Configure Mediated Model to Synchronize CUCM with Smart Accounts

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Introduction

This document describes mediated model configuration to synchronize your Cisco Unified Communications Manager (CUCM) with your Smart accounts.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco Unified Communications Manager (CUCM) version 12.0
- Cisco License Central Satellite

Components Used

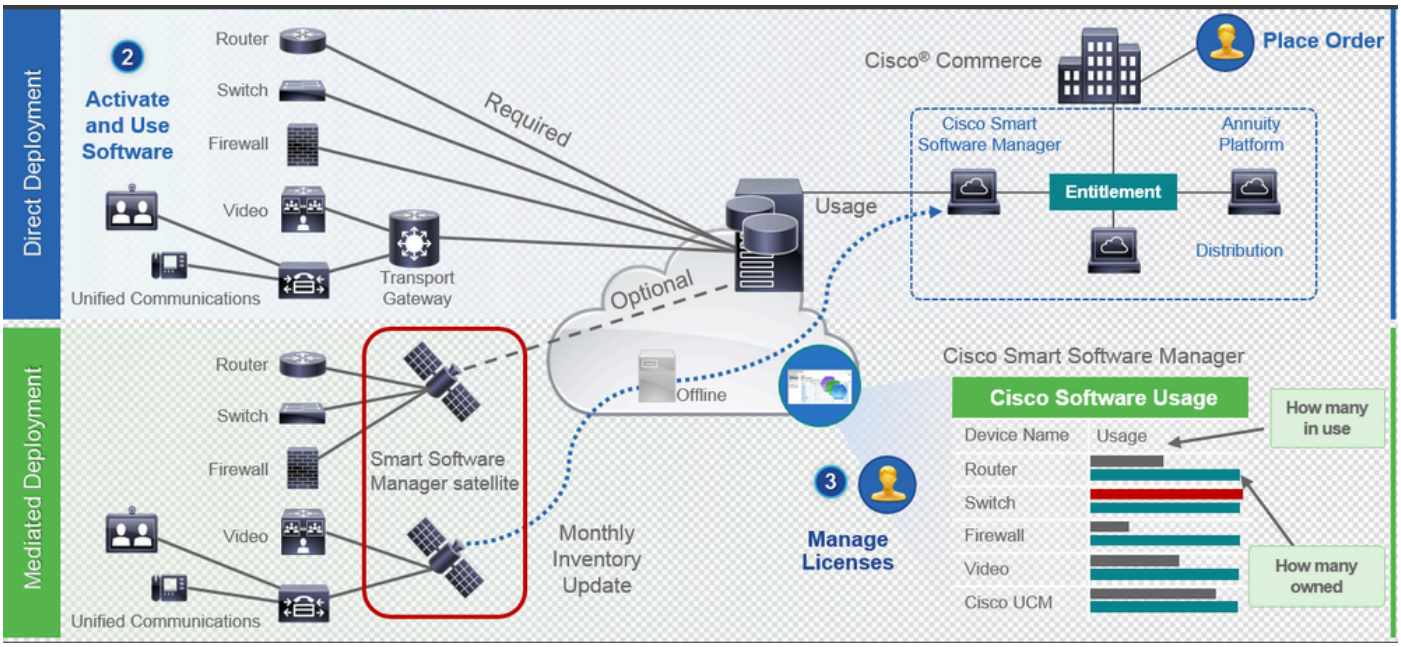
The information in this document is based on these software and hardware versions:

- Cisco Call Manager version 12.0
- Cisco License Central Satellite

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

Cisco Smart Software Licensing simplifies the licensing experience across the enterprise making it easier to purchase, deploy, track and renew Cisco Software. It provides visibility into license ownership and consumption through a single, simple user interface.



1. You place an order on Cisco Commerce and associate the order with smart account. This information is populated on Cisco License Central, which resides on Cisco.com. Now, you have complete view of your orders and purchases.

2. The product that has smart licensing enabled (via CLI or GUI), registers to Cisco License Central, and reports license consumption to Cisco License Central.

   Two models are there to report the usage:

- Direct Model- Customer Licensing information is where security is not a major concern. You can use HTTPS proxy or Transport Gateway to allow devices to talk to the through private network. This becomes the centralized access point for Cisco License Central. All of this is HTTPS so it is secured.

- Mediated Deployment Model- This is for those who have security concerns. You do not want your devices to talk directly to Cisco.com from your private network. You can install Cisco License Central Satellite on a VM, which resides on your premises, and acts as Cisco License Central. It can be synchronized with Cisco License Central on Cisco.com monthly, weekly, or totally disconnected. If you do not have an internet connection from your network, you can do file upload and download. All it needs to have is the synchronization to know the entitlement, as recommendation is to do the sync in 30 days.

Where do I Create Smart Accounts

- To create a Customer Smart Account, log into CSC with your CCO ID and initiate a request for a Customer Smart Account.
- To create a Partner Holding Smart Account, log in to CSC with your CCO ID and initiate a request for a Partner Holding Account.
- You can also initiate a request for either type of Smart Account when ordering in CCW. Although, the recommended best practice is to proactively set up your Smart Accounts.

Note: There is no upper limit; you can create as many Virtual Accounts as your company needs.

Cisco Smart License Manager Service

Cisco Smart License Manager Service is a network service running only on CUCM publisher. Since this is a network service, it runs all the time and cannot be started or stopped from UI or CLI. Since no service runs on subscriber, none of the smart licensing operations can be done from the sub. The CLI commands also do not provide any output on sub,

Smart Licensing States in UCM

There are two main statuses in Smart Licensing :

Registration Status:There are 3 registration status types:

1. Unidentified / Unregistered
2. Registered
3. Unregistered-registered Expired

Authorization Status:

- No License in use
- Evaluation Mode
- Evaluation Expired
- Authorized
- Out of compliance
- Authorization Expired

Registration Status	Authorization Status	Evaluation period(90 days)	Overage period(90 days)	Enforcement? (Do not allow provisioning of users/devices)	Comments	Message on UI
Unregistered *OR* Registration Expired	Evaluation Mode	Start with 90 and will decrement if UCM is consuming licenses	.NA	No	Evaluation period is used when you consume licenses	**Smart Software Licensing: The system is currently unregistered and running in Evaluation mode with 89 days remaining. Register with Smart Software Manager or Smart Software Manager satellite to avoid losing the ability to provision users and devices.**
Unregistered *OR* Registration Expired	Evaluation Expired	0 days	NA	Yes		**Smart Software Licensing: The system is currently unregistered and the evaluation period has expired. Register with Smart Software Manager or Smart Software Manager satellite to avoid losing the ability to provision users and devices.**
Registered *OR* Unregistered *OR* Registration Expired	No Licenses in Use	NA	NA	No		
Registered	Authorized	NA	NA	No		
Registered	OOC	NA	Overage period remaining	No till overage period is applicable Yes after overage days(90 days) are over		**Smart Software Licensing: The system is operating with an insufficient number of licenses. Configure additional licenses in Smart Software Manager within 90 days to avoid losing the ability to provision users and devices.**
Registered	Authorization Expired	NA	Same as above	Same as above		**Smart Software Licensing: The system has not connected to Smart Software Manager or Smart Software Manager satellite for 90 days and the license authorization has expired. Please check the network connection and renew the license authorization within 90 days to avoid losing the ability to provision users and devices.**

In addition to the previous smart licensing statuses, UCM provides an overage period of 90 days (This is a concept already present in pre 12.0 with classic licensing. UCM can continue providing the overage period with smart licensing as well).

Configure (Mediated Deployment)

Prerequisites

These ports must be enabled for communication with Cisco License Central:

- User Interface: HTTPS (port 8443)
- Product Registration: HTTPS (port 443), HTTP (port 80)
- Communication to Cisco License Central: HTTPS (tools.cisco.com, api.cisco.com, cloudsso.cisco.com), port 443

There are 2 deployment options under mediated deployment model,

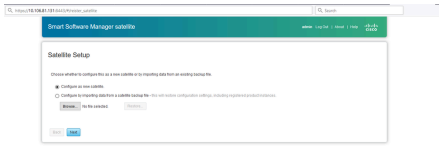
Connected using Proxy Server: Here you can use the proxy server to facilitate connectivity between CUCM and Smart Account.

Disconnected: Used when there is NO direct connectivity from CUCM / Satellite to Cisco.com. Smart Account Synchronization must be done using file upload and download manually.

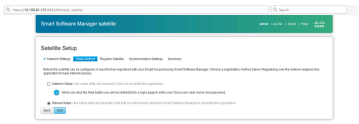
Configuration (Satellite)

1. Log in to satellite. Configure as new satellite. Verify Network settings. Configure valid NTP server.

Note: For the first time log in, the default credential for satellite log in is Admin/Admin!23.

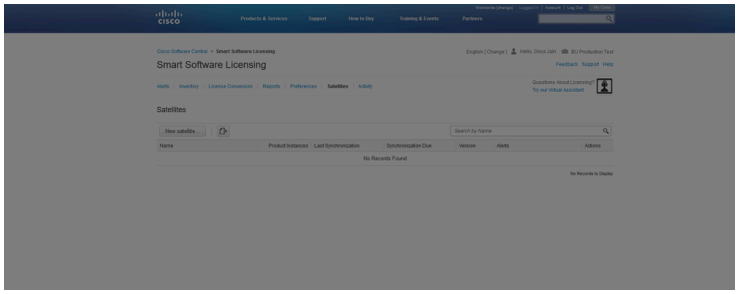


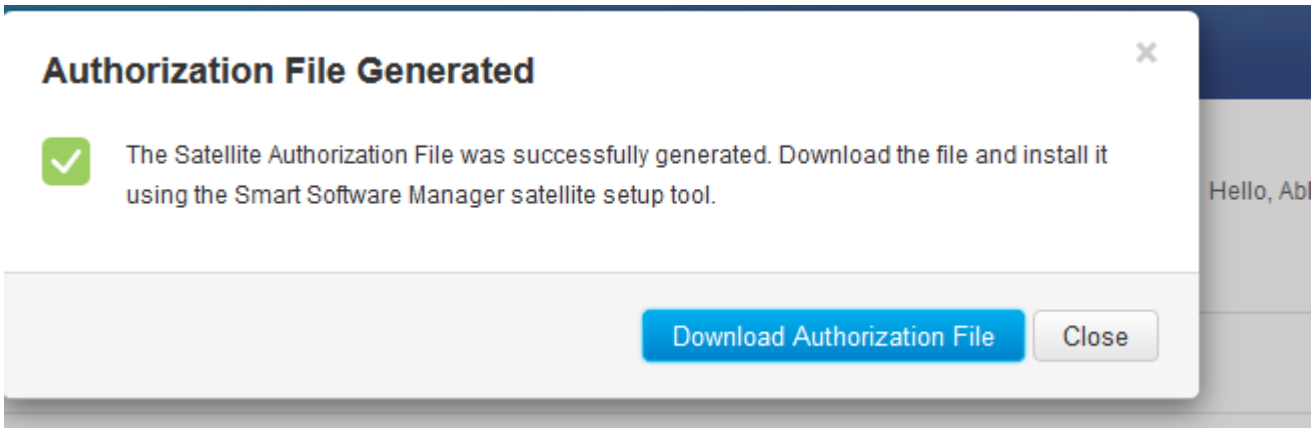
1. Choose **Manual Setup** and download the Registration File.



2. Log into your Smart Account in Cisco License Central.

3. Navigate to **Satellites** under the section of Cisco License Central and click **New Satellite...** button Add a new satellite. Associate the newly created virtual account to the satellite. Once this is done, generate the authorization file.

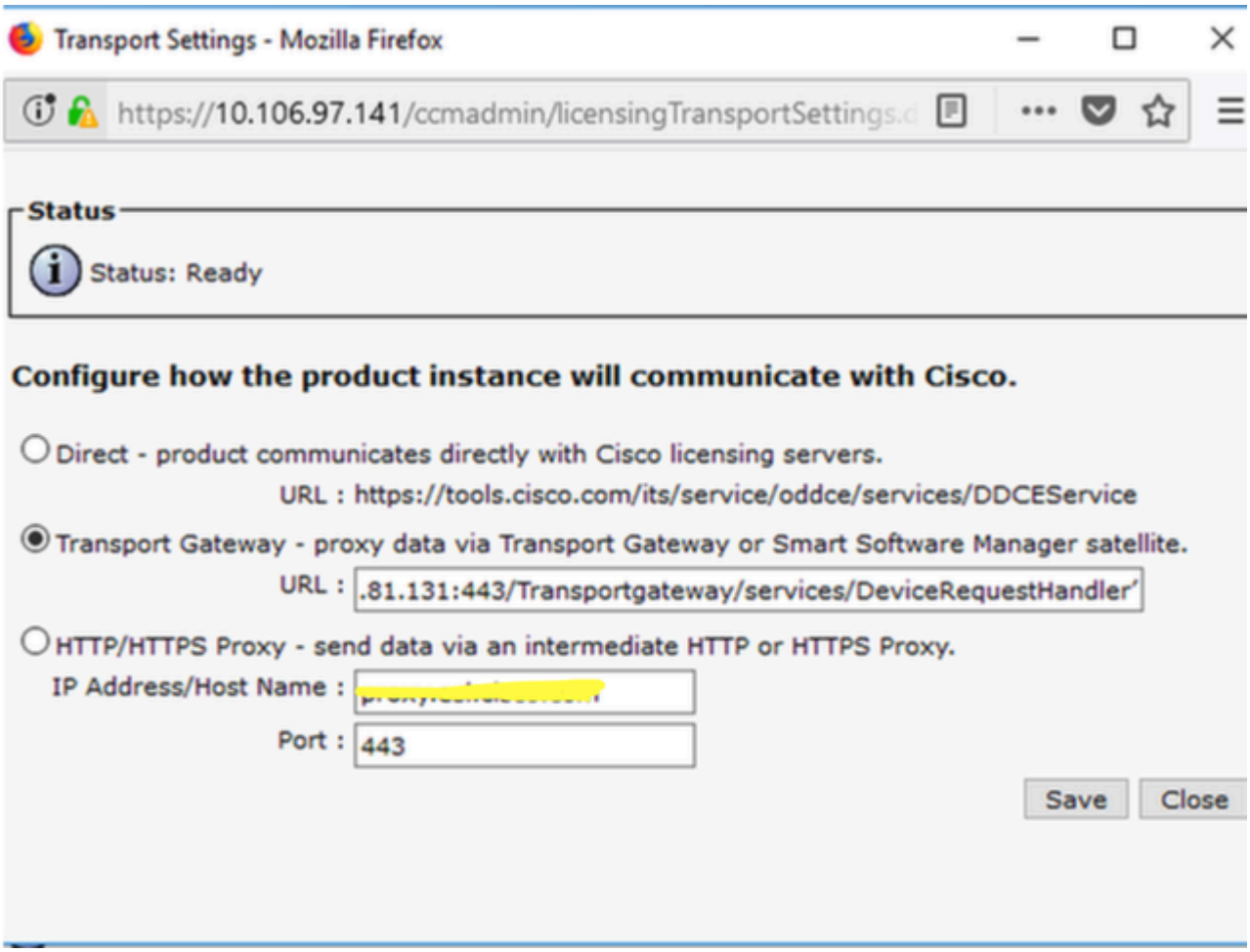




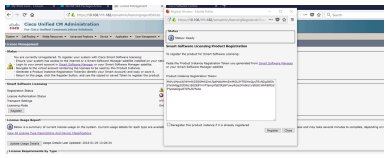
4. In order to complete registration process, navigate to the **satellite** log in and upload the authorization file. Satellite restarts. Now the satellite is synced to the virtual account.

5. Log in to **satellite** and generate a token.

6. Navigate to **CUCM admin page > System > Licensing > License Management > View/Edit the Licensing Smart Call Home settings** and then set the Cisco License Central satellite URL to [Device Request Handler](10.106.81.131 is the IP address of the satellite configured) and **save**, as shown in the image.



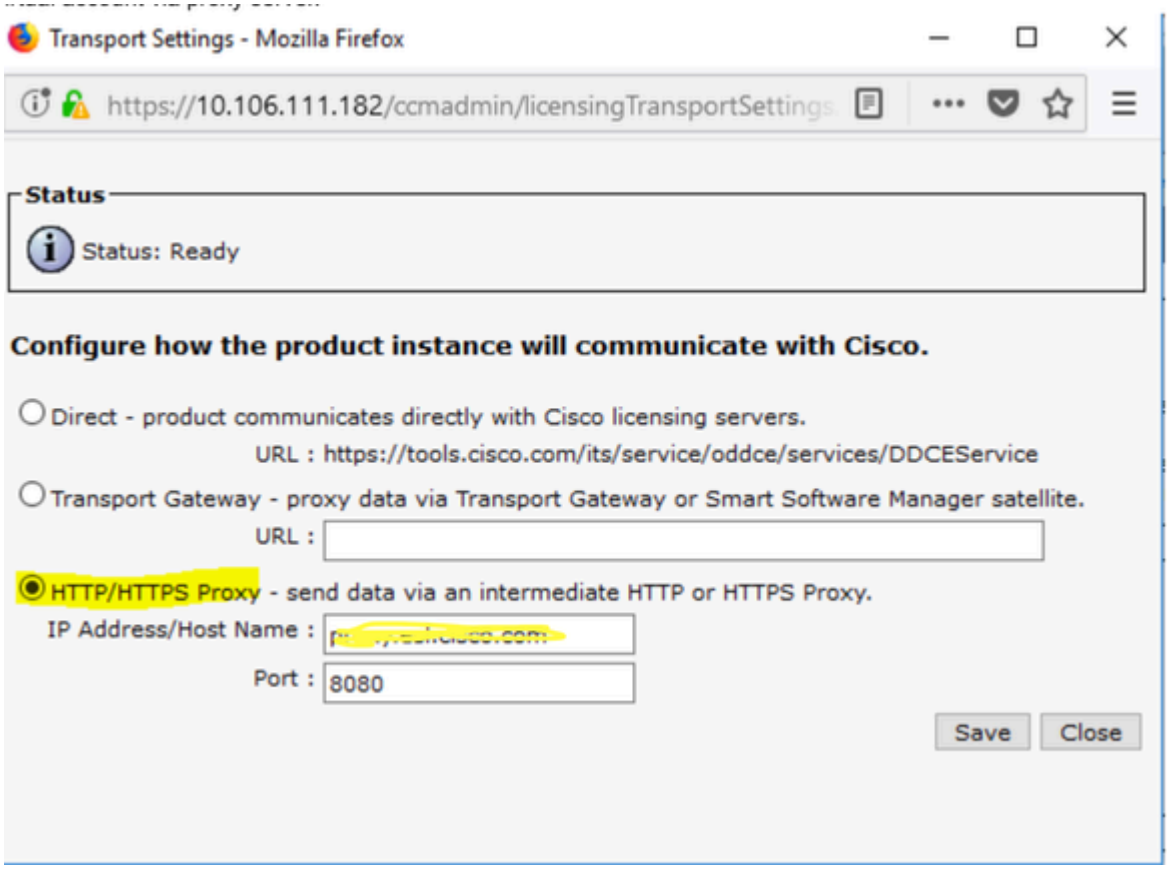
7. Click **Register** and paste the token generated in step 6.



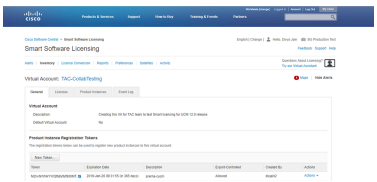
Configuration (Proxy Server)

1. Instead of using satellite server, you can also use proxy server. If CUCM is already registered via Direct Method or satellite, first deregister and navigate to **System > Licensing > License management**. Here you have Actions Tab, **selectderegister**.

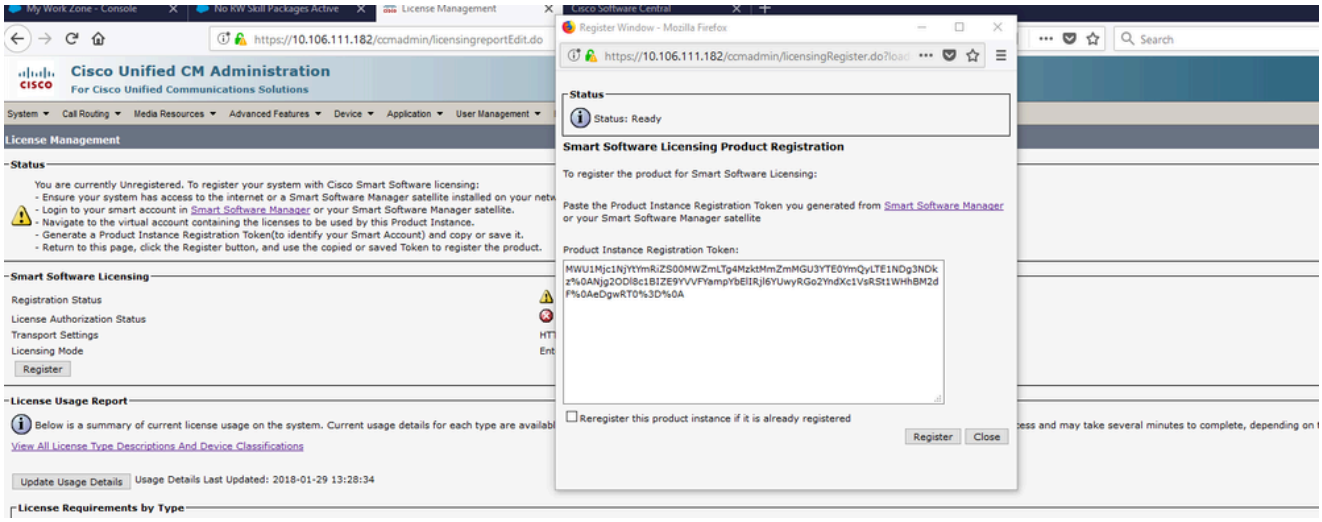
2. If CUCM is not registered, directly choose **View/Edit**, the licensing Smart Callhome settings. Here add proxy server details, and be sure that proxy server has connectivity to tools.cisco.com so that CUCM can be synced to the virtual account via proxy server.



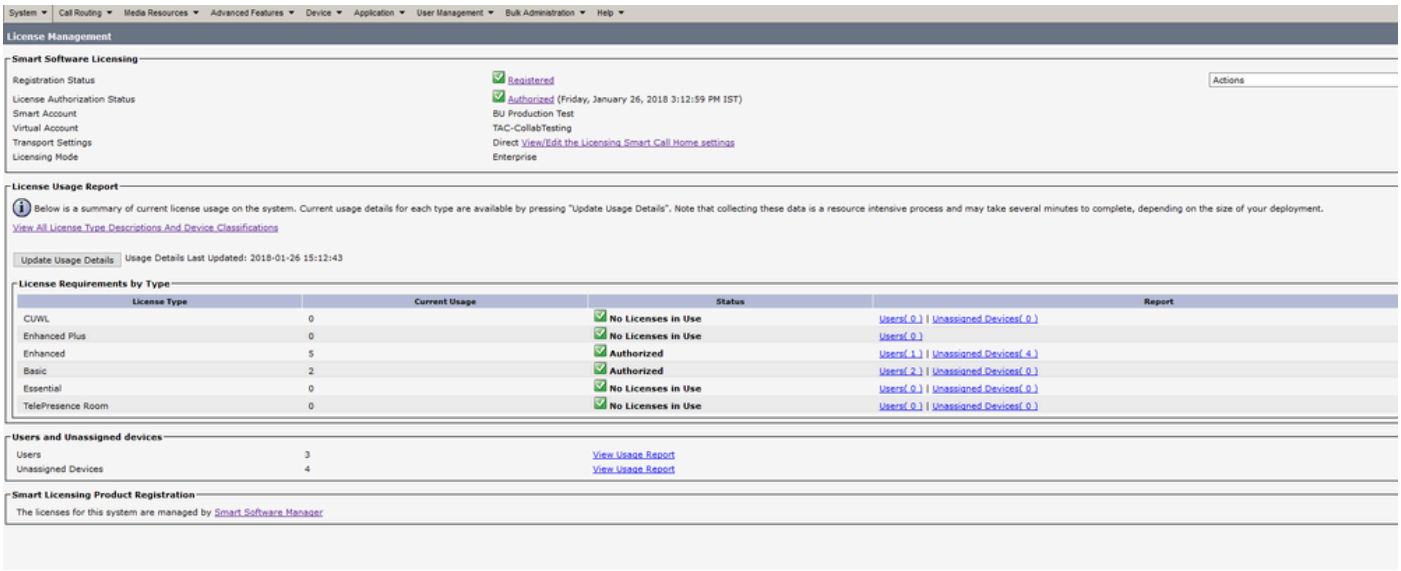
3. Generate Token request from virtual account.



4. Navigate to **CUCM**. Here, click **register** and paste the token copied in Step 3.



Verify



Show license summary.

Smart Licensing is ENABLED.

```
Registration:
  Status: REGISTERED
  Smart Account: BU Production Test
  Virtual Account: TAC-CollabTesting
  Last Renewal Attempt: None
  Next Renewal Attempt: Jul 25 15:11:23 2018 IST

License Authorization:
  Status: AUTHORIZED
  Last Communication Attempt: SUCCEEDED
  Next Communication Attempt: Feb 25 15:12:59 2018 IST
```

```
License Usage:

  License                      Entitlement Tag
  ----------------------------------------------------------------------------------------------
                               regid.2017-02.com.cisco.UCM_CUWL,12.0_cc59375a-1cd8-4b36-8366-6f4d2abba96
                               regid.2016-07.com.cisco.UCM_EnhancedPlus,12.0_d8372792-588c-4caa-b279-858
  66d0d1cf-4863-4761-91d0-d01d3eb1949aregid.2016-07.com.cisco.UCM_Enhanced,12.0_66d0d1cf-4863-4761-91d0
  ef827a2f-f4ae-4ebb-887f-052737063d3aregid.2016-07.com.cisco.UCM_Basic,12.0_ef827a2f-f4ae-4ebb-887f-05
                               regid.2016-07.com.cisco.UCM_Essential,12.0_25f9c396-c67c-4519-aa98-d4b3ad
                               regid.2016-07.com.cisco.UCM_TelePresenceRoom,12.0_d9a71418-29e9-4c9a-9d3a
```

Show license UDI.

```
UDI: PID:UCM,SN:37624,UUID:6fe83addc80240bc92dc071ac7a37624
```

Show license all.

```
Smart Licensing Status
======================
Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: BU Production Test
  Virtual Account: TAC-CollabTesting
  Export-Controlled Functionality: Allowed
  Initial Registration: SUCCEEDED on Jan 26 15:11:23 2018 IST
  Last Renewal Attempt: SUCCEEDED on Jan 26 15:11:23 2018 IST
  Next Renewal Attempt: Jul 25 15:11:23 2018 IST
  Registration Expires: Jan 26 15:06:21 2019 IST

License Authorization:
  Status: AUTHORIZED on Jan 26 15:12:59 2018 IST
  Last Communication Attempt: SUCCEEDED on Jan 26 15:12:59 2018 IST
  Next Communication Attempt: Feb 25 15:12:59 2018 IST
  Communication Deadline: Apr 26 15:06:59 2018 IST

Evaluation Period:
  Evaluation Mode: Not In Use
  EVALUATION PERIOD EXPIRED on Nov 9 23:46:35 2017 IST

License Usage
=============
License Authorization Status: AUTHORIZED as of Jan 26 15:12:59 2018 IST

 (regid.2017-02.com.cisco.UCM_CUWL,12.0_cc59375a-1cd8-4b36-8366-6f4d2abba965)
  Description: null
  Count: 0
  Version: 12.0
  Status: Init

 (regid.2016-07.com.cisco.UCM_EnhancedPlus,12.0_d8372792-588c-4caa-b279-8587e5ce2f82)
  Description: null
  Count: 0
```

```
  Version: 12.0
  Status: Init

UC Manager Enhanced License (12.x) (regid.2016-07.com.cisco.UCM_Enhanced,12.0_66d0d1cf-4863-4761-91d0-d
  Description: UC Manager Enhanced License
  Count: 5
  Version: 12.0
  Status: InCompliance

UC Manager Basic License  (12.x) (regid.2016-07.com.cisco.UCM_Basic,12.0_ef827a2f-f4ae-4ebb-887f-052737
  Description: UC Manager Basic License
  Count: 2
  Version: 12.0
  Status: InCompliance

 (regid.2016-07.com.cisco.UCM_Essential,12.0_25f9c396-c67c-4519-aa98-d4b3ad18f805)
  Description: null
  Count: 0
  Version: 12.0
  Status: Init

 (regid.2016-07.com.cisco.UCM_TelePresenceRoom,12.0_d9a71418-29e9-4c9a-9d3a-1366ebe38e7c)
  Description: null
  Count: 0
  Version: 12.0
  Status: Init

Product Information
===================
UDI: PID:UCM,SN:37624,UUID:6fe83addc80240bc92dc071ac7a37624

Agent Version
=============
Smart Agent for Licensing: 1.3.4
```

Troubleshoot

Collect the logs for troubleshooting issues related to registration:

- Packet capture from CUCM CLI
- License Manager logs
- Diagnostic logs from satellite

Known Bugs

- Cisco bug ID CSCvh16069: Cisco Smart licensing satellite cannot borrow license from higher level to make it compliant.
- Cisco bug ID CSCvf86710: Cisco Smart License Manager platform service does not run.
- Cisco bug ID CSCvc94366: CUCM smart license registration to Cisco License Central does not

accept the proxy port 443.
- Cisco bug ID CSCvh72897: Unable to use proxy server when authorization is enabled on proxy server.

Related Information

- Cisco License Central
- Smart Software Manager Satellite Installation Guide
- Cisco Smart Software Manager Satellite User Guide
- Technical Support & Documentation - Cisco Systems