

# Configure Smart Licensing Using Policy on the Nexus Platform

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## Introduction

This document describes how to configure Smart Licensing using Policy (SLP) on the Nexus 9K platform.

## Prerequisites

### Requirements

Cisco recommends that you have knowledge of these topics:

- Nexus NX-OS software
- Cisco NX-OS licensing options
- Domain Name System (DNS)

### Components Used

The information in this document is based on Cisco Nexus 9000 with NXOS version 10.2(5).

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

## Configure

Smart Software Licensing (SL) provides a single, standardized licensing solution for all of your Cisco products. It is a cloud-based licensing end-to-end platform that consists of tools and processes to authorize the usage and reporting of your Cisco products. It is designed to run on a product instance and communicate

with the Cisco Cloud License Service through the Smart Call Home transport medium to complete product registration and authorization.

Smart Licensing Using Policy (SLP) was introduced in Cisco NX-OS Release 10.2(1)F, and it remains the only supported licensing mode to this day.

Smart Licensing Using Policy is an enhanced version of Smart Software Licensing, with the overarching objective of providing a licensing solution that does not interrupt the operations of your network, but rather, one that enables a compliance relationship to account for the hardware and software licenses you purchase and use.

Smart Licensing Using Policy is honor-based. However, license use compliance does require software reporting.

Cisco Smart Software Manager (CSSM) is responsible for managing the accounts and license instances. CSSM runs 24/7 on the [Cisco Site](#).

## Methods

Main methods to connect Nexus switches to CSSM:

- Directly: You point directly to the Cisco site using the Internet connection.
- Via Cisco Smart Licensing Utility (CSLU): This is a software application you can run on your computer. [Installation Guide](#).
- Via On-Prem license server: Dedicated server running operating system provided by Cisco. [Installation Guide](#).
- Offline: You generate a report on the Nexus switch and upload the file to CSSM to generate an acknowledgment file, which then needs to be applied to the Nexus switch.



**Note:** It does not matter what method is used, the first report must still be done to CSSM within the next 90 days. Later, report frequency is required every 365 days, unless a license usage change occurs, which requires another report within the next 90 days.

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## Configurations

These configurations are implemented on Nexus 9K switch using management VRF for all communications, which is the default VRF for SLP.

### Method 1: Directly Connected

- Both smart and call-home modes of transport are supported.
- Only management VRF is supported on call home mode of transport until NXOS 10.2(2)F, starting NXOS 10.2(3)F non-management VRF is supported as well.
- Before NXOS 10.3(2)F, only management VRF is supported on smart mode of transport. Starting from NXOS 10.3(2)F, non-management VRF is supported as well.

Step 1. Configure DNS client.

```
Nexus(config)# ip domain-lookup
Nexus(config)# vrf context management
Nexus(config-vrf)# ip name-server <dns server ip>
```

Step 2. Configure smart transport mode.

```
Nexus(config)# license smart transport smart
```

Step 3. Indicate CSSM URL.

```
Nexus(config)# license smart url smart https://smartreceiver.cisco.com/licservice/license
```

Step 4. Create the Trust Code (token) on the [Cisco Site](#).

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > General**.

Click **New Token...**

Cisco Software Central > Smart Software Licensing InternalTestDemoAccount69.cisco.com

## Smart Software Licensing SL Product Details Support Help

Alerts | **Inventory** | Convert to Smart Licensing | Reports | Preferences | On-Prem Accounts | Activity

Virtual Account: **CML - bpaez** 1 Major | Hide Alerts

**General** | Licenses | Product Instances | Event Log

### Virtual Account

Description: Private virtual account for personal use of CML.  
Default Virtual Account: No

### Product Instance Registration Tokens

The registration tokens below can be used to register new product instances to this virtual account.

**New Token...**

Token	Expiration Date	Uses	Export-Controlled	Description	Created By	Actions
No Records Found						

The token will be expired when either the expiration or the maximum uses is reached

Step 4a. Fill in the required information and click **Create Token**.

## Create Registration Token

This will create a token that is used to register product instances, so that they can use licenses from this virtual account. Once it's created, go to the Smart Licensing configuration for your products and enter the token, to register them with this virtual account.

Virtual Account: CML - bpaez

Description: SLP Test

\* Expire After: 30 Days

*Between 1 - 365, 30 days recommended*

Max. Number of Uses: 10

*The token will be expired when either the expiration or the maximum uses is reached*

Allow export-controlled functionality on the products registered with this token ?

Create Token

Cancel

Step 4b. Click the newly created token.

Cisco Software Central > Smart Software Licensing

InternalTestDemoAccount69.cisco.com

## Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)

[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)

Virtual Account: CML - bpaez

1 Major | [Hide Alerts](#)

General Licenses Product Instances Event Log

### Virtual Account

Description: Private virtual account for personal use of CML.

Default Virtual Account: No

### Product Instance Registration Tokens

The registration tokens below can be used to register new product instances to this virtual account.

New Token...

Token	Expiration Date	Uses	Export-Controlled	Description	Created By	Actions
NGFjYjcwMjYtZjJkNi0...	2023-Aug-21 02:58:42 (in 30 days)	0 of 10	Allowed	SLP Test	bpaez	Actions

The token will be expired when either the expiration or the maximum uses is reached

Step 4c. Press **ctrl + c** to copy the selected text to the clipboard.

## Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)Virtual Account: [CML - bpaez](#)1 Major | [Hide Alerts](#)

General

Licenses

Product Instances

Event Log

**Virtual Account**

Description: Private virtual account for personal use of CML.

Default Virtual Account: No

product instances to this virtual account.

Uses	Export-Controlled	Description	Created By	Actions
0 of 10	Allowed	SLP Test	bpaez	<a href="#">Actions</a>

The token will be expired when either the expiration or the maximum uses is reached

Step 5. Install Trust Code in Nexus switch.

Nexus# license smart trust idtoken <token from step 4> all force  
Initiated trust establishment with backend. run show license status, for trust establishment status

Step 6. Ensure Nexus is present on CSSM.

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > Product Instances.**

## Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)Virtual Account: [CML - bpaez](#)1 Major | [Hide Alerts](#)

General

Licenses

Product Instances

Event Log

Authorize License-Enforced Features...

Search by Device or by Product Type

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:N9K-C9336C-FX2; UDI_SN:FDO24400PT4;	N9300	2023-Jul-22 01:51:01		<a href="#">Actions</a>

Showing 1 Record

Step 7. Enable any feature that requires your desired license. For this example, a feature is enabled that requires an NX-OS LAN Enterprise Services license.

---

**Note:** NX-OS always asks for the leaf nodes in the license hierarchy.  
NX-OS always asks for Feature-Based Licenses, instead of Tier-Based Licenses.

---

```
Nexus(config)# feature eigrp
```

Step 8. Confirm you have the expected license (feature-based) in use.

```
Nexus# show license summary
```

```
License Usage:
```

License	Entitlement tag	Count	Status
LAN license for Nexus 9... (LAN_ENTERPRISE_SERVICES_PKG)		1	IN USE

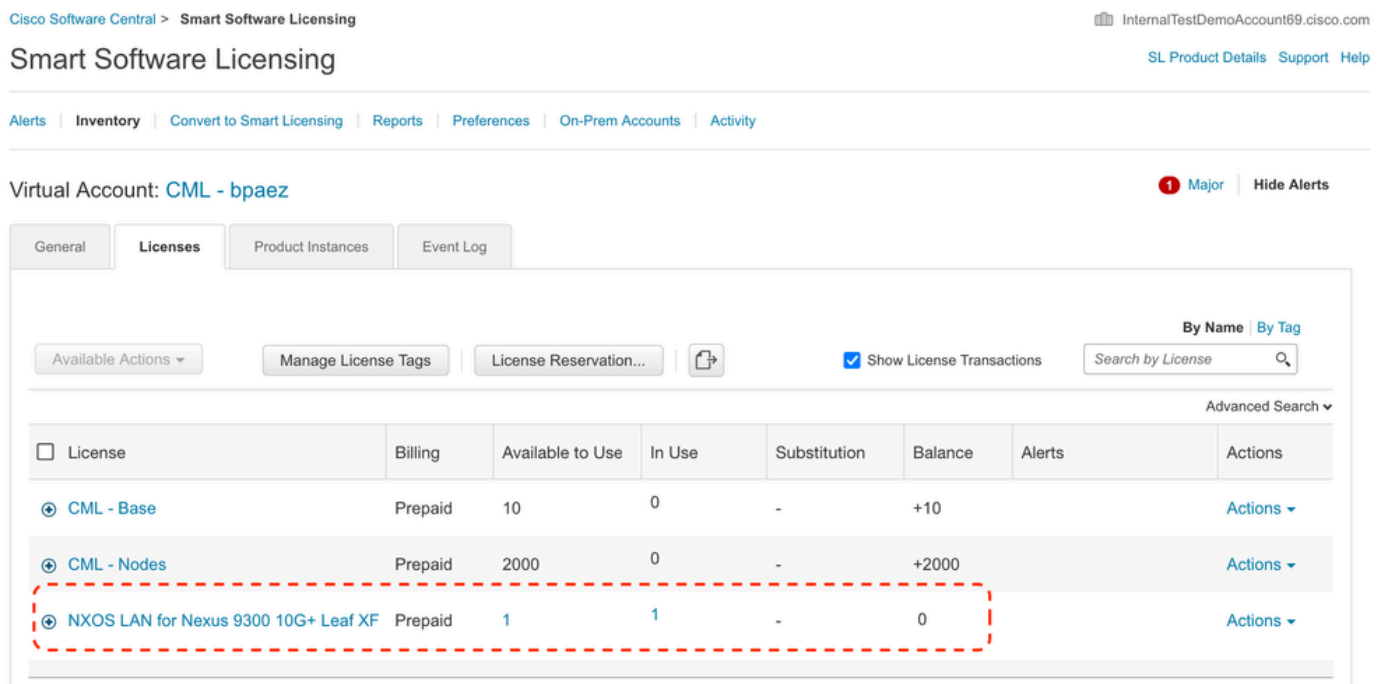
```
Nexus# show license usage LAN_ENTERPRISE_SERVICES_PKG
```

```
Feature List:
```

```
eigrp
```

Step 9. Verify the expected license is consumed on the [Cisco Site](#).

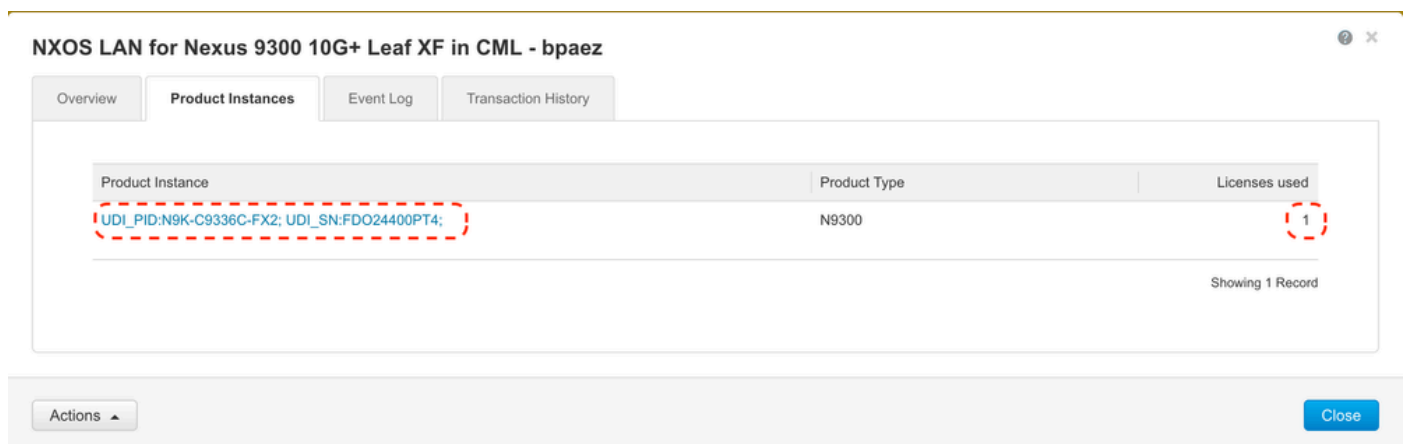
Log in to Cisco **Software Central** > **Smart Software Licensing** > **Inventory** > **Licenses**.



The screenshot shows the Cisco Software Central interface for Smart Software Licensing. The breadcrumb trail is "Cisco Software Central > Smart Software Licensing". The page title is "Smart Software Licensing". There are navigation links for "SL Product Details", "Support", and "Help". Below the title, there are tabs for "Alerts", "Inventory", "Convert to Smart Licensing", "Reports", "Preferences", "On-Prem Accounts", and "Activity". The virtual account is "CML - bpaez". There is a "Major" alert indicator and a "Hide Alerts" link. The "Licenses" tab is selected. The interface includes a search bar, "Show License Transactions" checkbox, and a table of licenses. The table has columns: License, Billing, Available to Use, In Use, Substitution, Balance, Alerts, and Actions. Three licenses are listed: "CML - Base", "CML - Nodes", and "NXOS LAN for Nexus 9300 10G+ Leaf XF". The "NXOS LAN for Nexus 9300 10G+ Leaf XF" license is highlighted with a red dashed box.

License	Billing	Available to Use	In Use	Substitution	Balance	Alerts	Actions
CML - Base	Prepaid	10	0	-	+10		Actions
CML - Nodes	Prepaid	2000	0	-	+2000		Actions
NXOS LAN for Nexus 9300 10G+ Leaf XF	Prepaid	1	1	-	0		Actions

Log in to Cisco **Software Central** > **Smart Software Licensing** > **Inventory** > **Licenses**. Click the expected license from the list to see the details.



The screenshot shows the details for the "NXOS LAN for Nexus 9300 10G+ Leaf XF" license in the "CML - bpaez" virtual account. The breadcrumb trail is "NXOS LAN for Nexus 9300 10G+ Leaf XF in CML - bpaez". There are tabs for "Overview", "Product Instances", "Event Log", and "Transaction History". The "Product Instances" tab is selected. The interface shows a table with columns: Product Instance, Product Type, and Licenses used. One record is shown: "UDI\_PID:N9K-C9336C-FX2; UDI\_SN:FDO24400PT4;" with Product Type "N9300" and Licenses used "1". The "Licenses used" value "1" is circled in red. Below the table, it says "Showing 1 Record". There are "Actions" and "Close" buttons.

Product Instance	Product Type	Licenses used
UDI_PID:N9K-C9336C-FX2; UDI_SN:FDO24400PT4;	N9300	1

Step 10. Verify communication is successful with the Cisco site.

```
Nexus# show license status
```

```
Utility:
```

```
Status: DISABLED
```

```
Smart Licensing using Policy:
```

```
Status: ENABLED
```

```
Data Privacy:
```

```
Sending Hostname: yes
```

```
Callhome Hostname Privacy: DISABLED
```

```
Smart Licensing Hostname Privacy: DISABLED
```

```
Version Privacy: DISABLED
```



Transport:

Type: Smart

URL: <https://smartreceiver.cisco.com/licservice/license>

Proxy:

Not configured

Policy:

Policy in use: Merged from multiple sources

Reporting ACK required: Yes

Unenforced/Non-Export:

First report requirement (days): 90 (CISCO default)

Ongoing reporting frequency (days): 365 (CISCO default)

On change reporting (days): 90 (CISCO default)

Enforced (Perpetual/Subscription):

First report requirement (days): 0 (CISCO default)

Ongoing reporting frequency (days): 0 (CISCO default)

On change reporting (days): 0 (CISCO default)

Export (Perpetual/Subscription):

First report requirement (days): 0 (CISCO default)

Ongoing reporting frequency (days): 0 (CISCO default)

On change reporting (days): 0 (CISCO default)

Miscellaneous:

Custom Id: <empty>

Usage reporting:

Last ACK received: Jul 21 19:28:32 2023 UTC

Next ACK deadline: Jul 20 19:28:32 2024 UTC

Reporting push interval: 30 days

Next ACK push check: <none>

Next report push: Aug 20 19:23:33 2023 UTC

Last report push: Jul 21 19:23:33 2023 UTC

Last report file write: <none>

Trust Code installed: Jul 21 19:18:04 2023 UTC

Active: PID: N9K-C9336C-FX2, SN: FD024400PT4

Jul 21 19:18:04 2023 UTC

Nexus#

## Method 2: CSLU

Before NXOS 10.3(2)F, only management VRF is supported on CSLU mode of transport. Starting from NXOS 10.3(2)F, non-management VRF is supported as well.

Step 1. Configure DNS client.

---

**Note:** You can skip to step 3 if you are not using a Fully Qualified Domain Name (FQDN) on the host running CSLU.

---

```
Nexus(config)# ip domain-lookup
Nexus(config)# vrf context management
Nexus(config-vrf)# ip name-server <dns server ip>
```

Step 2. Add an entry for cs-lu-local on your DNS server.

---

**Note:** Nexus automatically discovers hostname `cslu-local` and `cslu-local.<domain>`

---

Step 3. Ensure cslu transport is configured. This is the default configuration.

```
Nexus(config)# license smart transport cslu
```

Step 4. Indicate CSLU transport URL.

```
Nexus(config)# license smart url cslu http://<ip address of the host running CSLU>:8182/cslu/v1/pi
```

Step 5. Enable any feature that requires your desired license. For this example, you enable a feature that requires NX-OS LAN Enterprise Services license.

---

**Note:** NX-OS always asks for the leaf nodes in the license hierarchy.  
NX-OS always asks for Feature-Based Licenses, instead of Tier-Based Licenses.

---

```
Nexus(config)# feature isis
```

Step 6. Confirm you have the expected license (feature-based) in use.

```
Nexus# show license summary
```

```
License Usage:
```

License	Entitlement tag	Count	Status
LAN license for Nexus 9... (LAN_ENTERPRISE_SERVICES_PKG)		1	IN USE

```
Nexus# show license usage LAN_ENTERPRISE_SERVICES_PKG
```

```
Feature List:
```

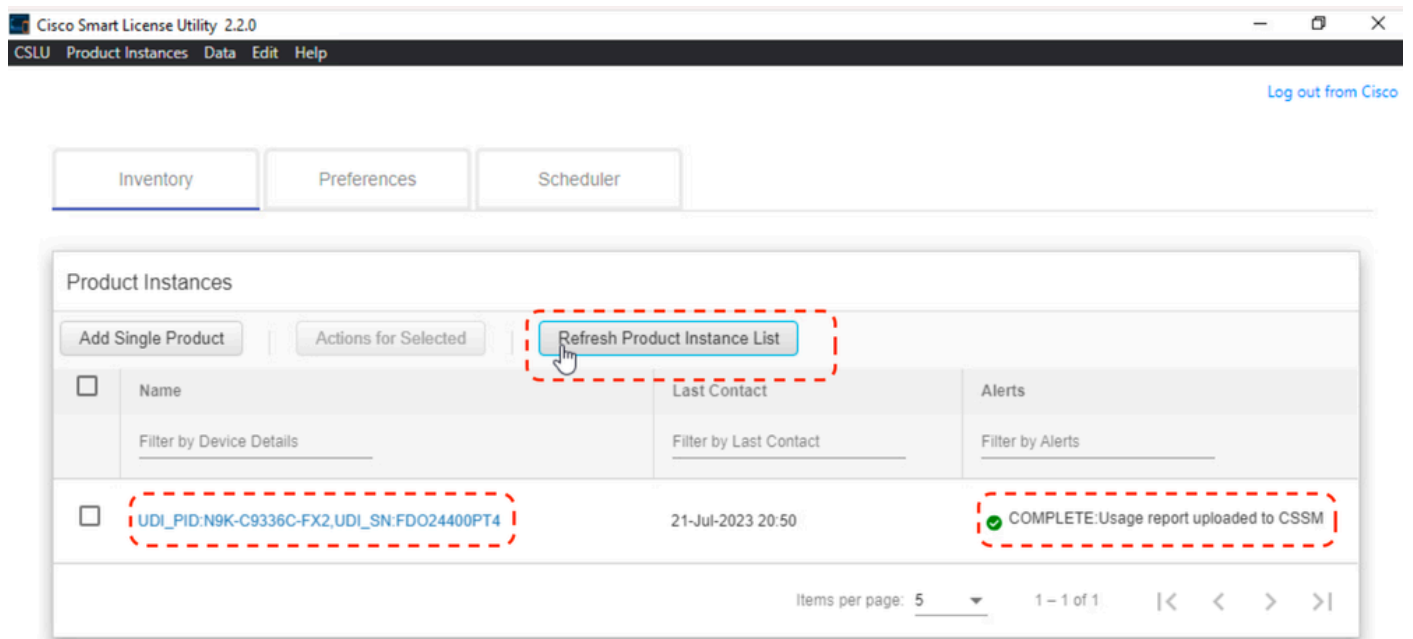
```
isis
```

Step 7. Send the license usage report (known as RUM report) to CSSM.

```
Nexus# license smart sync all  
Initiated sync with backend.
```

Step 8. Click **Refresh Product Instance List** and verify product instance is present on CSLU, indicating **Complete: Usage report uploaded to CSSM**.

Open CSLU > **Inventory** > **Product Instances**.



Step 9. Ensure Nexus is present on CSSM. This confirms communication works properly between CSLU and CSSM.

Log in to **Cisco Software Central** > **Smart Software Licensing** > **Inventory** > **Product Instance**.

## Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)Virtual Account: [CML - bpaez](#)1 Major | [Hide Alerts](#)

General Licenses **Product Instances** Event Log

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:N9K-C9336C-FX2; UDI_SN:FDO24400PT4;	N9300	2023-Jul-22 01:51:01		<a href="#">Actions</a> ▾

Showing 1 Record

Step 10. Verify the expected license was consumed on CSSM On-Prem local server.

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > Licenses**.

## Smart Software Licensing

[SL Product Details](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [On-Prem Accounts](#) | [Activity](#)Virtual Account: [CML - bpaez](#)1 Major | [Hide Alerts](#)

General **Licenses** Product Instances Event Log

Show License Transactions

By Name | By Tag

License

License	Billing	Available to Use	In Use	Substitution	Balance	Alerts	Actions
<input checked="" type="checkbox"/> CML - Base	Prepaid	10	0	-	+10		<a href="#">Actions</a> ▾
<input checked="" type="checkbox"/> CML - Nodes	Prepaid	2000	0	-	+2000		<a href="#">Actions</a> ▾
<input checked="" type="checkbox"/> NXOS LAN for Nexus 9300 10G+ Leaf XF	Prepaid	1	1	-	0		<a href="#">Actions</a> ▾

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > Licenses > Click on License > Product Instances**.

**NXOS LAN for Nexus 9300 10G+ Leaf XF in CML - bpaiez**

Overview **Product Instances** Event Log Transaction History

Product Instance	Product Type	Licenses used
UDI_PID:N9K-C9336C-FX2; UDI_SN:FDO24400PT4;	N9300	1

Showing 1 Record

Actions Close

Step 11. Verify communication is successful with the Cisco site.

```
Nexus# show license status
```

```
Utility:
```

```
Status: DISABLED
```

```
Smart Licensing using Policy:
```

```
Status: ENABLED
```

```
Data Privacy:
```

```
Sending Hostname: yes
```

```
Callhome Hostname Privacy: DISABLED
```

```
Smart Licensing Hostname Privacy: DISABLED
```

```
Version Privacy: DISABLED
```

```
Transport:
```

```
Type: CSLU
```

```
Cslu address: http://10.201.255.233:8182/cslu/v1/pi
```

```
Policy:
```

```
Policy in use: Merged from multiple sources
```

```
Reporting ACK required: Yes
```

```
Unenforced/Non-Export:
```

```
First report requirement (days): 90 (CISCO default)
```

```
Ongoing reporting frequency (days): 365 (CISCO default)
```

```
On change reporting (days): 90 (CISCO default)
```

```
Enforced (Perpetual/Subscription):
```

```
First report requirement (days): 0 (CISCO default)
```

```
Ongoing reporting frequency (days): 0 (CISCO default)
```

```
On change reporting (days): 0 (CISCO default)
```

```
Export (Perpetual/Subscription):
```

```
First report requirement (days): 0 (CISCO default)
```

```
Ongoing reporting frequency (days): 0 (CISCO default)
```

```
On change reporting (days): 0 (CISCO default)
```

```
Miscellaneous:
```

```
Custom Id: <empty>
```

```
Usage reporting:
```

```
Last ACK received: <none>
```

```
Next ACK deadline: Oct 20 01:09:12 2023 UTC
```

```
Reporting push interval: 30 days
```

```
Next ACK push check: Jul 22 01:18:02 2023 UTC
```

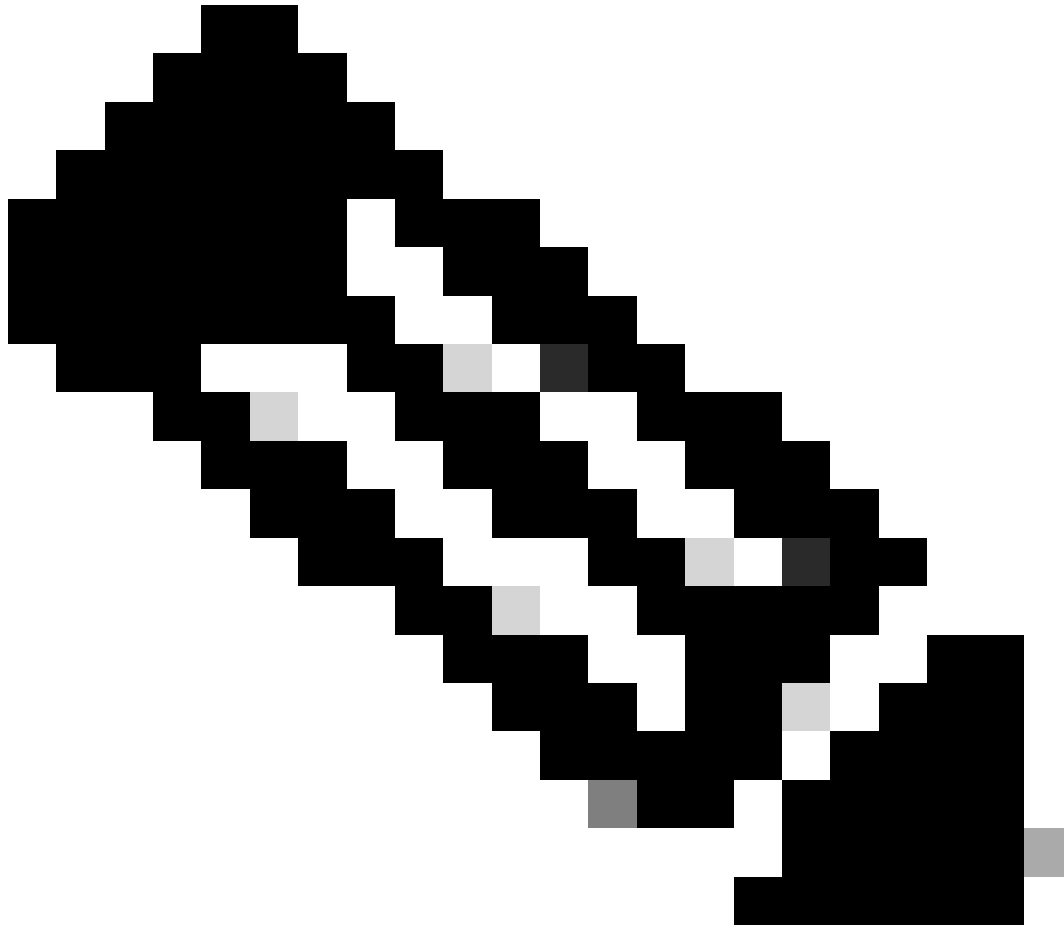
```
Next report push: Aug 21 01:13:03 2023 UTC
```

```
Last report push: Jul 22 01:13:03 2023 UTC
```

Last report file write: <none>

Trust Code installed: <none>

---



**Note:**

Expect to see Trust Code Installed as in the show license status using this method.

Expect to see Last ACK received as in the show license status the first time you sync up with CSSM On-Prem. This changes after the first Next report push is done.

---

**Method 3: On-Prem License Server**

- Only CSLU mode of transport is supported on On-Prem.
- Before NXOS 10.3(2)F, only management VRF is supported on CSLU mode of transport. Starting from NXOS 10.3(2)F, non-management VRF is supported as well.

Step 1. Configure DNS client.



```
Nexus(config)# ip domain-lookup
Nexus(config)# vrf context management
Nexus(config-vrf)# ip name-server <dns server ip>
```

Step 2. Ensure CSLU transport is configured. This is the default configuration.

```
Nexus(config)# license smart transport cslu
```

Step 3. Identify the CSLU transport URL.

Log in to **CSSM On-Prem > Smart Software Manager On-Prem > Select Local Virtual Account** (top right corner). From the drop-down menu, choose **Inventory > General**, then click **CSLU Transport URL** to copy.

The screenshot shows the 'On-Prem License Workspace' interface. At the top, there is a navigation bar with 'On-Prem License Workspace' on the left, the Cisco logo in the center, and 'Admin Workspace' and user information on the right. Below this is a breadcrumb trail: 'Smart Software Manager On-Prem > Smart Licensing'. A blue button labeled 'CX Americas DCRS VXLAN v4' is visible in the top right. The main content area is titled 'Smart Licensing' and has several tabs: 'Alerts', 'Inventory' (selected), 'Convert to Smart Licensing', 'Reports', 'Preferences', and 'Activity'. Under the 'Inventory' tab, there is a sub-section for 'Local Virtual Account: Default' with tabs for 'General', 'Licenses', 'Product Instances', 'SL Using Policy', and 'Event Log'. The 'General' tab is active, showing a 'Local Virtual Account' section with a description and a 'Default Local Virtual Account' set to 'Yes'. Below this is a 'Product Instance Registration Tokens' section with a 'New Token...' button.

Step 4. Indicate CSLU transport URL.

```
Nexus(config)# license smart url cslu https://<on-prem hostname>/cslu/v1/pi/<virtual account>
```

Step 5. Enable any feature that requires your desired license. For this example, a feature is enabled that requires an NX-OS LAN Enterprise Services license.

---

**Note:** NX-OS always asks for the leaf nodes in the license hierarchy.

NX-OS always asks for Feature-Based Licenses, instead of Tier-Based Licenses.

---

```
Nexus(config)# feature ospf
```

Step 6. Confirm you have the expected license (feature-based) in use.

```
Nexus# show license summary
```

```
License Usage:
```

License	Entitlement tag	Count	Status
LAN license for Nexus 9... (LAN_ENTERPRISE_SERVICES_PKG)		1	IN USE

```
Nexus# show license usage LAN_ENTERPRISE_SERVICES_PKG
```

```
Feature List:  
ospf
```

Step 7. Send RUM report to CSSM.

```
Nexus# license smart sync all  
Initiated sync with backend.
```

Step 8. Ensure Nexus is present on CSSM On-Prem.

Log in to **CSSM On-Prem > Smart Software Manager On-Prem > Select Local Virtual Account** (top right corner). From the drop-down menu, choose **Inventory > SL Using Policy**.

On-Prem License Workspace

Admin Workspace Hello, Bidkar Herson Paez Lampon Log Out

Smart Software Manager On-Prem > Smart Licensing

CX Americas DCRS VXLAN v4

### Smart Licensing

Alerts **Inventory** Convert to Smart Licensing Reports Preferences Activity

Local Virtual Account: Default

General Licenses Product Instances **SL Using Policy** Event Log

Add Single Product Actions for Selected... Export/Import All...

Search by Name

Name	Product Type	Last Contact	Alerts
UDI_PID:N9K-C9336C-FX2;UDI_SN:FDO2434107N;UDI_VID:	N9300	2023-Jul-20 18:11:29	Usage report from product instance

Showing Page 1 of 1(1 Records)

Step 9. Verify the expected license was consumed on CSSM On-Prem local server.

Log in to **CSSM On-Prem > Smart Software Manager On-Prem > Select Local Virtual Account** (top right corner) from the drop-down menu > **Inventory > Licenses**.

On-Prem License Workspace

Admin Workspace Hello, Bidkar Herson Paez Lampon Log Out

Smart Software Manager On-Prem > Smart Licensing

CX Americas DCRS VXLAN v4

### Smart Licensing

Alerts **Inventory** Convert to Smart Licensing Reports Preferences Activity

Local Virtual Account: Default

General **Licenses** Product Instances SL Using Policy Event Log

Available Actions Manage License Tags...

By Name By Tag

Search by License

License	Billing	Available to Use	In Use	Substitution	Balance	Alerts	Actions
NXOS LAN for Nexus 9300 10G+ Leaf XF	Prepaid	1	1	-	0	Insufficient Licenses	Actions

Showing Page 1 of 1(6 Records)

Log in to **CSSM On-Prem > Smart Software Manager On-Prem > Select Local Virtual Account** (top right corner). From the drop-down menu, choose **Inventory > Licenses**. Click the expected license from the list to see the details.

### NXOS LAN for Nexus 9300 10G+ Leaf XF In Default

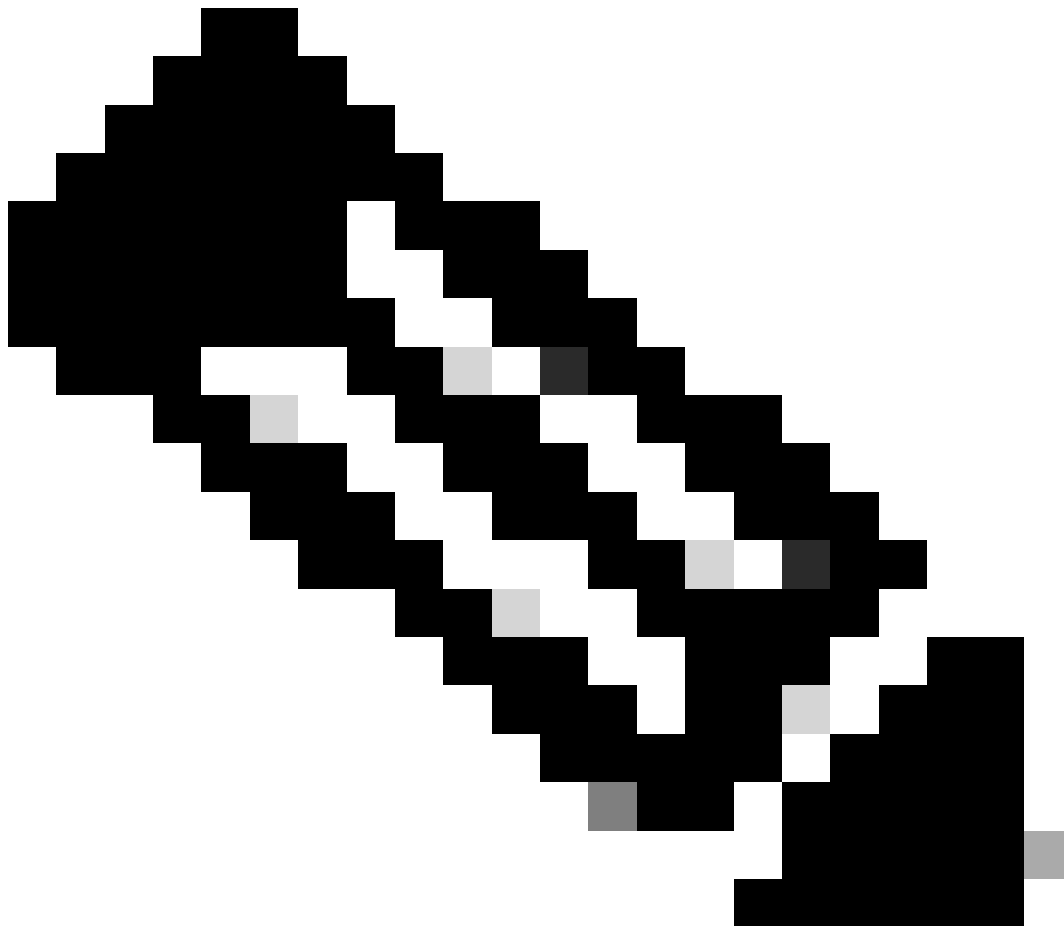
LAN license for Nexus 9300-XF

Overview Product Instances Event Log Transaction History

Product Instance	Product Type	Licenses Used
UDI_PID:N9K-C9336C-FX2;UDI_SN:FDO2434107N;UDI_VID:;	N9300	1

Showing All 4 Records

Transfer License...



**Note:** Expect to see Trust Code Installed as <none> in in show license status using this method.  
Expect to see Last ACK received as in show license status the first time you sync up with CSSM

---

On-Prem. This changes after the first Next report push is done.

---

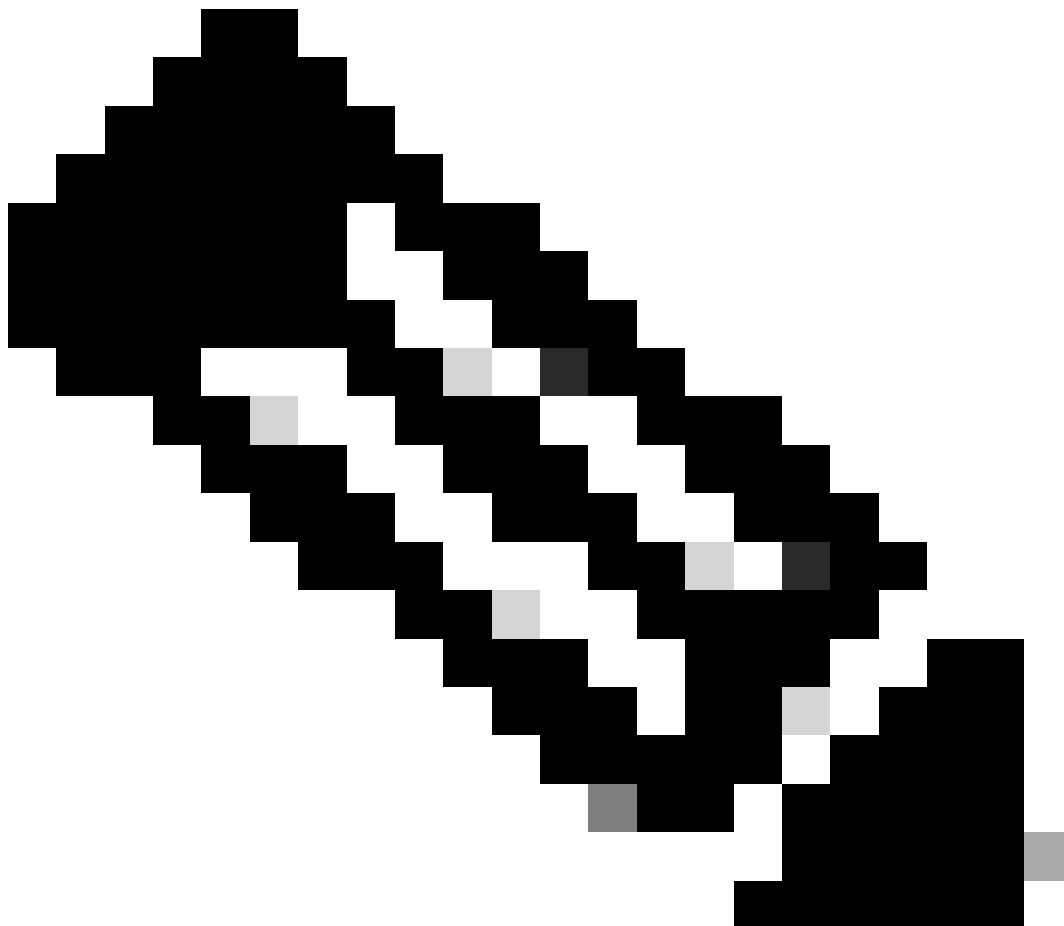
#### Method 4: Offline

Step 1. Disable smart transport mode.

```
Nexus(config)# license smart transport off
```

Step 2. Enable any feature that requires your desired license. For this example, a feature is enabled that requires an NX-OS LAN Enterprise Services license.

---



**Note:** NX-OS always asks for the leaf nodes in the license hierarchy.

NX-OS always asks for Feature-Based Licenses, instead of Tier-Based Licenses.

---

RUM reports cannot be saved if no licensing features are active. The RUM reports capture the licensing transactions in the device for upload. On a greenfield device, there is nothing to report, so it is empty and not generated.

```
Nexus(config)# feature bgp
```

Step 3. Confirm you have the expected license (feature-based) in use.

```
Nexus# show license summary
License Usage:
License                               Entitlement tag                Count  Status
-----
LAN license for Nexus 9... (LAN_ENTERPRISE_SERVICES_PKG)  1      IN USE
Nexus# show license usage LAN_ENTERPRISE_SERVICES_PKG
Feature List:
bgp
```

Step 4. Generate and save RUM report.

```
Nexus# license smart save usage all bootflash:all_rum.txt
Success: Saved in bootflash:/all_rum.txt.
```

Step 5. Copy the file from Step 4 to a device with an Internet connection.

Step 6. Upload RUM report (usage data) to CSSM.

Log in to **Cisco Software Central > Smart Software Licensing > Reports > Usage Data Files**.

Step 6a. Click **Upload Usage Data**.

The screenshot shows the Cisco Software Central interface for Smart Software Licensing. The breadcrumb navigation is "Cisco Software Central > Smart Software Licensing". The page title is "Smart Software Licensing" with links for "SL Product Details", "Support", and "Help". The main navigation bar includes "Alerts", "Inventory", "Convert to Smart Licensing", "Reports", "Preferences", "On-Prem Accounts", and "Activity". The "Reports" section is active, and the "Usage Data Files" tab is selected. Below the tabs, there is a message: "Devices can be configured to report the features that they are using. This usage then determines which licenses are needed, in order to be compliant." A red dashed box highlights the "Upload Usage Data..." button. To the right of this button is a search bar with the placeholder text "Search by File Name, Virtual Account". Below the search bar is a table with columns: "Usage Data File", "Reported", "Virtual Account", "Reporting Status", "Devices", and "Acknowledgement".

Step 6b. Click **Browse**.

## Upload Usage Data

Please select the Usage File you wish to upload.

\* Usage Data File:

No File Chosen

Upload Data

Cancel

Step 6c. Select **all\_run.txt** on the pop-up window, then click **Upload Data**.

## Upload Usage Data

Please select the Usage File you wish to upload.

\* Usage Data File:

all\_run.txt

Upload Data

Cancel

Step 6d. Select the Virtual Account that receives the uploaded file from the drop-down menu, then click **Ok**.

## Select Virtual Accounts



Some of the usage data files do not include the name of the virtual account that the data refers to, or the virtual account is unrecognized.

Please select an account:

- Select one account for all files:
- Select a virtual account per file:

Select VA

Ok Cancel

## Select Virtual Accounts



Some of the usage data files do not include the name of the virtual account that the data refers to, or the virtual account is unrecognized.

Please select an account:

- Select one account for all files:
- Select a virtual account per file:

Select VA

CML - bpaez

Ok Cancel



# Select Virtual Accounts



Some of the usage data files do not include the name of the virtual account that the data refers to, or the virtual account is unrecognized.

Please select an account:

- Select one account for all files:
- Select a virtual account per file:

CML - bpaez

Ok Cancel

Step 7. Wait for **Reporting Status** to change to **No errors**, then click **Download** to get the ACK file.

## Smart Software Licensing

### Reports

Report Usage Data Files Reporting Policy Synch File for Device Controllers

Devices can be configured to report the features that they are using. This usage then determines which licenses are needed, in order to be compliant.

Upload Usage Data... Search by File Name, Virtual Account

Usage Data File	Reported	Virtual Account	Reporting Status	Devices	Acknowledgement
all_rum.txt	2023-Jul-22	CML - bpaez	Data Being Processed	0	Pending

## Smart Software Licensing

### Reports

Report Usage Data Files Reporting Policy Synch File for Device Controllers

Devices can be configured to report the features that they are using. This usage then determines which licenses are needed, in order to be compliant.

Upload Usage Data... Search by File Name, Virtual Account

Usage Data File	Reported	Virtual Account	Reporting Status	Devices	Acknowledgement
all_rum.txt	2023-Jul-22	CML - bpaez	No Errors	1	Download

Step 8. Ensure Nexus is present on CSSM.

## Smart Software Licensing

SL Product Details Support Help

Alerts | **Inventory** | Convert to Smart Licensing | Reports | Preferences | On-Prem Accounts | Activity

Virtual Account: CML - bpaez

1 Major | Hide Alerts

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:N9K-C9336C-FX2; UDI_SN:FDO24400PT4;	N9300	2023-Jul-22 01:51:01		Actions

Showing 1 Record

Step 9. Verify the expected license was consumed on the [Cisco Site](#).

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > Licenses**.

On-Prem License Workspace

Admin Workspace Hello, Bidkar Herson Paez Lampon Log Out

Smart Software Manager On-Prem > Smart Licensing

Smart Licensing

Alerts | **Inventory** | Convert to Smart Licensing | Reports | Preferences | Activity

Local Virtual Account: Default

General | **Licenses** | Product Instances | SL Using Policy | Event Log

License	Billing	Available to Use	In Use	Substitution	Balance	Alerts	Actions
<input type="checkbox"/> NXOS LAN for Nexus 9300 10G+ Leaf XF	Prepaid	1	1	-	0	Insufficient Licenses	Actions

Log in to **Cisco Software Central > Smart Software Licensing > Inventory > Licenses**. Click the expected license from the list to see the details.

## NXOS LAN for Nexus 9300 10G+ Leaf XF In Default

LAN license for Nexus 9300-XF

Overview | **Product Instances** | Event Log | Transaction History

Product Instance	Product Type	Licenses Used
UDI_PID:N9K-C9336C-FX2;UDI_SN:FDO2434107N;UDI_VID;;	N9300	1

Showing All 4 Records

Transfer License...

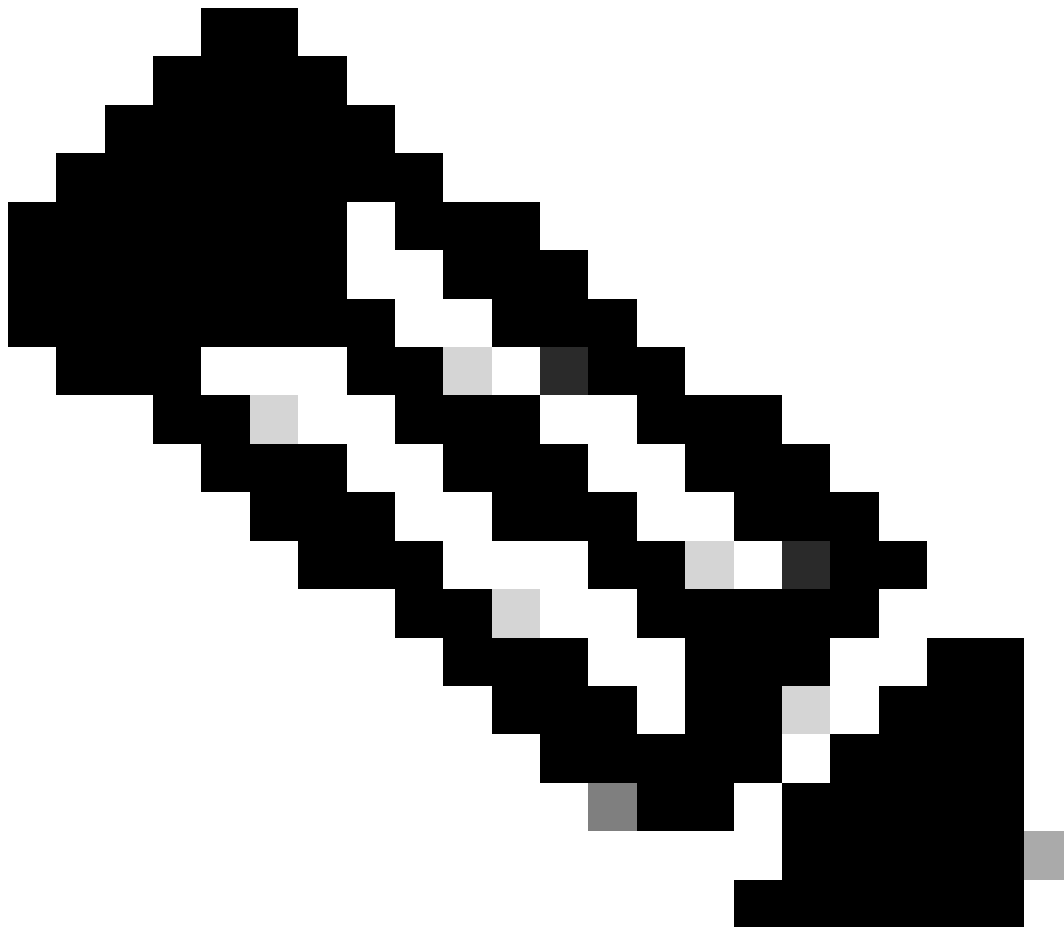
Step 10. Upload the ACK file from step 7 to the Nexus switch.

Step 11. Install ACK file in Nexus switch.

```
Nexus# license smart import bootflash:ACK_all_rum.txt
Done smart import.
```

Step 12. Verify ACK was installed successfully.

---



**Note:** It is expected to see Trust Code Installed as <none> in show license status output using this method.

---

```
Nexus# show license status
Utility:
  Status: DISABLED

Smart Licensing using Policy:
  Status: ENABLED
```

#### Data Privacy:

Sending Hostname: yes  
Callhome Hostname Privacy: DISABLED  
Smart Licensing Hostname Privacy: DISABLED  
Version Privacy: DISABLED

#### Transport:

Type: Off

#### Policy:

Policy in use: Merged from multiple sources  
Reporting ACK required: Yes  
Unenforced/Non-Export:  
    First report requirement (days): 90 (CISCO default)  
    Ongoing reporting frequency (days): 365 (CISCO default)  
    On change reporting (days): 90 (CISCO default)  
Enforced (Perpetual/Subscription):  
    First report requirement (days): 0 (CISCO default)  
    Ongoing reporting frequency (days): 0 (CISCO default)  
    On change reporting (days): 0 (CISCO default)  
Export (Perpetual/Subscription):  
    First report requirement (days): 0 (CISCO default)  
    Ongoing reporting frequency (days): 0 (CISCO default)  
    On change reporting (days): 0 (CISCO default)

#### Miscellaneous:

Custom Id: <empty>

#### Usage reporting:

Last ACK received: Jul 21 20:29:40 2023 UTC  
Next ACK deadline: Oct 19 20:29:40 2023 UTC  
Reporting push interval: 30 days  
Next ACK push check: <none>  
Next report push: Jul 21 20:02:40 2023 UTC  
Last report push: <none>  
Last report file write: <none>

Trust Code installed: <none>

## Related Information

- [Cisco NX-OS Licensing Options Guide](#)
- [Cisco Nexus 9000 and 3000 Series NX-OS Smart Licensing Using Policy User Guide](#)