Troubleshoot Catalyst Center Licensing Use Cases and Workflows

Contents

Introduction

This document describes different Cisco Catalyst Center licensing scenarios that are frequently encountered.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

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.

Background Information

This document provides the step-by-step details of how to use the License Manager workflow of Cisco

Catalyst Center (formerly known as DNA Center) for device license registration, license migration between Virtual Accounts via CSSM, and so on.

Scenarios

Scenario 1: Device License Registration via Cisco Catalyst Center License Manager: Legacy Method

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin privileges.
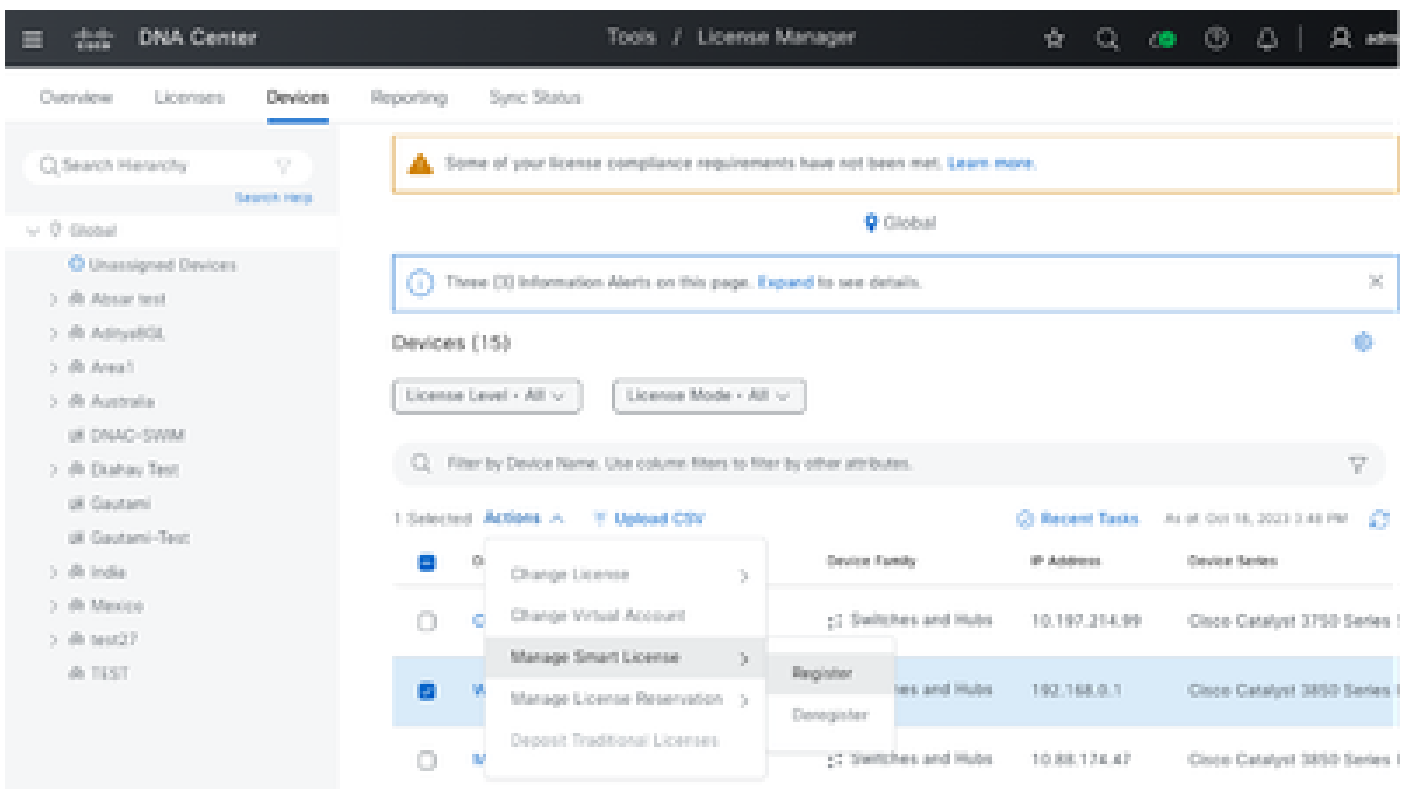
Step 2. Navigate to **Hamburger** and select **Tools > License Manager**.
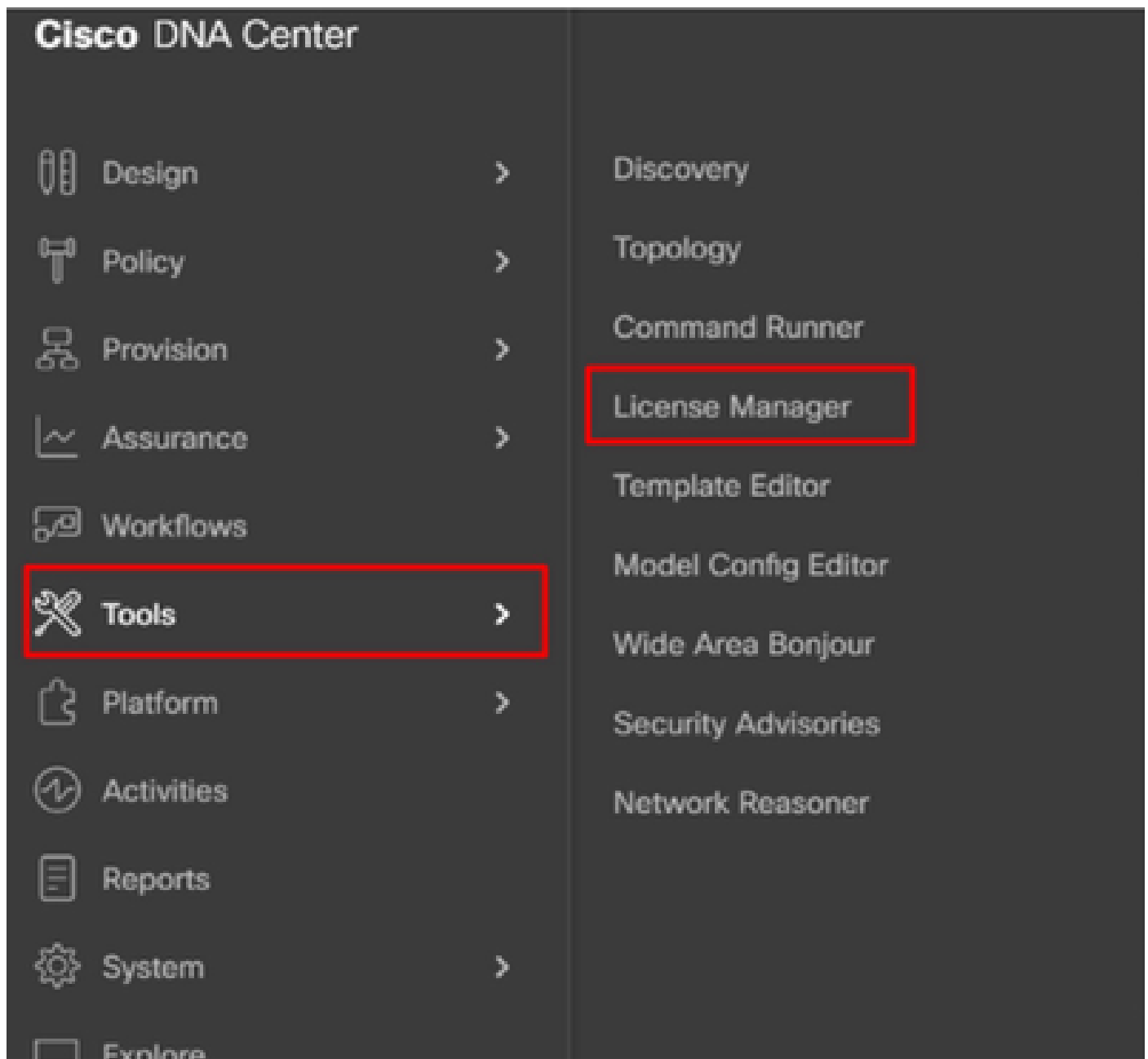
Step 3. Select **Devices** tab and use the **Filter** option or scroll through the table to find the devices whose licenses you want to register.
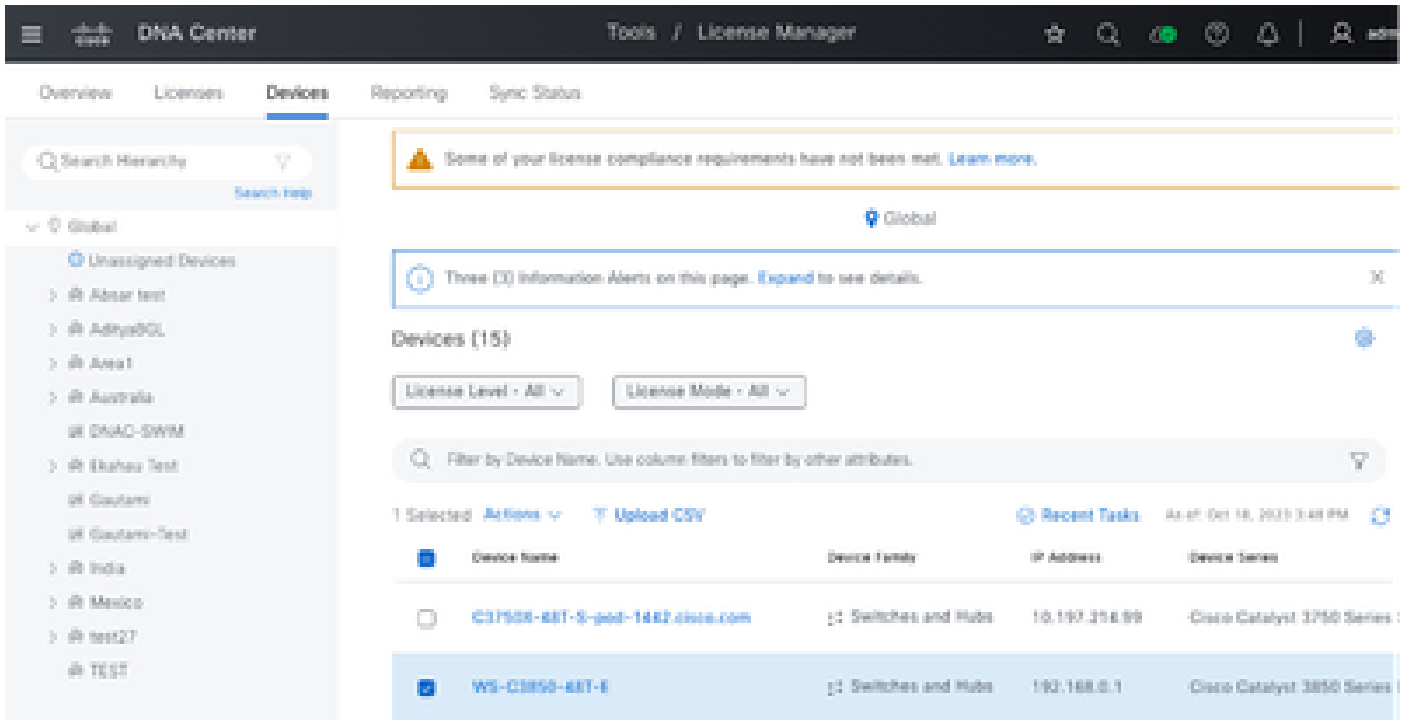
Step 4. Select the check box next to each device whose license you want to register, then choose **Actions > Manage Smart License > Register**.

Step 5. Choose the **Virtual Account** where the respective license is deposited and click **Continue**.

Register Smart License

SMART ACCOUNT

Name   Cisco Systems, TAC   Domain   tac.cisco.com

Q Search Table

	Name ▲	Cisco DNA License Count	Description
○	Bangalore DNAC TAC	0	DNAC TAC-POD's Device Licenses are deposited here.
○	NMS	0	

Showing 2 of 2

Cancel   Continue

Step 6. Cisco Catalyst Center prompts whether the change is to be applied immediately or later. Choose the desired option and click **Confirm**.

Register Smart License

Registering 1 device(s) to **Bangalore DNAC TAC**

◉ Now   ○ Later

Task Name*

License mode update

Cancel   Confirm

Scenario 2: Device License Registration via Cisco Catalyst Center License Manager:

CSLU Reporting Workflow

- On DNA Center release 2.2.1.0 and devices running 17.3.2 or higher:
  - Devices are no longer required to get registered with CSSM
  - License usage information will be stored in a secured location on the device
    - RUM or Usage Reports
  - Now, Cisco DNA Center is going to pull the reports and upload it to CSSM
  - Uploads can be done periodically or on demand basis
  - CSSM go through reports and make the respective updates on Virtual Account
  - After that, CSSM is going to sent and Acknowledge to DNAC if report is good
  - Finally, Cisco DNA Center is going to update the license status on GUI and on the Device itself
  - Cisco DNA Center can generate PDF reports for users

Prerequisites

Cisco Catalyst Center

- Cisco Catalyst Center must be running on the release 2.2.1.0 and later.
- Cisco Catalyst Center must be able to communicate with CSSM portal and be able to reach **tools.cisco.com**.
- Correct SSM Connection mode must be chosen on Catalyst Center. CSLU workflow is not applicable for On-Prem CSSM (Satellite Server) as of Catalyst Center release 2.3.5.5.
- CSLU workflow is not applicable for AireOS Wireless Controllers (Models: 3504, 5520, 8540).

Network Device

- Device must be running on Cisco IOS® XE 17.3.2 or later and must have enough space in flash for the Rum report.
- Device must have **netconf-yang** model configured and Cisco Catalyst Center must be able to communicate with the device over Netconf port 830.

To validate:

show run | sec netconf-yang

i. During Device discovery on Cisco Catalyst Center, the **Netconf** parameter under credentials section must be enabled.

Provide Credentials

Next, enter the following credentials that Cisco DNA Center will configure for the devices it discovers. At least one CLI credential and one SNMP credential are required. You can have a maximum of five global credentials and one job specific credential for each type.

CLI   SNMPv2c Read   SNMPv2c Write   SNMPv3   HTTP(S) Read   HTTP(S) Write   **NETCONF**

If your network contains IOS XE-based wireless controllers, please enter the port that should be used for discovery and the enabling of wireless services on these controllers. Select from existing ports or add new ones. You can add either a job specific port or a global port.

We recommend using port number 830. **Do not use standard ports like 22, 80, 8080.**

EXISTING GLOBAL NETCONF PORT

☑ 830

ii. If the **Netconf** parameter was not enabled at the time of **Device Discovery**, use the **Edit Device** option on the Cisco Catalyst Center Inventory to enable it.

Edit Device ✕

Credentials   Management IP   Resync Interval   Device Role

> SNMP*

> SNMP Retries and Timeout*

> HTTP(S)

∨ NETCONF

Port
830

Hint

🔵 NETCONF with user privilege 15 is mandatory for enabling Wireless Services on Wireless capable devices such as Catalyst 9000 series Switches and C9800 Series Wireless Controllers. The NETCONF credentials are required to connect to C9800 Series Wireless Controllers as the majority of data collection is done using NETCONF for these Devices.

- Device must have the **sdn-network-infra-iwan** trustpoint installed; this is done by the Cisco Catalyst Center.

To validate:

show crypto pki trustpoint sdn-network-infra-iwan (To check the trustpoint)

show crypto pki certificates verbose sdn-network-infra-iwan (To check the trustpoint in detail)

- If the **sdn-network-infra-iwan** trustpoint is not installed, do these steps:

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin

privileges.

Step 2. Navigate to **Hamburger** and select **Provision > Inventory**.

Step 3. Select the device you want to install the trustpoint on, click **Actions > Telemetry > Update Telemetry Settings**.
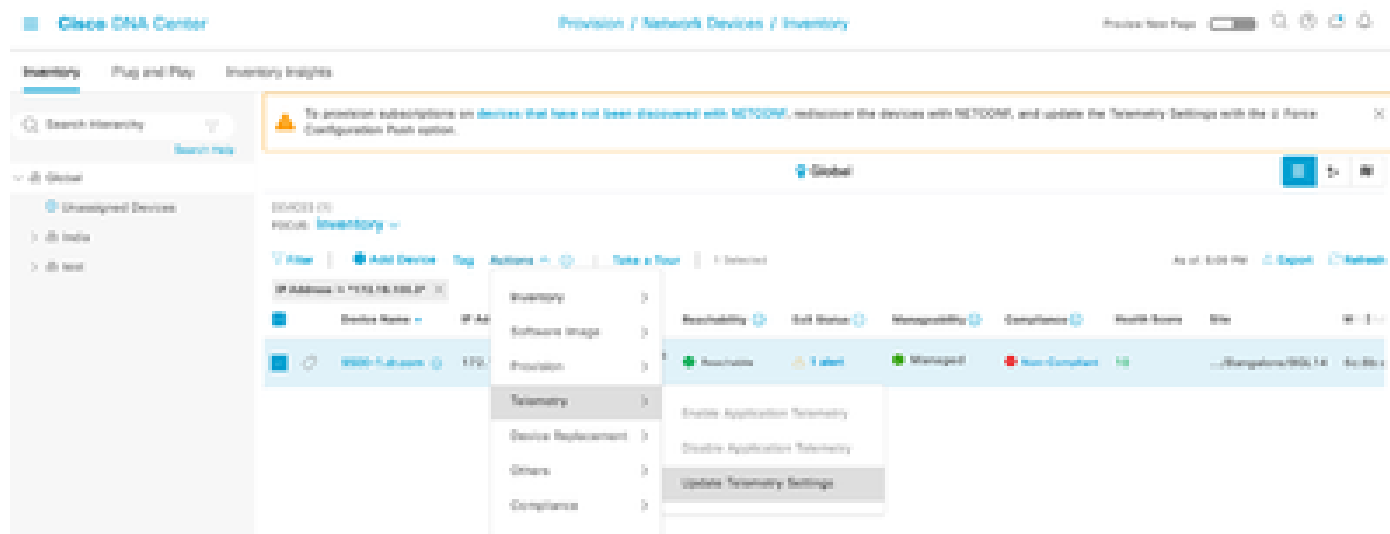
Step 4. Select **Force Configuration Push** and click **Next**

Update Telemetry Settings ✕

☑ Force Configuration Push ⓘ

GLOBAL/INDIA/BANGALORE/BGL14	
9500-1.dr.com	

9500-1.dr.com
The following settings will be deployed during assignment to site.

Syslog Server	Cisco DNA Center
Netflow Collector	Cisco DNA Center
Cisco TrustSec (CTS) Credentials	Yes
Wireless Streaming Telemetry	Yes
SNMP Trap Receiver	Cisco DNA Center
DTLS Ciphersuite	Skipped
AP Impersonation	Enabled
Cisco TrustSec (CTS) Credentials	Yes
Syslog Level	6 - Information Messages
Controller Certificates	Yes

Cancel   Next

Step 5. Select **Now** and click on **Apply**. This has no effect on production.

Update Telemetry Settings

◉ Now   ○ Later

○ Generate configuration preview
Creates preview which can be later used to deploy on selected devices. View status in Work Items

Task Name*
Update Telemetry Settings Task

Cancel   Back   Apply

If all prerequisites are met then do these next steps to execute the **Reporting Workflow**:

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin privileges.
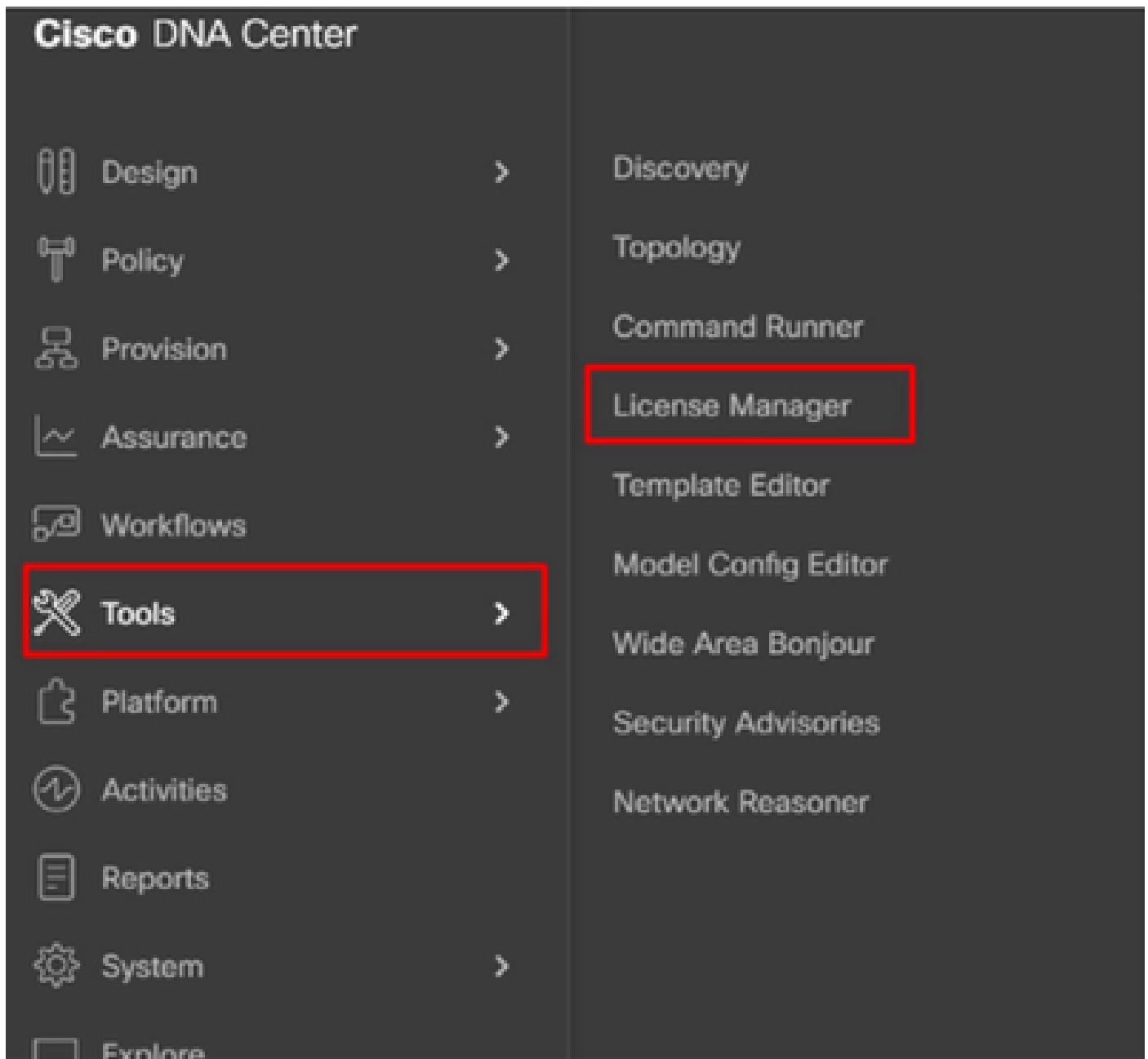
Step 2. Navigate to **Hamburger** and select **Tools > License Manager**.

Step 3. Select the **Reporting** tab and locate the **Smart License Compliance** dashlet; click on the dashlet to launch the workflow.

Step 4. Select the **Smart Account** and **Virtual Account** where the device licenses are stored and click **Next**.

Step 5. Choose the device whose license utilization you want to report.

Step 6. Modify the **Reporting** interval, if required.

Step 7. Review the summary of devices and click **Next** to trigger **Reporting**.

Summary

These are the following operations performed in this flow.

Syncing Data

Sending device license usage data to CSSM. The time taken to sync this data depends on the size of usage data and number of requests queued for processing on CSSM.

Overall Sync Progress

64%

∨ ● Fetching Usage Report

Device ▾	Status
9500-1.dr.com[172.19.100.3]	● Usage consumption report collected from device successfully

---

Summary

These are the following operations performed in this flow.

Syncing Data

Sending device license usage data to CSSM. The time taken to sync this data depends on the size of usage data and number of requests queued for processing on CSSM.

Overall Sync Progress

68%

〉 ● Fetching Usage Report

∨ ● Uploading Usage Report

Device ▾	Status
9500-1.dr.com[172.19.100.3]	● Usage consumption report uploaded to Cisco SSM cloud, waiting for acknowledgement

Summary

These are the following operations performed in this flow.

Syncing Data

Sending device license usage data to CSSM. The time taken to sync this data depends on the size of usage data and number of requests queued for processing on CSSM.

Overall Sync Progress:
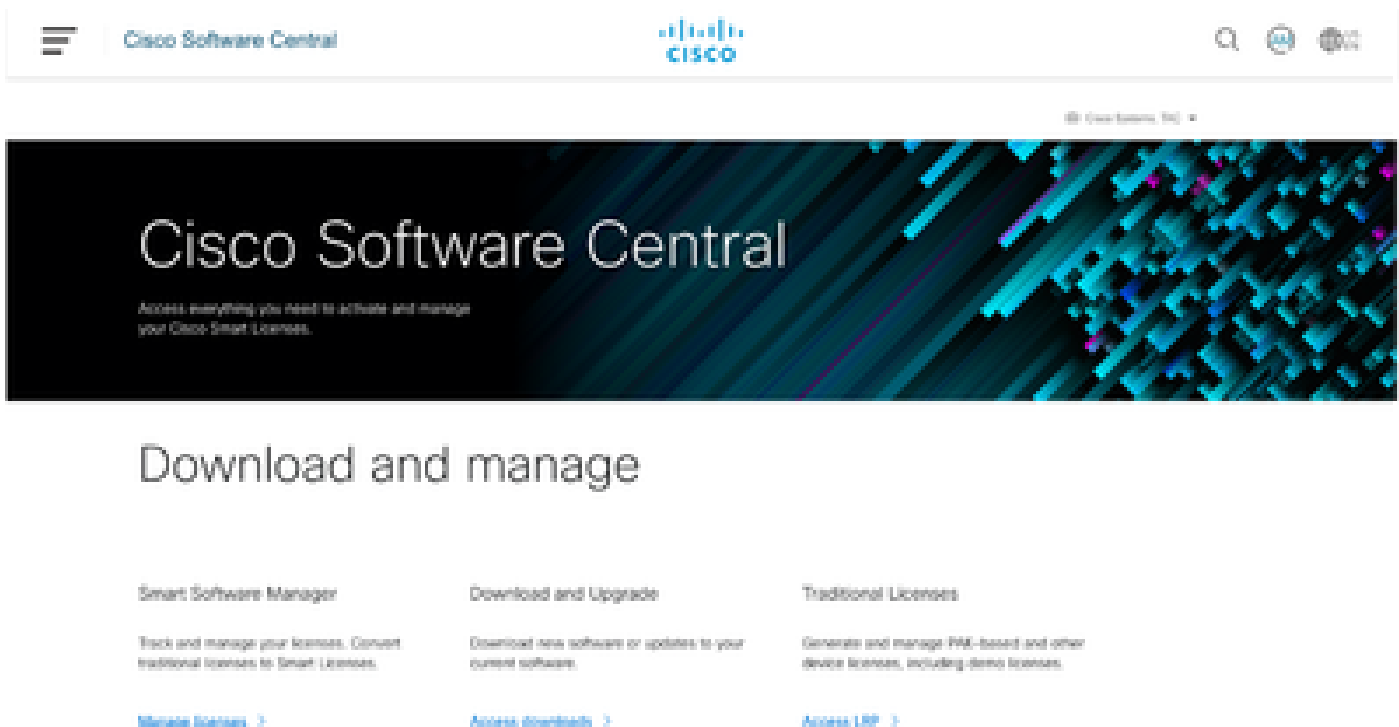
> ✅ Fetching Usage Report

> ✅ Uploading Usage Report

> ✅ Provisioning Acknowledgement

Scenario 3: License Migration between Virtual Accounts

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin privileges.

Step 2. Log into **software.cisco.com** and select **Manage Licenses**.

≡   Cisco Software Central

CISCO

Cisco Software Central

Access everything you need to activate and manage your Cisco Smart Licenses.

Download and manage

Smart Software Manager

Track and manage your licenses. Convert traditional licenses to Smart Licenses.

Manage licenses >

Download and Upgrade

Download new software or updates to your current software.

Access downloads >

Traditional Licenses

Generate and manage PAK-based and other device licenses, including demo licenses.

Access LRP >

Step 3. Navigate to **Inventory** and select the source **Virtual Account**.

Smart Software Licensing

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

Virtual Account: TAC Cisco Systems, Inc.... ▼

On-Prem Virt

	By Name	By Tag
6 node cluster	335 98 2	
AMM-ARCH-ONPREM	2 3	
Bangalore DNAC TAC	11 2	
deleted3		
RTP-CX2	2 1	
sdwan-lab	3	
sindhrao	1	
TAC Cisco Systems, Inc....	1 3	

TAC Cisco Systems, Inc....

General | Lic

Virtual Account

Description:

Virtual Account Ty

Product Instan

ℹ Because this ...tellite", all product instance registration tokens must be g

Step 4. Select the **License** tab and choose the **Target Virtual Account**.

Step 5. Select the license you want to transfer and click **Actions & Select Transfer**.

Step 6. Choose the quantity of licenses you want to transfer and click **Transfer**.

Scenario 4: License Migration between Smart Accounts

Migration of Licenses between different Smart Accounts can be done by the Cisco Licensing team. Please refer to these next steps to raise the case with the respective team.

Step 1. Log into https://mycase.cloudapps.cisco.com/case?swl with Cisco credentials.

Step 2. Click on **Open New Case** and select **Software Licensing > Expand License Management > Select Move Licenses**. Then select **Reassign licenses between SA** and click **Open Case**.

Step 3. Select the relevant product (for example, wireless, switching, and so), fill in the form, and submit the request.

Scenario 5: Change of SSM Connection Mode

Step 1. Log into Cisco Catalyst Center via **admin** credentials or custom role with super-admin privileges.

Step 2. Navigate to **Hamburger** and select **System > Settings**.

Cisco DNA Center

Design	>
Policy	>
Provision	>
Assurance	>
Workflows	
Tools	>
Platform	>
Activities	
Reports	
System	>
Explore	

System 360

Settings

Data Platform

System Health

Users & Roles

Backup & Restore

Software Management

Disaster Recovery

Step 3. Select **SSM Connection Mode** and choose the desired option (**Direct/Smart Proxy/On-Prem**). Click **Save**.

Scenario 6: Integration of Smart Account with Cisco Catalyst Center

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin privileges.

Step 2. Navigate to **Hamburger** and select **System > Settings**.

Step 3. Under **Smart Account**, click **Add**.

Cisco DNA Center   System / Settings

Smart Account

Step 4. Enter the **Smart Account** username and password and click **Save**.

Add Smart Account Credentials ✕

Username

**akimishr** ⊗

Info

Password

•••••••• SHOW

Cancel   Save

Step 5. If you have multiple **Smart Accounts**, repeat steps 3 and 4.

: If you have multiple Smart Accounts, choose one account to be the default. The License Manager uses the default account for visualization and licensing operations.
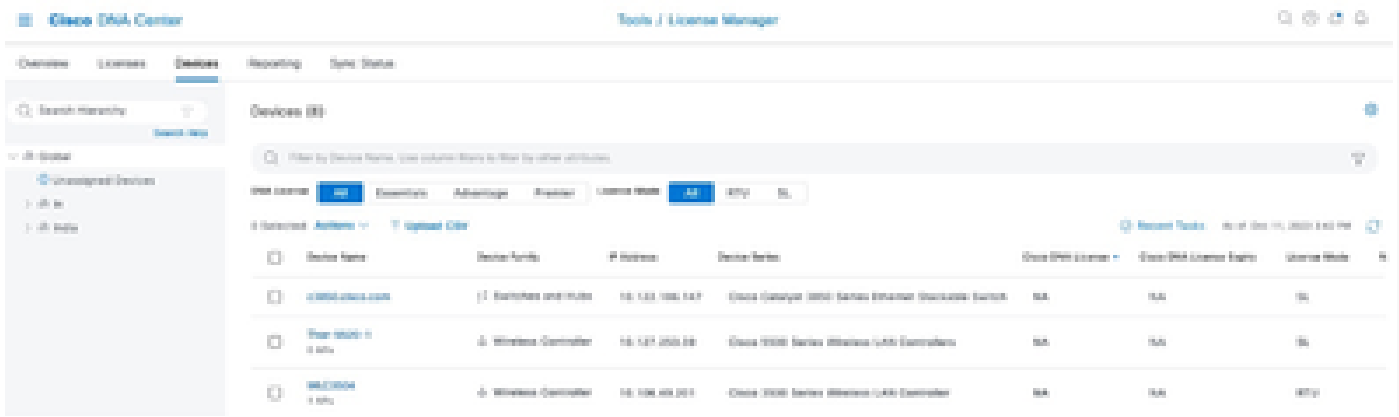
Scenario 7: Change of License Level

Step 1. Log into Cisco Catalyst Center via admin credentials or via a custom role with super-admin privileges.
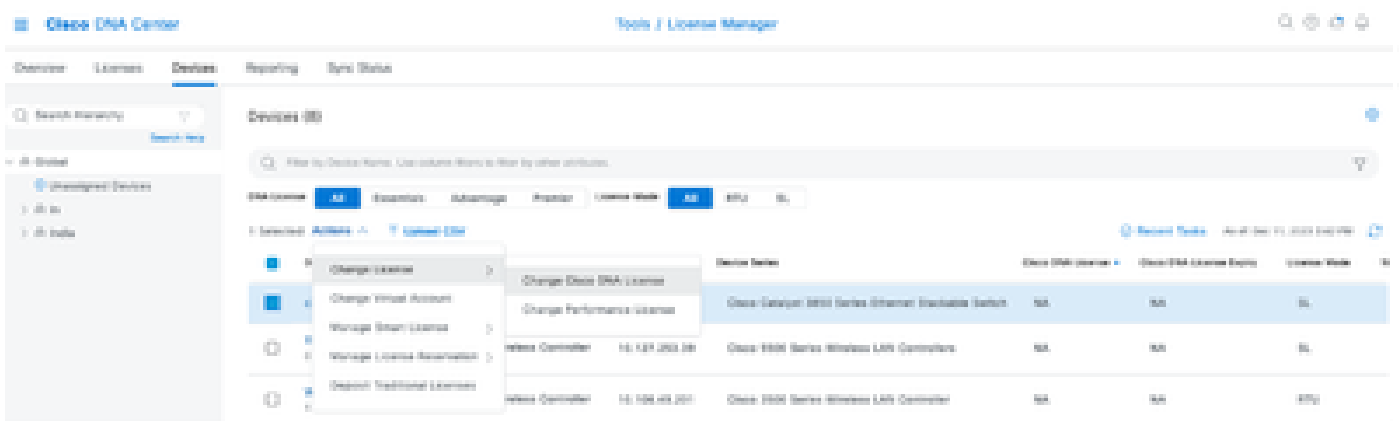
Step 2. Navigate to **Hamburger** and select **Tools > License Manager**.
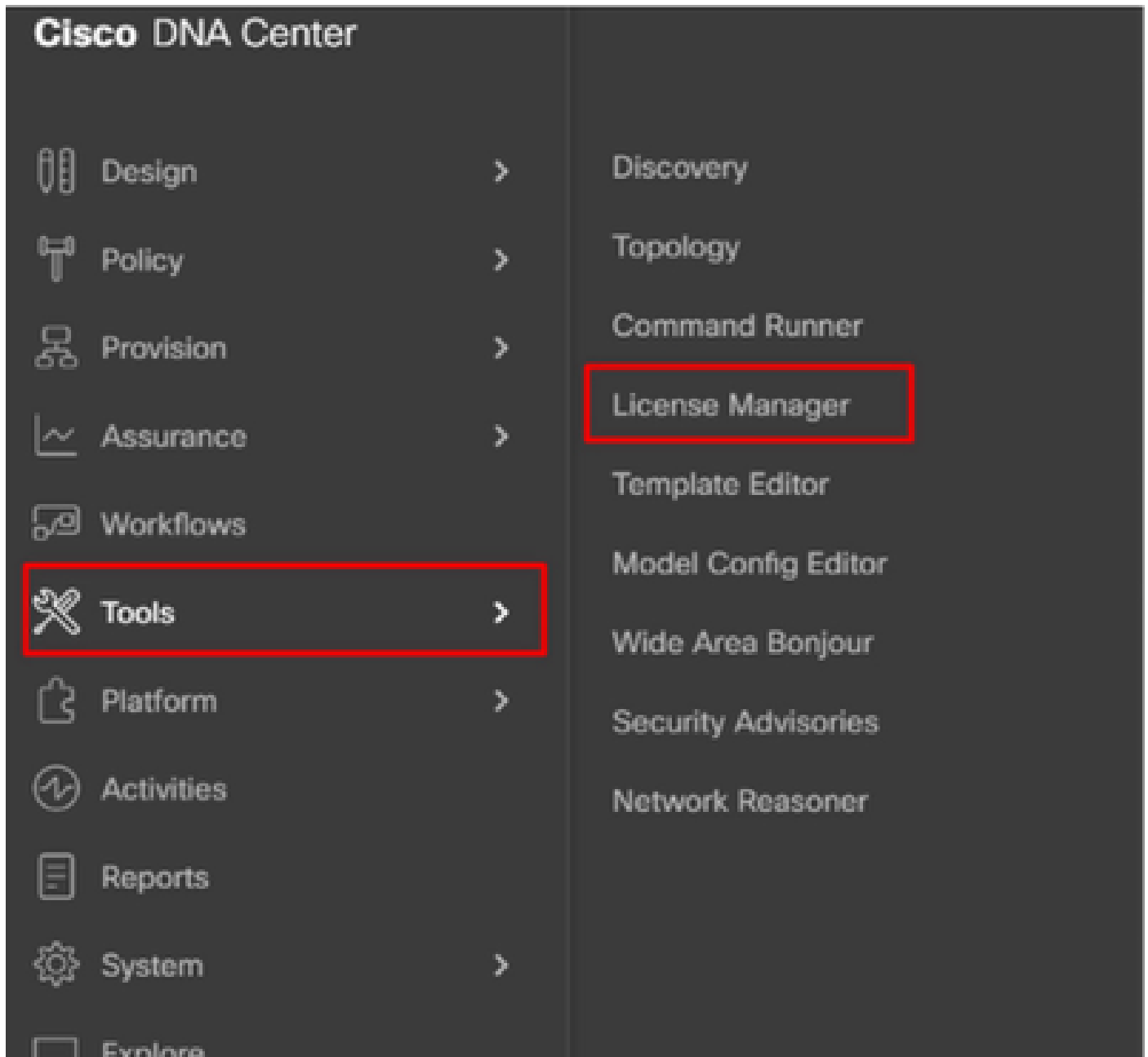
Step 3. Select **Devices** tab and use **Find** or scroll through the table to find the devices whose license level you want to change.

Step 4. Check the check box next to each device whose license level you want to change, then choose **Actions > Change Cisco DNA License**.

Step 5. Click the license level for either the **Essentials** or **Advantage** devices. Then click **Continue**.
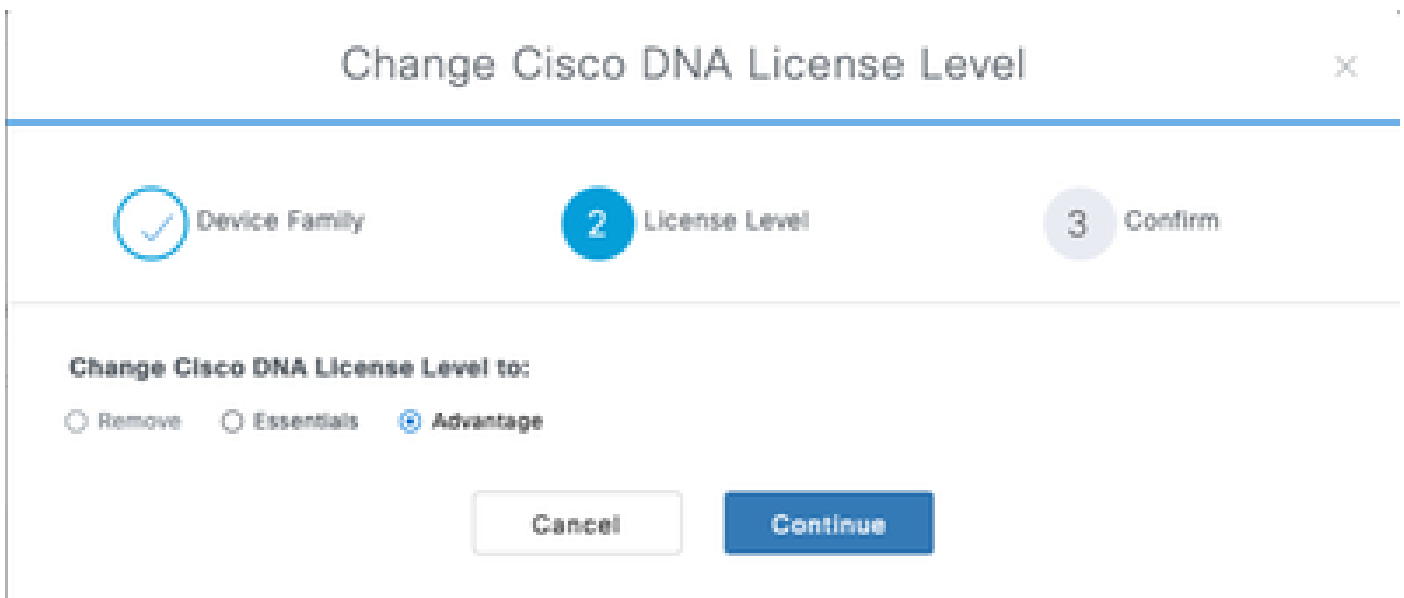
Step 6. Cisco Catalyst Center prompts whether the change is to be applied immediately or later. Choose the desired option and click **Confirm**.

Change Cisco DNA License Level   ✕

○✓ Device Family   ○✓ License Level   **3** Confirm

Cisco DNA License for 1 device(s) will be activated to Advantage.

Note: Network license may be upgraded to Advantage for applicable devices.
License change will take effect only after the device rebooted. Some devices like CAT3560-CX, AireOS controllers will not reboot even after selecting this checkbox.

☑ Reboot device on update

● Now   ○ Later

Task Name*

License update

Back   Confirm

Note: You must also choose the option **Reboot device on update** for changes to take effect. Also, this activity needs to be performed in downtime.

Related Information

- [Cisco Technical Support & Downloads](#)