you restore Cisco Optical Site Manager to factory defaults, delete its registered unique identifier (UID) from Cisco Smart Software Manager before you establish trust again. A factory reset clears the trust information from Cisco Optical Site Manager but does not delete the registered UID from Cisco Smart Software Manager.

Procedure

Step 1 Click **Settings**

Step 2 Click the **Smart License** tab.

Step 3 Click the **Configuration** section to expand it.

Step 4 Select one of these options from the **Transport Mode** drop-down list:

Select	To configure
Smart Transport	smart transport mode that enables devices to send usage information directly over the internet to the CSSM.

Select	To configure
CSLU/OnPrem	CSLU mode to administer licenses and their associated Product Instances from their premises mode.
Offline	offline mode that allows you to manage your devices on premises without connecting to CSSM



Note Select the transport mode before you establish trust with Cisco Smart Software Manager. To change the transport mode after trust is established, restore Cisco Optical Site Manager to factory defaults and establish trust again. Changing the transport mode without a factory reset retains the trust and unique identifier information and can cause an invalid-signature error when trust is re-established.

Step 5 Specify the smart transport or CSLU url.

If *Transport Mode* is	Then
Smart Transport	specify *https://smartreceiver.cisco.com/licservice/license* as **Smart Transport URL**.
CSLU/OnPrem	Specify *http://<Device IP>:8182/cslu/v1/pi* as **CSLU URL**.

Step 6 Specify the **Proxy Setting**.

Step 7 Perform these steps under the **Reports Settings** section:

a) Specify the number of days between each time a report is generated in the **Reporting Interval (days)** field.

You can enter a value between 1 and 30 days. The default value is 5 days.

b) Select the **Send Hostname** check box to receive the hostname information in the report.

c) Select the **Send Product Version** check box to receive the product version in the report.

Step 8 Click **Apply** to apply the settings.

Step 9 Click **Check Connection** to check the connection.



Note If the connection fails and Cisco Optical Site Manager and the DNS or proxy server are on different subnets, verify that the static route is configured correctly.

Verify the connection

If..	Then..
The **Check Connection** button turns *Green*.	Connection is successfully established.

If..	Then..
The **Check Connection** button turns *Yellow*	Connection could not be established.

What to do next

Establishing trust to access and view license usage data.

Establish trust

Establishing trust enables secure and authorized license management between the Cisco Optical Site Manager and Cisco's licensing system.

- Creates a trusted connection by installing a trust code from a registration token, linking Cisco Optical Site Manager to the smart licensing account.
- Authorizes Cisco Optical Site Manager within Cisco's licensing system for management under the organization's smart licensing framework.
- Enables communication of license usage and status to Cisco Smart Software Manager (CSSM) for automatic tracking and compliance.

Before you begin

Configure transport mode

Follow these steps to establish trust between the Cisco Optical Site Manager and Cisco's licensing system.

Procedure

Step 1 Click the **Information** section to expand it.

Step 2 Click the **Establish Trust** button.

The **Establish Trust** dialog box appears.

Step 3 Paste the token in the **ID Token** field and click **Trust**.

For more details, see Create a Token.

Step 4 Click the **Sync** button.

Step 5 Verify that these fields under the **Trust** panel display *Success* indicating that trust is established:

- **Trust Established**
- **Last Attempt Result**

After completing the synchronization, this status information is displayed:

Panel	Field	Expected value	Description
Trust	**Attempt in Progress**	*True*	Whether an installation is currently running.
	Last Attempt Result	*Success*	Outcome of the last installation attempt.
Reporting	**Last Report Pushed**	*Timestamp*	Time when the last status report was sent.
	Last Ack Received	*Timestamp*	Time when the last acknowledgment was received.
License Usage	**COSM Managed Line Card License**	Number | Status	Describes the number of licenses and their status.

Smart licensing offline mode

Offline mode enables you to:

- Manage your devices locally without requiring a connection to Cisco Smart Software Manager (CSSM).
- Set up and operate devices without internet access or communication with Cisco.
- Maintain device management in highly secure environments with strict security requirements.

Smart licensing offline mode workflow

Note If you perform a usage report before establishing trust, the usage-file.xml generated by Cisco Optical Site Manager automatically includes a trust request. This allows you to establish trust and report usage in a single operation.

Configure offline transport mode in Cisco Optical Site Manager

Offline transport mode allows you to manage your devices on premises without connecting to CSSM.

Before you begin

Log into Cisco Optical Site Manager

Follow these steps to configure offline transport mode.

Procedure

Step 1 Click **Settings**, then click the **Smart License** tab.

Step 2 Click the **Configuration** section to expand it.

Step 3 Select **Offline** from the **Transport Mode** drop-down list.

Step 4 Configure the **Reports Settings**:

a) Select the **Send Hostname** check box to receive the hostname information in the report.

b) Select the **Send Product Version** check box to receive the product version in the report.

Step 5 Click **Apply** to apply the settings.

Check Connection is disabled for **Offline** mode.

What to do next

Download request file from Cisco Optical Site Manager

Download trust request file from Cisco Optical Site Manager

Initiate the trust establishment between Cisco Optical Site Manager and CSSM in environments without internet connectivity.

Download the trust request file from Cisco Optical Site Manager. This file is then uploaded to CSSM to start the offline trust establishment process.

Before you begin

Configure offline transport mode

Follow these steps to download the trust-request file.

Procedure

Step 1 Click the **Information** tab to expand it.

Step 2 Click the **Save** button and choose **Trust Request**.

The trust request file is downloaded.

What to do next

Upload trust request file to CSSM

Upload trust request file to CSSM

Upload the trust file to CSSM to validate the Cisco Optical Site Manager and licensing details offline.

Before you begin

Download request file from Cisco Optical Site Manager

Follow these steps to upload the trust request file to CSSM.

Procedure

Step 1 Click **Reports**, then click **Usage Data Files**.

Step 2 Click **Upload Usage Data** and select the **Virtual Account**.

Step 3 Click **Ok**.
The **Upload Usage Data** window is displayed.

Step 4 Click the **Browse** button and upload the **trust-request** file.

Step 5 Go to the **Reporting** Status tab and verify that the status shows **No Errors**.

- It may take a few minutes for the status to update.
- If the status shows **Errors**, fix them before continuing.

CSSM processes the uploaded file and generates an acknowledgement.

Step 6 Click **Download** under **Acknowledgment** tab.

The acknowledgement file is downloaded.

What to do next

Download Acknowledgement from CSSM

Download acknowledgment from CSSM

After you upload the trust request file from Cisco Optical Site Manager to CSSM, it processes this file and generates an acknowledgment file. You then download this acknowledgment file from CSSM and import it back into Cisco Optical Site Manager.

Before you begin

Upload trust request file to CSSM

Follow these steps to download the acknowledgment from CSSM.

Procedure

Step 1 Go to **Usage Data Files** and click **Upload Usage Data**.
The **Upload Usage Data** window is displayed.

Step 2 Click **Browse** and select **rum-report-xxx**.

Step 3 Click **Open**, then click **Upload Data**.
The **Select Virtual Accounts** window is displayed.

Step 4 Select the appropriate account, then click **ok**.

- It may take a few minutes for the status to update.
- If the status shows **Errors**, fix them before continuing.

Step 5 Click **Download** to get the acknowledgment file if no errors are reported.

The acknowledgment file is downloaded.

What to do next

Import acknowledgment in Cisco Optical Site Manager

Import acknowledgment file into Cisco Optical Site Manager

After importing the acknowledgment file into Cisco Optical Site Manager, the trust relationship between Cisco Optical Site Manager and CSSM is established, enabling the configuration of offline license mode.

Before you begin

Download acknowledgment from CSSM

Follow these steps to the import the acknowledgment file into Cisco Optical Site Manager.

Procedure

Step 1 Click the **Import** button.
The **Import Acknowledgement File** dialog is displayed.

Step 2 Click **Select files...** and upload the acknowledgment file.

Step 3 Click **Save**, then select **Usage**.
The **Select report type** dialog is displayed.

Step 4 Select any of these options from the **Report type** drop-down list.

- **unreported**: to download report for unreported days.
- **all**: to download the report for all days.
- **days**: to download the report for selected number of days.

The report is downloaded.

Step 5 Click the **Refresh** button in the **Information** section to see updated details.

Step 6 Perform these steps to verify the configuration:

a) Go to the **Trust** tab to verify that the **Trust Established Time** is displayed.
b) Go to the **Reporting** tab to verify that the **ACK Report Time** is displayed.
c) Go to the **License Usage** tab to verify that the license count is displayed.

The offline smart licensing mode is configured.