

Cisco Nexus Dashboard Smart Licensing, Release 3.2.x

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Smart Licensing Overview

Cisco Nexus Dashboard Smart Licensing is a software management platform that manages all Nexus Dashboard and services product licenses.

Beginning with release 3.1.1, you can establish connectivity to the Cisco Smart Software Manager (CSSM) from your Nexus Dashboard cluster and track the inventory and license consumption by the Nexus Dashboard Insights service.

Nexus Dashboard supports following types licenses for connecting to the CSSM server:

- **Direct Connect to CSSM**: This is the most commonly used network setting. The Nexus Dashboard must have an Internet connectivity so that the Nexus Dashboard can send RUM reports to the CSSM directly. The DNS must be configured and the CSSM hostname (https://smartreceiver.cisco.com/licservice/license) must be pingable.
- **Proxy**: With this setting, the Nexus Dashboard does not have Internet connectivity. The Nexus Dashboard sends RUM reports to the CSSM using your web server. Make sure the web server is properly configured to allow the smart licensing messages to pass through the firewall and to reach the destination (https://smartreceiver.cisco.com/licservice/license).

  Note that there is no separate proxy configuration specific to licensing, the cluster-wide proxy configuration is used.

- **Cisco Smart Software Manager On-Prem**: In On-Prem mode, ND can report to a **Smart Software Manager(SSM) On-Prem** using the SSM On-Prem's CSLU URL. The SSM acts as an intermediate server that resides within the local network, with an uplink to Cisco's SSM for periodic sync. For details on the SSM On-Prem, please refer to SSM On-Prem Cisco docs.
- **Offline**: Nexus Dashboard also supports **Offline** reporting mode for deployments that also don't have access to an SSM On-Prem. In **Offline** mode, the users download the usage files from ND, upload the usage files to **Cisco SSM** which generates an ACK file, and upload that ACK file back into ND to sync usage status.

Smart Licensing Guidelines and Limitations

The following guidelines apply when enabling CSSM connectivity for your Nexus Dashboard:

- While this release allows you to see the licenses that are currently in use, it does not enforce the licensing policy and is used for informational purposes only.
- When configuring a proxy for CSSM connectivity, the proxy server must be configured for HTTPS traffic, while the proxy server itself must be HTTP.
- Beginning with Nexus Dashboard Release 3.2.x, On-Prem and Offline type licenses can be configured under **Smart Licensing**.
- In this release, only the Nexus Dashboard Insights service can use the smart licensing feature configured at the platform level.

  Only the number of devices which consume licenses is shown in this release.
- In this release, only two license types are supported: N9K Day2 operations suite fixed and N9K Day2 operations suite modular.
- License consumption shown in the Nexus Dashboard UI screens is updated every 15 seconds for NDFC and NX-OS fabrics and every 15 minutes for ACI fabrics.

  In addition, license information is updated any time a fabric or a switch is added or removed.
- When connecting Smart Licensing to a Smart Account that includes an accented character or a diacritic, you may receive an establishing trust timed-out error message.
- Connectivity for smart licensing to CSSM, proxy, or on-prem occurs over management network.
- When a fabric switch reboots, the DCNM-LAN license is not retained and the license status appears as Unlicensed. Since fabric rediscovery does not automatically restore the license, you need to manually reassign the license via Smart Licensing through the NDFC GUI. This will enable features such as NDFC Performance Monitoring that require this license.



If the NX-OS release is older than version 10.5(3), then you might notice that the DCNM-LAN license is still present on the device after upgrade and multiple reload. Upgrade to version 10.5(3) to resolve this issue.

Licensing Details

The following table lists the features entitled in each licensing tier.

Licensing Details

		ESSENTIALS Basic Device and Network Monitoring features	**ADVANTAGE** Device Network Monitoring and Troubleshooting Tools	**PREMIER** Advantage Network Analytics and Day 2 Operations
Inventory Get information about the number of switches and other elements in your fabric.	Global, fabric, switch, ports, endpoints, VMs	✓	✓	✓
	L3 neighbors, IPv4/v6 routing tables*, capacity	⊘	✓	✓
Topology Get information about the number of switches and other elements in your fabric.	One fabric at a time	✓	✓	✓
	Across fabrics	⊘	✓	✓
Anomalies Detect problems in your network faster.	Basic (switch and interface down only)	✓	✓	✓
	All	⊘	✓	✓
Advisories EoS/EoL Notifications for Hardware and Software, PSIRTs and other recommendations.	Severity 1 PSIRTs and EoS	✓	✓	✓
	Best Practices, Field Notices, Sustainability	⊘	✓	✓
Conformance View interfaces, L3 neighbors, connected endpoints and more!	Hardware/Software lifecycle & EoS	✓	✓	✓
	Verified scale	⊘	⊘	✓

Analytics and Troubleshooting Get actionable data-driven insights to optimize network performance and security.	Sustainability Bug Scan, CAM Analyzer	⊘	✓	✓
	Flow and Traffic Connectivity and Explorer Delta (pre/post) Compliance	⊘	⊘	✓
Software Upgrade Support	Basic upgrade checks & TAC Assist	✓	✓	✓
	Full upgrade analytic	⊘	⊘	✓
AI/ML & QoS	PFC/ECN (NX-OS/NDFC Only)	⊘	✓	✓
	Microbursts	⊘	✓	✓
Integrations	VMware	✓	✓	✓
	DNS, Panduit	⊘	✓	✓
	All (Splunk, ServiceNow, AppDynamics, etc)	⊘	⊘	✓
Others	Journey, ND multi-cluster support	✓	✓	✓
	Multicast PIM, IGMP (NX-OS/NDFC only), log collector, snapshots (ACI only) and snapshot assistant	⊘	✓	✓
	Customized alerts and compliance rules, customizable dashboards, pre-change analysis (ACI only)	⊘	⊘	✓

Enabling Smart Licensing

Proxy Configuration

Before you begin:

- Ensure that your Nexus Dashboard cluster can connect to the Smart Licensing service.

  Verify if your cluster can already access the licensing service at https://smartreceiver.cisco.com/licservice/license, else you may need to configure a proxy server for your cluster:

To Enable Smart Licensing, first you need to enable proxy settings:

1. Navigate to your Nexus Dashboard cluster's **Admin Console**.
2. From the left-hand navigation pane, choose **Admin > System Settings**.
3. In the **System Settings** page, click the **Edit** button in the **Proxy Settings** tile.
4. In the **Proxy Configuration** screen, click **Add Server**.
5. Provide proxy server information:
   a. From the **Type** drop down, select HTTPS as appropriate.

      Smart licensing supports HTTPS proxy servers only.

   b. In the **Server** field, provide the IP address of the proxy server.
   c. If your proxy server requires authentication, provide the **Username** and **Password**.

      Then click the checkmark icon to save the proxy server.

Generate a Smart Licensing token

To generate a Smart Licensing token:

1. Navigate to https://software.cisco.com/software/smart-licensing/inventory.
2. Select your virtual account.
3. Under **Product Instance Registration Token**, click **New Token**.
4. Define the expiration for your new token and click **Create Token**.

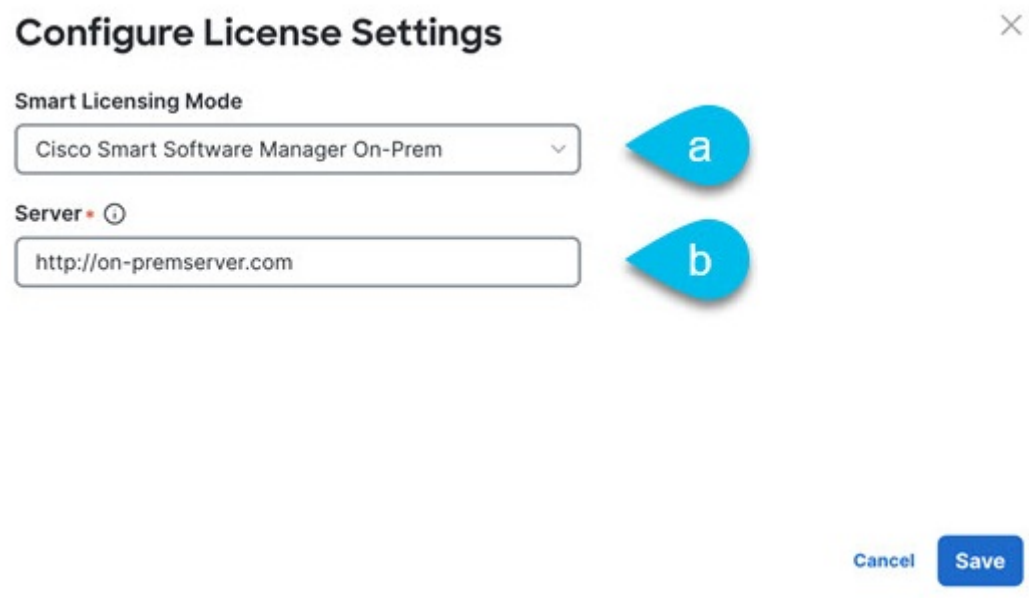
Configuring Smart Licenses

Before you begin:

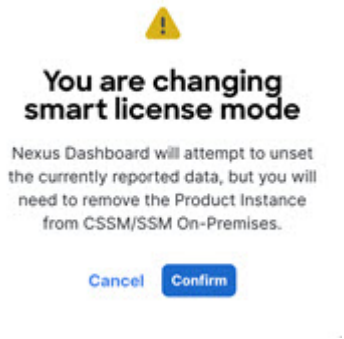
- Configure your Nexus Dashboard cluster to enable smart licensing.

To Configure your Smart Licenses:

1. Log in to your Nexus Dashboard cluster's **Admin Console**
2. Navigate to **Admin > Licensing**.
3. Click **Configure License Settings**.
   a. Select between the Licensing Modes:
      - **Direct Connect to CSSM**
      - **Cisco Smart Software Manager On-Prem**
      - **Offline**
   b. Depending on the licensing mode you selected:
      - **Direct Connect to CSSM** : Enter the token you generated earlier using a Smart Licensing.
      - **On-Prem CSSM** : Enter the **Server** URL of the On-Prem Server.
      - **Offline** : For offline licensing mode, you have to:
        i. **Export License Data**, upload it to CSSM server to get the **ACK** file
        ii. Click on **Import License Data** to backup it to ND

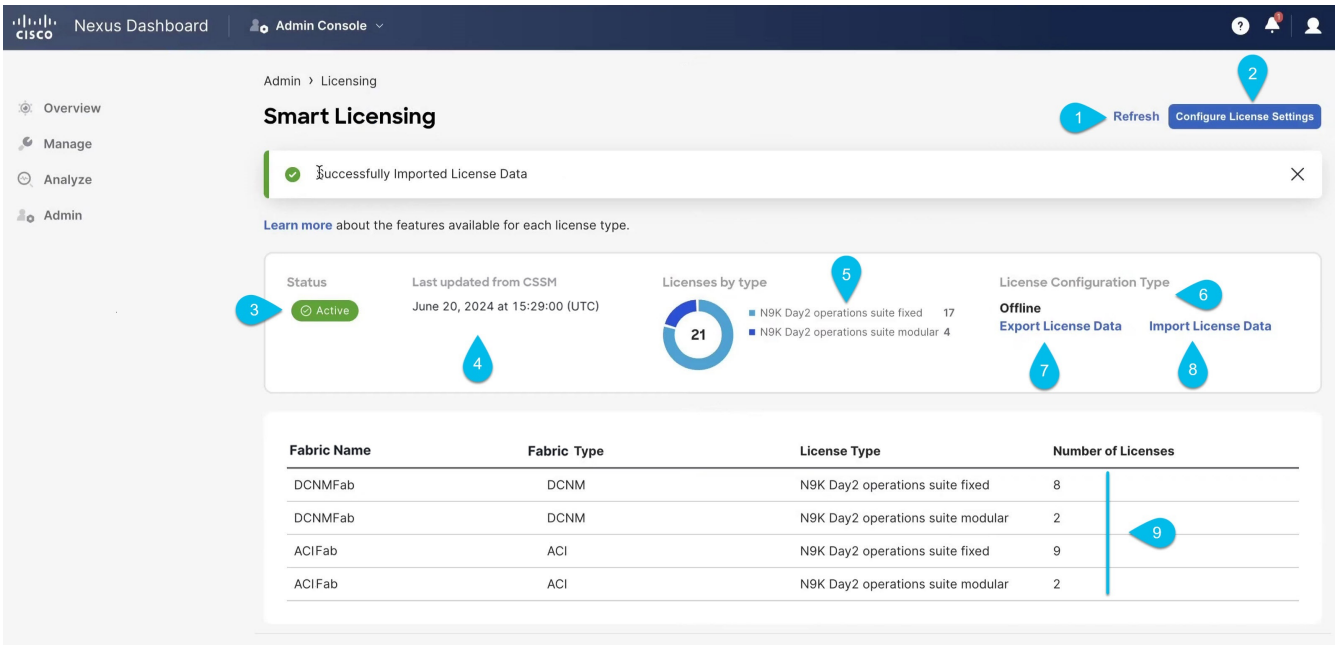


4. In the **Product Instance ID Token** field, provide the token you generated in the previous procedure.
5. Click **Save**.
6. If you are **Configuring Smart Licenses** to change the smart licensing mode, you may get a warning to **Confirm** before migration.


You are changing smart license mode
Nexus Dashboard will attempt to unset the currently reported data, but you will need to remove the Product Instance from CSSM/SSM On-Premises.
Cancel
Confirm

Viewing Current License Usage

After you have configured your Nexus Dashboard to connect to the CSSM, you can view the currently used licenses in the **Admin Console**.
Navigate to **Admin > Licensing** page:



1. **Refresh**: Refresh the Smart Licensing Page.
2. **Configure License Settings**: Update the **Configure License Settings** page, with details like, **Name** and **Server** settings.
3. **Status** : Shows the status of the licensing.
4. **Last updated from CSSM**: Indicates the time stamp when ND last received an ACK from CSSM.
5. **Licenses by type**: Shows the Licenses by types
6. **License Configuration Type**: Indicates the type of license. It can be of the following types:
    - **Direct Connect to CSSM**
    - **HTTPS Proxy**
    - **Cisco Smart Software Manager On-Prem**
    - **Offline**
7. **Export License Data**: Download the currently used License Data file in the browser which can then be uploaded to CSSM.
8. **Import License Data**: To upload the ACK file from CSSM to the Nexus Dashboard.
9. **Fabrics**: Shows a list of fabrics in tabular form, with number of licenses and type associated with each fabric.

Trademarks

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