Configuring Smart Licensing

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Prerequisites for Configuring Smart Licensing

You must have the following in CSSM:

- Cisco Smart Account
- One or more Virtual Account
- User role with proper access rights
- You should have accepted the Smart Software Licensing Agreement on CSSM to register devices.

Introduction to Smart Licensing

Smart Licensing is a cloud-based, software license management solution that allows you to manage and track the status of your license and hardware and software usage trends. Smart Licensing also enables you to automate time-consuming, manual licensing tasks. Smart Licensing helps simplify tasks in the following ways:

- Smart Licensing offers you Cisco Smart Software Manager (CSSM), a centralized portal that enables you to manage all your Cisco software licenses from one centralized website.
• You can automatically track activations against your license entitlements. Additionally, there is no need to install the license file on every node. You can create license pools (virtual accounts) to reflect your organization structure.

• Through the portal, Smart Licensing offers an integrated view of the licenses you have purchased and what has been deployed in your network. You can use this data to make better purchase decisions, based on your consumption.

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**Note**

Licenses are managed as *smart licenses* from Cisco IOS XE Fuji 16.9.1 and later. Right-to-Use licenses are deprecated from Cisco IOS XE Fuji 16.9.1.

For an overview of smart software licensing, see Smart Licensing.

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**Overview of CSSM**

CSSM enables you to manage all your Cisco smart software licenses from one centralized portal. With CSSM, you can organize and view your licenses in groups called virtual accounts (collections of licenses and product instances).

You can access the CSSM on https://software.cisco.com/#, by clicking the **Smart Software Licensing** link under the **License** tab.

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**Note**

Use a Chrome 32.0, Firefox 25.0, or Safari 6.0.5 web browser to access CSSM. Also, ensure that Javascript 1.5 or a later version is enabled in your browser.

Use the CSSM 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.

CSSM Help describes the procedures for carrying out these tasks.

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**Overview of License Conversion Feature**

The license conversion feature migrates the traditional licenses that are installed on Cisco Catalyst 3850 and Cisco Catalyst 3650 switches, from Cisco IOS XE Fuji 16.8.x or earlier to Cisco IOS XE Fuji 16.9.1 or later. Subscription-based add-on licenses, that is DNA Advantage and DNA Essentials, are deposited in your Cisco smart account if purchased.
The license conversion feature migrates all the installed traditional licenses from the device to the Cisco Smart Software Manager. On initiating license conversion, the device converts the traditional licenses and sends the migration data to the Cisco Smart Software Manager, which in turn, creates license entitlements and deposits them in the user account.

**Note**

The license conversion process takes an hour or more to complete. Use the `show license summary` command to confirm that the license conversion is completed successfully.

### Connecting to CSSM

The following illustration shows the various options available to connect to CSSM:

*Figure 1: Connection Options*

1. Cisco Product ➔ HTTPS ➔ Cisco.com
2. Cisco Product ➔ Transport Gateway or HTTPS Proxy ➔ Cisco.com
3. Cisco Product ➔ HTTPS ➔ Smart Software Manager On-Prem ➔ Cisco.com
4. Cisco Product ➔ HTTPS ➔ Smart Software Manager On-Prem ➔ Cisco.com
1. Direct cloud access: In this method, Cisco products send usage information directly over the internet to Cisco.com; no additional components are needed for the connection.

2. Direct cloud access through an HTTPs proxy: In this method, Cisco products send usage information over the internet through a proxy server - either a Call Home Transport Gateway or an off-the-shelf proxy (such as Apache) to Cisco.com.

3. Mediated access through a connected on-premises collector: In this method, Cisco products send usage information to a locally-connected collector, which acts as a local license authority. Periodically, this information is exchanged to keep the databases synchronized.

4. Mediated access through a disconnected on-premises collector: In this method, Cisco products send usage information to a local disconnected collector, which acts as a local license authority. Exchange of human-readable information takes place occasionally (maybe once a month) to keep the databases synchronized.

Options 1 and 2 provide an easy connection option, and options 3 and 4 provide a secure environment connection option. Cisco Smart Software Manager On-Prem (formerly known as Cisco Smart Software Manager satellite) provides support for options 3 and 4.

**Configuring a Connection to CSSM and Setting Up the License Level**

The following sections provide information about how to set up a connection to CSSM and set up the license level.

**Setting Up a Connection to CSSM**

The following steps show how to set up a Layer 3 connection to CSSM to verify network reachability. Skip this section if you already have Layer 3 connectivity to CSSM.

**SUMMARY STEPS**

1. `enable`
2. `configure terminal`
3. `{ip | ipv6} name-server server-address 1 [server-address 2] [server-address 3] [server-address 4] [server-address 5] [server-address 6]`
4. `ip name-server vrf Mgmt-vrf server-address 1 [server-address 2] [server-address 3] [server-address 4] [server-address 5] [server-address 6]`
5. `ip domain lookup source-interface interface-type interface-number`
6. `ip domain name example.com`
7. `ip host tools.cisco.com ip-address`
8. `interface vlan_id`
9. `ntp server ip-address [version number] [key key-id] [prefer]`
10. `switchport access vlan vlan_id`
11. `ip route ip-address ip-mask subnet-mask`
12. `license smart transport callhome`
13. `ip http client source-interface interface-type interface-number`
14. exit
15. copy running-config startup-config

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> enable</td>
<td>Enables privileged EXEC mode. Enter your password, if prompted.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device&gt; enable</td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong> configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device# configure terminal</td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong> {ip</td>
<td>ipv6} name-server server-address 1 [server-address 2] [server-address 3] [server-address 4] [server-address 5] [server-address 6]</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# ip name-server 209.165.201.1 209.165.200.225 209.165.201.14 209.165.200.230</td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong> ip name-server vrf Mgmt-vrf server-address 1 [server-address 2] [server-address 3] [server-address 4] [server-address 5] [server-address 6]</td>
<td>(Optional) Configures DNS on the VRF interface. <strong>Note</strong> You should configure this command as an alternative to the <strong>ip name-server</strong> command.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# ip name-server vrf Mgmt-vrf 209.165.201.1 209.165.200.225 209.165.201.14 209.165.200.230</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> ip domain lookup source-interface interface-type interface-number</td>
<td>(Optional) Configures the source interface for the DNS domain lookup.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# ip domain lookup source-interface Vlan100</td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong> ip domain name example.com</td>
<td>Configures the domain name.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# ip domain name example.com</td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong> ip host tools.cisco.com ip-address</td>
<td>(Optional) Configures static hostname-to-address mappings in the DNS hostname cache if automatic DNS mapping is not available.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# ip host tools.cisco.com 209.165.201.30</td>
<td></td>
</tr>
<tr>
<td><strong>Step 8</strong> interface vlan_id</td>
<td>Configures a Layer 3 interface.</td>
</tr>
<tr>
<td><strong>Example:</strong> Device(config)# interface Vlan100</td>
<td></td>
</tr>
<tr>
<td>Command or Action</td>
<td>Purpose</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Device(config-if)# ip address 192.0.2.10 255.255.255.0</td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# exit</td>
<td></td>
</tr>
<tr>
<td>Step 9 ntp server ip-address [version number] [key key-id] [prefer]</td>
<td>Forms a server association with the specified system.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# ntp server 198.51.100.100 version 2 prefer</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>The ntp server command is mandatory to ensure that the device time is synchronized with CSSM.</td>
</tr>
<tr>
<td>Step 10 switchport access vlan vlan_id</td>
<td>(Optional) Enables the VLAN for which this access port carries traffic and sets the interface as a nontrunking nontagged single-VLAN Ethernet interface.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# interface GigabitEthernet1/0/1</td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# switchport access vlan 100</td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# switchport mode access</td>
<td></td>
</tr>
<tr>
<td>Device(config-if)# exit</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>This step is to be configured only if the switchport access mode is required.</td>
</tr>
<tr>
<td>Step 11 ip route ip-address ip-mask subnet mask</td>
<td>Configures a route on the device.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# ip route 192.0.2.0 255.255.255.255 192.0.2.1</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>You can configure either a static route or a dynamic route.</td>
</tr>
<tr>
<td>Step 12 license smart transport callhome</td>
<td>Enables the transport mode as Call Home.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# license smart transport callhome</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>The license smart transport callhome command is mandatory.</td>
</tr>
<tr>
<td>Step 13 ip http client source-interface interface-type interface-number</td>
<td>Configures a source interface for the HTTP client.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# ip http client source-interface Vlan100</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>The ip http client source-interface interface-type interface-number command is mandatory.</td>
</tr>
<tr>
<td>Step 14 exit</td>
<td>(Optional) Exits global configuration mode and returns to privileged EXEC mode.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device(config)# exit</td>
<td></td>
</tr>
<tr>
<td>Step 15 copy running-config startup-config</td>
<td>(Optional) Saves your entries in the configuration file.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Device# copy running-config startup-config</td>
<td></td>
</tr>
</tbody>
</table>
Configuring the Call Home Service for Direct Cloud Access

By default, the CiscoTAC-1 profile is already set up on the device. Use the show call-home profile all command to check the profile status.

The Call Home service provides email-based and web-based notification of critical system events to CSSM.

To configure and enable the Call Home service, perform this procedure:

SUMMARY STEPS

1. enable
2. configure terminal
3. call-home
4. no http secure server-identity-check
5. contact-email-address email-address
6. profile CiscoTAC-1
7. destination transport-method http
8. destination address http url
9. active
10. no destination transport-method email
11. exit
12. exit
13. service call-home
14. exit
15. copy running-config startup-config

DETAILED STEPS

<table>
<thead>
<tr>
<th>Step</th>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>enable</td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td>Enter your password, if prompted.</td>
</tr>
<tr>
<td></td>
<td>Device&gt; enable</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device# configure terminal</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>call-home</td>
<td>Enters Call Home configuration mode.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device(config)# call-home</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>no http secure server-identity-check</td>
<td>Disables server identity check when HTTP connection is established.</td>
</tr>
<tr>
<td></td>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Command or Action</td>
<td>Purpose</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
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<td></td>
</tr>
<tr>
<td>Device(config-call-home)# no http secure server-identity-check</td>
<td>Assigns customer's email address. You can enter up to 200 characters in email address format with no spaces.</td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>contact-email-address <em>email-address</em></td>
<td>By default, the CiscoTAC-1 profile is inactive. To use this profile with the Call Home service, you must enable the profile.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home)# contact-email-address <a href="mailto:username@example.com">username@example.com</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>profile CiscoTAC-1</td>
<td>Enables the Call Home service via HTTP.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home)# profile CiscoTAC-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>destination transport-method http</td>
<td>Connects to CSSM.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination transport-method http</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 8</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>destination address http <em>url</em></td>
<td>Enables the destination profile.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination address http <a href="https://tools.cisco.com/its/service/oddce/services/DDCEService">https://tools.cisco.com/its/service/oddce/services/DDCEService</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 9</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>active</td>
<td>Enables the destination profile.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# active</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 10</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>no destination transport-method email</td>
<td>Disables the Call Home service via email.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# no destination transport-method email</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>exit</td>
<td>Exits Call Home destination profile configuration mode and returns to Call Home configuration mode.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# exit</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 12</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>exit</td>
<td>Exits Call Home configuration mode and returns to global configuration mode.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home)# exit</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 13</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>service call-home</td>
<td>Enables the Call Home feature.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device(config)# service call-home</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 14</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>exit</td>
<td>Exits global configuration mode and returns to privileged EXEC mode.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Purpose**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device(config)# <code>exit</code></td>
<td>(Optional) Saves your entries in the configuration file.</td>
</tr>
<tr>
<td><strong>Step 15</strong> <code>copy running-config startup-config</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device# <code>copy running-config startup-config</code></td>
<td></td>
</tr>
</tbody>
</table>

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## Configuring the Call Home Service for Direct Cloud Access through an HTTPS Proxy Server

The Call Home service can be configured through an HTTPS proxy server. This configuration requires no user authentication to connect to CSSM.

**Note**

Authenticated HTTPS proxy configurations are not supported.

To configure and enable the Call Home service through an HTTPS proxy, perform this procedure:

**SUMMARY STEPS**

1. `enable`
2. `configure terminal`
3. `call-home`
4. `contact-email-address email-address`
5. `http-proxy proxy-address proxy-port port-number`
6. `profile CiscoTAC-1`
7. `destination transport-method http`
8. `no destination transport-method email`
9. `profile name`
10. `reporting smart-licensing-data`
11. `destination transport-method http`
12. `destination address http url`
13. `active`
14. `exit`
15. `exit`
16. `service call-home`
17. `ip http client proxy-server proxy-address proxy-port port-number`
18. `exit`
19. `copy running-config startup-config`

**DETAILED STEPS**

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong> <code>enable</code></td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td>Command or Action</td>
<td>Purpose</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Example: <code>Device&gt; enable</code></td>
<td>Enter your password, if prompted.</td>
</tr>
<tr>
<td><strong>Step 2</strong> configure terminal</td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td>Example: <code>Device# configure terminal</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong> call-home</td>
<td>Enters Call Home configuration mode.</td>
</tr>
<tr>
<td>Example: <code>Device(config)# call-home</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong> contact-email-address <code>email-address</code></td>
<td>Configures the default email address as <a href="mailto:sch-smart-licensing@cisco.com">sch-smart-licensing@cisco.com</a>.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home)# contact-email-address sch-smart-licensing@cisco.com</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong> http-proxy <code>proxy-address</code> <code>proxy-port</code> <code>port-number</code></td>
<td>Configures the proxy server information to the Call Home service.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home)# http-proxy 198.51.100.10 port 3128</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong> profile CiscoTAC-1</td>
<td>By default, the CiscoTAC-1 profile is inactive. To use this profile with the Call Home service, you must enable the profile.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home)# profile CiscoTAC-1</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 7</strong> destination transport-method http</td>
<td>Enables the Call Home service via HTTP.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home-profile)# destination transport-method http</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 8</strong> no destination transport-method email</td>
<td>Disables the Call Home service via email.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home-profile)# no destination transport-method email</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 9</strong> profile <code>name</code></td>
<td>Enters Call Home destination profile configuration mode for the specified destination profile name. If the specified destination profile does not exist, it is created.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home)# profile test1</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 10</strong> reporting smart-licensing-data</td>
<td>Enables data sharing with the Call Home service via HTTP.</td>
</tr>
<tr>
<td>Example: <code>Device(config-call-home-profile)# reporting smart-licensing-data</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong> destination transport-method http</td>
<td>Enables the HTTP message transport method.</td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Step 12</td>
<td>destination address http url</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config-call-home-profile)# destination address http <a href="https://tools.cisco.com/its/service/oddce/services/DDCEService">https://tools.cisco.com/its/service/oddce/services/DDCEService</a></td>
</tr>
<tr>
<td>Step 13</td>
<td>active</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config-call-home-profile)# active</td>
</tr>
<tr>
<td>Step 14</td>
<td>exit</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config-call-home-profile)# exit</td>
</tr>
<tr>
<td>Step 15</td>
<td>exit</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config-call-home)# exit</td>
</tr>
<tr>
<td>Step 16</td>
<td>service call-home</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config)# service call-home</td>
</tr>
<tr>
<td>Step 17</td>
<td>ip http client proxy-server proxy-address proxy-port port-number</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config)# ip http client proxy-server 198.51.100.10 port 3128</td>
</tr>
<tr>
<td>Step 18</td>
<td>exit</td>
</tr>
<tr>
<td>Example:</td>
<td>Device(config)# exit</td>
</tr>
<tr>
<td>Step 19</td>
<td>copy running-config startup-config</td>
</tr>
<tr>
<td>Example:</td>
<td>Device# copy running-config startup-config</td>
</tr>
</tbody>
</table>

### Configuring the Call Home Service for Cisco Smart Software Manager On-Prem


To configure the Call Home service for the Cisco Smart Software Manager On-Prem, perform this procedure:
### SUMMARY STEPS

1. `enable`
2. `configure terminal`
3. `call-home`
4. `no http secure server-identity-check`
5. `profile name`
6. `reporting smart-licensing-data`
7. `destination transport-method http`
8. `destination address http url`
9. `destination preferred-msg-format {long-text | short-text | xml}`
10. `active`
11. `exit`
12. `exit`
13. `ip http client source-interface interface-type interface-number`
14. `crypto pki trustpoint name`
15. `revocation-check none`
16. `end`
17. `copy running-config startup-config`

### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Enables privileged EXEC mode. Enter your password if prompted.</td>
</tr>
<tr>
<td><code>enable</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Device&gt; enable</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Enters global configuration mode.</td>
</tr>
<tr>
<td><code>configure terminal</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Device# configure terminal</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Enters Call Home configuration mode.</td>
</tr>
<tr>
<td><code>call-home</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Device(config)# call-home</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Enables data sharing with the Call Home service via HTTP.</td>
</tr>
<tr>
<td><code>no http secure server-identity-check</code></td>
<td>Enables server identity check when HTTP connection is established.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Device(config-call-home)# no http secure server-identity-check</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td>Enters Call Home destination profile configuration mode for the specified destination profile name. If the specified destination profile does not exist, it is created.</td>
</tr>
<tr>
<td><code>profile name</code></td>
<td></td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td><code>Device(config-call-home)# profile test1</code></td>
<td></td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td>Enables data sharing with the Call Home service via HTTP.</td>
</tr>
<tr>
<td><code>reporting smart-licensing-data</code></td>
<td>Enables server identity check when HTTP connection is established.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Command or Action</td>
<td>Purpose</td>
</tr>
<tr>
<td>------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Device (config-call-home-profile)# reporting smart-licensing-data</td>
<td>Configures the destination URL (CSSM) to which Call Home messages are sent.</td>
</tr>
<tr>
<td><strong>Step 7</strong> destination transport-method http</td>
<td>Configures the destination URL (CSSM) to which Call Home messages are sent.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Ensure the IP address or the fully qualified domain name (FQDN) in the destination URL matches the IP address or the FQDN as configured for the Satellite Name on the Cisco Smart Software Manager On-Prem.</td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination address http <a href="https://209.165.201.15:443/Transportgateway/services/DeviceRequestHandler">https://209.165.201.15:443/Transportgateway/services/DeviceRequestHandler</a></td>
<td></td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination address http <a href="http://209.165.201.15:80/Transportgateway/services/DeviceRequestHandler">http://209.165.201.15:80/Transportgateway/services/DeviceRequestHandler</a></td>
<td></td>
</tr>
<tr>
<td><strong>Step 8</strong> destination address http url</td>
<td>Configures the destination URL (CSSM) to which Call Home messages are sent.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination address http <a href="https://url.example.com">https://url.example.com</a></td>
<td></td>
</tr>
<tr>
<td><strong>Step 9</strong> destination preferred-msg-format {long-text</td>
<td>short-text</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# destination preferred-msg-format xml</td>
<td></td>
</tr>
<tr>
<td><strong>Step 10</strong> active</td>
<td>Enables the destination profile. By default, a profile is enabled when it is created.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# active</td>
<td></td>
</tr>
<tr>
<td><strong>Step 11</strong> exit</td>
<td>Exits Call Home destination profile configuration mode and returns to Call Home configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home-profile)# exit</td>
<td></td>
</tr>
<tr>
<td><strong>Step 12</strong> exit</td>
<td>Exits Call Home configuration mode and returns to global configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config-call-home)# exit</td>
<td></td>
</tr>
<tr>
<td><strong>Step 13</strong> ip http client source-interface interface-type interface-number</td>
<td>Configures a source interface for the HTTP client.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>The ip http client source-interface interface-type interface-number command is mandatory for a vrf interface.</td>
</tr>
<tr>
<td>Device(config)# ip http client source-interface Vlan100</td>
<td></td>
</tr>
<tr>
<td><strong>Step 14</strong> crypto pki trustpoint name</td>
<td>(Optional) Declares the trustpoint and a given name and enters ca-trustpoint configuration mode.</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td></td>
</tr>
<tr>
<td>Device(config)# crypto pki trustpoint SLA-TrustPoint</td>
<td></td>
</tr>
</tbody>
</table>
### Configuring the License Level

This procedure is optional. You can use this procedure to:

- Downgrade or upgrade licenses.
- Enable or disable an evaluation or extension license.
- Clear an upgrade license.

Configure the required license levels on the device before registering. The following are the license levels available for Cisco Catalyst 3000 Series Switches:

**Base licenses**
- LAN Base—Supports Layer 2 features.
- IP Base—Supports Layer 2 and Layer 3 features.
- IP Services—Supports Layer 2, Layer 3, and IPv6 features.

**Add-on licenses**—These licenses can be subscribed for a fixed term of three, five, or seven years.
- Digital Networking Architecture (DNA) Essentials
- DNA Advantage (includes DNA Essentials)

To configure the license levels, follow this procedure:

**SUMMARY STEPS**

1. `enable`
2. `configure terminal`
3. `license boot level license_level`
4. `exit`
5. `write memory`
6. `show version`
7. `reload`
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td><strong>enable</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device&gt; enable</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td><strong>configure terminal</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device# configure terminal</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td><strong>license boot level</strong> <code>license_level</code>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device(config)# license boot level ipservices</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td><strong>exit</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device(config)# exit</td>
</tr>
<tr>
<td><strong>Step 5</strong></td>
<td><strong>write memory</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device# write memory</td>
</tr>
<tr>
<td><strong>Step 6</strong></td>
<td><strong>show version</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device# show version&lt;br&gt;Snippet&lt;br&gt;Technology-package Current Type Technology-package Next reboot&lt;br&gt;ipbasek9 ipservicesk9 Smart License None Subscription Smart License None</td>
</tr>
<tr>
<td><strong>Step 7</strong></td>
<td><strong>reload</strong>&lt;br&gt;<strong>Example:</strong>&lt;br&gt;Device# reload</td>
</tr>
</tbody>
</table>

### Registering a Device in CSSM

The following sections provide information about how to register a device in CSSM.
Generating a New Token from CSSM

Tokens are generated to register new product instances to the virtual account.

Step 1  
Log in to CSSM from https://software.cisco.com/#. You must log in to the portal using the username and password provided by Cisco.

Step 2  
Click the **Inventory** tab.

Step 3  
From the **Virtual Account** drop-down list, choose the required virtual account.

Step 4  
Click the **General** tab.

Step 5  
Click **New Token**.

The **Create Registration Token** window is displayed.

Step 6  
In the **Description** field, enter the token description.

Step 7  
In the **Expire After** field, enter the number of days the token must be active.

Step 8  
(Optional) In the **Max. Number of Uses** field, enter the maximum number of uses allowed after which the token expires.
Step 9  
Check the **Allow export-controlled functionality on the products registered with this token** checkbox. 


Step 10  
Click **Create Token** to create a token.

Step 11  
After the token is created, click **Copy** to copy the newly created token.

---

**What to do next**

**Registering a Device with the New Token**

**Registering a Device with the New Token**

To register a device with the new token, perform this procedure:
SUMMARY STEPS

1. enable
2. license smart register idtoken `token_ID`
3. write memory

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 enable</td>
<td>Enables privileged EXEC mode. Enter your password, if prompted.</td>
</tr>
<tr>
<td>Example: Device&gt; enable</td>
<td></td>
</tr>
<tr>
<td>Step 2 license smart register idtoken <code>token_ID</code></td>
<td>Registers the device with the back-end server using the token generated from CSSM.</td>
</tr>
<tr>
<td>Example: Device# license smart register idtoken</td>
<td></td>
</tr>
<tr>
<td>Step 3 write memory</td>
<td>Saves the license information on the device.</td>
</tr>
<tr>
<td>Example: Device# write memory</td>
<td></td>
</tr>
</tbody>
</table>

Verifying the License Status After Registration

To verify the status of a license after registration, use the `show license all` command.

```
Device> enable
Device# show license all
Smart Licensing Status
-----------------------------
Smart Licensing is ENABLED
Registration:
  Status: REGISTERED
  Smart Account: Smart Account Name
  Virtual Account: Virtual Account 1
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Jul 09 10:08:19 2018 UTC
  Last Renewal Attempt: None
  Next Renewal Attempt: Jan 05 10:08:19 2019 UTC
  Registration Expires: Jul 09 10:02:35 2019 UTC
License Authorization:
  Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC
  Last Communication Attempt: SUCCEEDED on Jul 09 10:08:25 2018 UTC
  Next Communication Attempt: Jul 09 22:08:24 2018 UTC
  Communication Deadline: Oct 07 10:02:43 2018 UTC
License Conversion:
  Automatic Conversion Enabled: False
  Active: PID:WS-C3850-24P,SN:FOC1842U0FC
  Status: Not started
  Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
```
Status: Not started
Member: PID:WS-C3850-24P,SN:FOC1842X0FD
Status: Not started

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Callhome

License Usage
-----------------

C3850-DNA-E-24 (C3850-24 DNA Essentials):
  Description: C3850-DNA-E
  Count: 3
  Version: 1.0
  Status: AUTHORIZED

C3850_24_Lanbase (C3850-24 LAN Base):
  Description: C3850 24 Port Lanbase
  Count: 3
  Version: 1.0
  Status: OUT OF COMPLIANCE

Product Information
---------------------
UDI: PID:WS-C3850-24P,SN:FOC1842U0FC

HA UDI List:
  Active:PID:WS-C3850-24P,SN:FOC1842U0FC
  Standby:PID:WS-C3850-24P,SN:FOC1842U0CZ
  Member:PID:WS-C3850-24P,SN:FOC1842X0FD

Agent Version
--------------
Smart Agent for Licensing: 4.4.13_rel/116
Component Versions: SA:(1_3_dev)1.0.15, SI:(dev22)1.2.1, CH:(rel5)1.0.3, PK:(dev18)1.0.3

Reservation Info
----------------
License reservation: DISABLED

---

**Canceling a Device's Registration in CSSM**

When your device is taken off the inventory, shipped elsewhere for redeployment, or returned to Cisco for replacement using the return merchandise authorization (RMA) process, you can use the `deregister` command to cancel the registration of your device.

To cancel device registration, follow this procedure:

**Before you begin**

Layer 3 connection to CSSM must be available to successfully deregister the device.
SUMMARY STEPS

1. enable
2. license smart deregister

DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1&lt;br&gt;enable</td>
<td></td>
</tr>
<tr>
<td>Example: &lt;br&gt;Device&gt; enable</td>
<td>Enables privileged EXEC mode. Enter your password, if prompted.</td>
</tr>
<tr>
<td>Step 2&lt;br&gt;license smart deregister</td>
<td>Cancels the device's registration, and sends the device into evaluation mode. All smart licensing entitlements and certificates on the corresponding platform are removed. The device product instance stored on CSSM is also removed.</td>
</tr>
</tbody>
</table>

Migrating a License with License Conversion Feature

The following sections provide information about how to enable license conversion in CSSM and convert licenses on a device using license conversion.

Enabling License Conversion in CSSM

License conversion must be enabled before starting the conversion. Failure to enable license conversion will result in the CSSM displaying an insufficient licenses error.

Before you begin
You must be logged in as a Smart Account administrator.

Step 1 Log in to CSSM from https://software.cisco.com/#.
You must log in to the portal using the username and password provided by Cisco.

Step 2 Click the Convert to Smart Licensing tab.
Step 3 Click the Conversion Settings tab.
Step 4 In the Device Led Conversion to Smart Licensing pane, select Enabled in the drop-down list.

Converting Licenses on a Device Using License Conversion

To convert licenses on a device using license conversion, perform this procedure:

SUMMARY STEPS

1. enable
### DETAILED STEPS

<table>
<thead>
<tr>
<th>Command or Action</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>enable</td>
<td>Enables privileged EXEC mode.</td>
</tr>
<tr>
<td><em>Example:</em> Device&gt; enable</td>
<td>Enter your password, if prompted.</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>license smart conversion start</td>
<td>Migrates the license to CSSM.</td>
</tr>
<tr>
<td><em>Example:</em> Device# license smart conversion start</td>
<td></td>
</tr>
</tbody>
</table>
Monitoring Smart Licensing Configuration

Use the following commands in privileged EXEC mode to monitor smart licensing configuration.

Table 1: Commands to Monitor Smart Licensing Configuration

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>show license status</td>
<td>Displays the compliance status of smart licensing. The following is the list of possible statuses:</td>
</tr>
<tr>
<td></td>
<td>• Enabled: Indicates that smart licensing is enabled.</td>
</tr>
<tr>
<td></td>
<td>• Waiting: Indicates the initial state after your device has made a license entitlement request. The device establishes communication</td>
</tr>
<tr>
<td></td>
<td>with Cisco and successfully registers itself with the CSSM.</td>
</tr>
<tr>
<td></td>
<td>• Registered: Indicates that your device is able to communicate with the CSSM, and is authorized to initiate requests for license</td>
</tr>
<tr>
<td></td>
<td>entitlements.</td>
</tr>
<tr>
<td></td>
<td>• Authorized: Indicates that your device is in Compliance status and is authorized to use the requested type and count of licenses.</td>
</tr>
<tr>
<td></td>
<td>The Authorization status has a lifetime of 90 days. At the end of 30 days, the device will send a new entitlement authorization request</td>
</tr>
<tr>
<td></td>
<td>to the CSSM to renew the authorization.</td>
</tr>
<tr>
<td></td>
<td>• Out Of Compliance: Indicates that one or more of your licenses are out of compliance. You must buy additional licenses.</td>
</tr>
<tr>
<td></td>
<td>• Eval Mode: You must register the device with the CSSM within 90 days (of device usage). Otherwise, your device's evaluation</td>
</tr>
<tr>
<td></td>
<td>period will expire.</td>
</tr>
<tr>
<td></td>
<td>• Evaluation Period Expired: At the end of 90 days, if your device has not registered, the device enters Evaluation Expired mode.</td>
</tr>
<tr>
<td>show license all</td>
<td>Displays all the entitlements in use. Additionally, it shows the associated licensing certificates, compliance status, UDI, and other</td>
</tr>
<tr>
<td>show tech-support license</td>
<td>Displays the detailed debug output.</td>
</tr>
<tr>
<td>show license usage</td>
<td>Displays the license usage information.</td>
</tr>
</tbody>
</table>
Purpose: Command

<table>
<thead>
<tr>
<th>Command</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>show license summary</td>
<td>Displays the summary of all the active licenses.</td>
</tr>
</tbody>
</table>

### Configuration Examples for Smart Licensing

The following sections provide various Smart Licensing configuration examples.

#### Example: Viewing the Call Home Profile

**Example**

To display the Call Home profile, use the `show call-home profile all` command:

```plaintext
Device> enable
Device# show call-home profile all
Profile Name: CiscoTAC-1
  Profile status: ACTIVE
  Profile mode: Full Reporting
  Reporting Data: Smart Call Home, Smart Licensing
  Preferred Message Format: xml
  Message Size Limit: 3145728 Bytes
  Transport Method: http
  HTTP address(es): https://tools.cisco.com/its/service/oddce/services/DDCEService
  Other address(es): default

  Periodic configuration info message is scheduled every 1 day of the month at 09:15
  Periodic inventory info message is scheduled every 1 day of the month at 09:00

  Alert-group Severity
  ------------------------ ------------
  crash debug
  diagnostic minor
  environment warning
  inventory normal

  Syslog-Pattern Severity
  ------------------------ ------------
  APF-.*WLC_.* warning
  .* major
```

#### Example: Viewing the License Information Before Registering

**Example**

To display the license entitlements, use the `show license all` command:

```plaintext
Device> enable
Device# show license all
Smart Licensing Status
```
Smart Licensing is ENABLED

Registration:
Status: UNREGISTERED
Export-Controlled Functionality: Not Allowed

License Authorization:
Status: EVAL MODE
Evaluation Period Remaining: 88 days, 21 hours, 58 minutes, 12 seconds

License Conversion:
Automatic Conversion Enabled: False
Active: PID:WS-C3850-24P,SN:FOC1842U0FC
Status: Not started
Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
Status: Not started
Member: PID:WS-C3850-24P,SN:FOC1842X0FD
Status: Not started

Utility:
Status: DISABLED

Data Privacy:
Sending Hostname: yes
Callhome hostname privacy: DISABLED
Smart Licensing hostname privacy: DISABLED
Version privacy: DISABLED

Transport:
Type: Callhome

License Usage
--------------
(C3850-24 DNA Essentials):
Description:
Count: 3
Version: 1.0
Status: EVAL MODE

(C3850-24 LAN Base):
Description:
Count: 3
Version: 1.0
Status: EVAL MODE

Product Information
-------------------
UDI: PID:WS-C3850-24P,SN:FOC1842U0FC

HA UDI List:
Active:PID:WS-C3850-24P,SN:FOC1842U0FC
Standby:PID:WS-C3850-24P,SN:FOC1842U0CZ
Member:PID:WS-C3850-24P,SN:FOC1842X0FD

Agent Version
-------------
Smart Agent for Licensing: 4.4.13_rel/116
Component Versions: SA:(1_3_dev)1.0.15, SI:(dev22)1.2.1, CH:(rel5)1.0.3, PK:(dev18)1.0.3

Reservation Info
License reservation: DISABLED

**Example**

To display the license usage information, use the `show license usage` command:

```
Device> enable
Device# show license usage
License Authorization:
  Status: EVAL MODE
  Evaluation Period Remaining: 88 days, 21 hours, 57 minutes, 31 seconds

(C3850-24 DNA Essentials):
  Description:
  Count: 3
  Version: 1.0
  Status: EVAL MODE

(C3850-24 LAN Base):
  Description:
  Count: 3
  Version: 1.0
  Status: EVAL MODE
```

**Example**

To display all the license summaries, use the `show license summary` command:

```
Device> enable
Device# show license summary
Smart Licensing is ENABLED

Registration:
  Status: UNREGISTERED
  Export-Controlled Functionality: Not Allowed

License Authorization:
  Status: EVAL MODE
  Evaluation Period Remaining: 88 days, 21 hours, 57 minutes, 23 seconds

License Usage:

<table>
<thead>
<tr>
<th>License</th>
<th>Entitlement tag</th>
<th>Count</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C3850-24 DNA Essentials)</td>
<td></td>
<td>3</td>
<td>EVAL MODE</td>
</tr>
<tr>
<td>(C3850-24 LAN Base)</td>
<td></td>
<td>3</td>
<td>EVAL MODE</td>
</tr>
</tbody>
</table>
```

**Example**

To display the license status information, use the `show license status` command:

```
Device> enable
Device# show license status
Smart Licensing is ENABLED

Utility:
```
Example: Registering a Device

Example

To register a device, use the `license smart register idtoken` command:

```
Device> enable
Device# license smart register idtoken
Tl4UytrNXBzbEs1ck8weUtWaG5abnZJOFdDa1FwbVRa%0AblRMbz0%3D%0A
Device# write memory
```

Example: Viewing the License Status After Registering

After registration, but before license conversion, a device is not authorized to use the perpetual license, and its status will be shown as Out Of Compliance.

Example

To display the license entitlements, use the `show license all` command:

```
Device> enable
Device# show license all
Smart Licensing Status

Smart Licensing is ENABLED
```
Registration:
Status: REGISTERED
Smart Account: Smart Account Name
Virtual Account: Virtual Account 1
Export-Controlled Functionality: Allowed
Initial Registration: SUCCEEDED on Jul 09 10:08:19 2018 UTC
Last Renewal Attempt: None
Next Renewal Attempt: Jan 05 10:08:19 2019 UTC
Registration Expires: Jul 09 10:02:35 2019 UTC

License Authorization:
Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC
Last Communication Attempt: SUCCEEDED on Jul 09 10:08:25 2018 UTC
Next Communication Attempt: Jul 09 22:08:24 2018 UTC
Communication Deadline: Oct 07 10:02:43 2018 UTC

License Conversion:
Automatic Conversion Enabled: False
Active: PID:WS-C3850-24P,SN:FOC1842U0FC
Status: Not started
Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
Status: Not started
Member: PID:WS-C3850-24P,SN:FOC1842X0FD
Status: Not started

Utility:
Status: DISABLED

Data Privacy:
Sending Hostname: yes
Callhome hostname privacy: DISABLED
Smart Licensing hostname privacy: DISABLED
Version privacy: DISABLED

Transport:
Type: Callhome

License Usage
---------------

C3850-DNA-E-24 (C3850-24 DNA Essentials):
Description: C3850-DNA-E
Count: 3
Version: 1.0
Status: AUTHORIZED

C3850_24 Lanbase (C3850-24 LAN Base):
Description: C3850 24 Port Lanbase
Count: 3
Version: 1.0
Status: OUT OF COMPLIANCE

Product Information
-------------------
UDI: PID:WS-C3850-24P,SN:FOC1842U0FC

HA UDI List:
Active: PID:WS-C3850-24P,SN:FOC1842U0FC
Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
Member: PID:WS-C3850-24P,SN:FOC1842X0FD

Agent Version
-------------
Smart Agent for Licensing: 4.4.13_rel/116
Reservation Info

License reservation: DISABLED

Example

To display license usage information, use the `show license usage` command:

```
Device> enable
Device# show license usage
License Authorization:
  Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC
C3850-DNA-E-24 (C3850-24 DNA Essentials):
  Description: C3850-DNA-E
  Count: 3
  Version: 1.0
  Status: AUTHORIZED
C3850_24_Lanbase (C3850-24 LAN Base):
  Description: C3850 24 Port Lanbase
  Count: 3
  Version: 1.0
  Status: OUT OF COMPLIANCE
```

Example

To display all the license summaries, use the `show license summary` command:

```
Device> enable
Device# show license summary
Smart Licensing is ENABLED
Registration:
  Status: REGISTERED
  Smart Account: Smart Account Name
  Virtual Account: Virtual Account 1
  Export-Controlled Functionality: Allowed
  Last Renewal Attempt: None
  Next Renewal Attempt: Jan 05 10:08:19 2019 UTC
License Authorization:
  Status: OUT OF COMPLIANCE
  Last Communication Attempt: SUCCEEDED
  Next Communication Attempt: Jul 09 22:08:24 2018 UTC
License Usage:
  License                        Entitlement tag        Count Status
  -----------------------------------------------------------------
  C3850-DNA-E-24 (C3850-24 DNA Essentials) 3 AUTHORIZED
  C3850_24_Lanbase (C3850-24 LAN Base)      3 OUT OF COMPLIANCE
```

Example

To display the license status information, use the `show license status` command:
Device> enable
Device# show license status
Smart Licensing is ENABLED

Utility:
Status: DISABLED

Data Privacy:
Sending Hostname: yes
   Callhome hostname privacy: DISABLED
   Smart Licensing hostname privacy: DISABLED
   Version privacy: DISABLED

Transport:
Type: Callhome

Registration:
Status: REGISTERED
Smart Account: Smart Account Name
Virtual Account: Virtual Account 1
Export-Controlled Functionality: Allowed
Initial Registration: SUCCEEDED on Jul 09 10:08:19 2018 UTC
Last Renewal Attempt: None
Next Renewal Attempt: Jan 05 10:08:20 2019 UTC
Registration Expires: Jul 09 10:02:36 2019 UTC

License Authorization:
Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC
Last Communication Attempt: SUCCEEDED on Jul 09 10:08:25 2018 UTC
Next Communication Attempt: Jul 09 22:08:25 2018 UTC
Communication Deadline: Oct 07 10:02:44 2018 UTC

License Conversion:
Automatic Conversion Enabled: False
Active: PID:WS-C3850-24P,SN:FOC1842U0FC
Status: Not started
Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
Status: Not started
Member: PID:WS-C3850-24P,SN:FOC1842X0FD
Status: Not started

Example: Migrating License Using License Conversion

Use the `license smart conversion start` command only for migrating license information of Cisco Catalyst 3650 and Cisco Catalyst 3850 Switch upgraded to Cisco IOS XE Fuji 16.9.1.

License conversion takes an hour or more to complete.

To start license conversion use the `license smart conversion start` command.

Device> enable
Device# license smart conversion start
Example: Viewing License Information on Initiating License Conversion

Example
To display the license usage information, use the `show license usage` command:

```
Device> enable
Device# show license usage
License Authorization:
  Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC

C3850-DNA-E-24 (C3850-24 DNA Essentials):
  Description: C3850-DNA-E
  Count: 3
  Version: 1.0
  Status: AUTHORIZED

C3850_24_Lanbase (C3850-24 LAN Base):
  Description: C3850 24 Port Lanbase
  Count: 3
  Version: 1.0
  Status: OUT OF COMPLIANCE
```

Example
To display the license status information, use the `show license status` command:

```
Device> enable
Device# show license status
Smart Licensing is ENABLED

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Callhome

Registration:
  Status: REGISTERED
  Smart Account: Smart Account Name
  Virtual Account: Virtual Account 1
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Jul 09 10:08:19 2018 UTC
  Last Renewal Attempt: None
  Next Renewal Attempt: Jan 05 10:08:19 2019 UTC
  Registration Expires: Jul 09 10:02:35 2019 UTC

License Authorization:
  Status: OUT OF COMPLIANCE on Jul 09 10:08:25 2018 UTC
  Last Communication Attempt: SUCCEEDED on Jul 09 10:14:50 2018 UTC
  Next Communication Attempt: Jul 09 22:14:49 2018 UTC
  Communication Deadline: Oct 07 10:09:08 2018 UTC
```
License Conversion:
Automatic Conversion Enabled: False
Active: PID: WS-C3850-24P, SN: FOC1842U0FC
Status: Polling on Jul 09 10:16:01 2018 UTC
Next response check: Jul 09 11:16:05 2018 UTC
Standby: PID: WS-C3850-24P, SN: FOC1842U0CZ
Status: Not started
Member: PID: WS-C3850-24P, SN: FOC1842X0FD
Status: Not started

Example: Viewing the License Status After License Conversion

After license conversion is completed, the device is authorized to use the perpetual license and the status will change to Authorized.

Example

To display license usage information, use the `show license usage` command:

```
Device> enable
Device# show license usage
License Authorization:
  Status: AUTHORIZED on Jul 09 11:16:10 2018 UTC

C3850-DNA-E-24 (C3850-24 DNA Essentials):
  Description: C3850-DNA-E
  Count: 3
  Version: 1.0
  Status: AUTHORIZED

C3850_24_Lanbase (C3850-24 LAN Base):
  Description: C3850 24 Port Lanbase
  Count: 3
  Version: 1.0
  Status: AUTHORIZED
```

Example

To display the license status information, use the `show license status` command:

```
Device> enable
Device# show license status
Smart Licensing is ENABLED

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Callhome
```
Registration:
- Status: REGISTERED
- Smart Account: Smart Account Name
- Virtual Account: Virtual Account 1
- Export-Controlled Functionality: Allowed
- Initial Registration: SUCCEEDED on Jul 09 10:08:19 2018 UTC
- Last Renewal Attempt: None
- Next Renewal Attempt: Jan 05 10:08:19 2019 UTC
- Registration Expires: Jul 09 10:02:35 2019 UTC

License Authorization:
- Status: AUTHORIZED on Jul 09 11:16:10 2018 UTC
- Last Communication Attempt: SUCCEEDED on Jul 09 11:16:10 2018 UTC
- Next Communication Attempt: Aug 08 11:16:09 2018 UTC
- Communication Deadline: Oct 07 11:10:28 2018 UTC

License Conversion:
- Automatic Conversion Enabled: False
- Active: PID:WS-C3850-24P,SN:FOC1842U0FC
  Status: Successful on Jul 09 11:16:06 2018 UTC
- Standby: PID:WS-C3850-24P,SN:FOC1842U0CZ
  Status: Successful on Jul 09 11:16:06 2018 UTC
- Member: PID:WS-C3850-24P,SN:FOC1842X0FD
  Status: Successful on Jul 09 11:16:06 2018 UTC

Additional References

### Related Documents

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<tr>
<th>Related Topic</th>
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</tr>
</thead>
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<tr>
<td>Cisco Smart Software Manager Help</td>
<td>Smart Software Manager Help</td>
</tr>
<tr>
<td>Cisco Smart Software Manager On-Prem</td>
<td>Cisco Smart Software Manager On-Prem</td>
</tr>
<tr>
<td>Configuring Call Home service</td>
<td>Smart Call Home Guide</td>
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### Technical Assistance

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<tr>
<td>The Cisco Support website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.</td>
<td><a href="http://www.cisco.com/support">http://www.cisco.com/support</a></td>
</tr>
</tbody>
</table>
Feature Information for Smart Licensing

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 2: Feature Information for Smart Licensing