

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 Smart Software Manager (CSSM) Satellite

Components Used

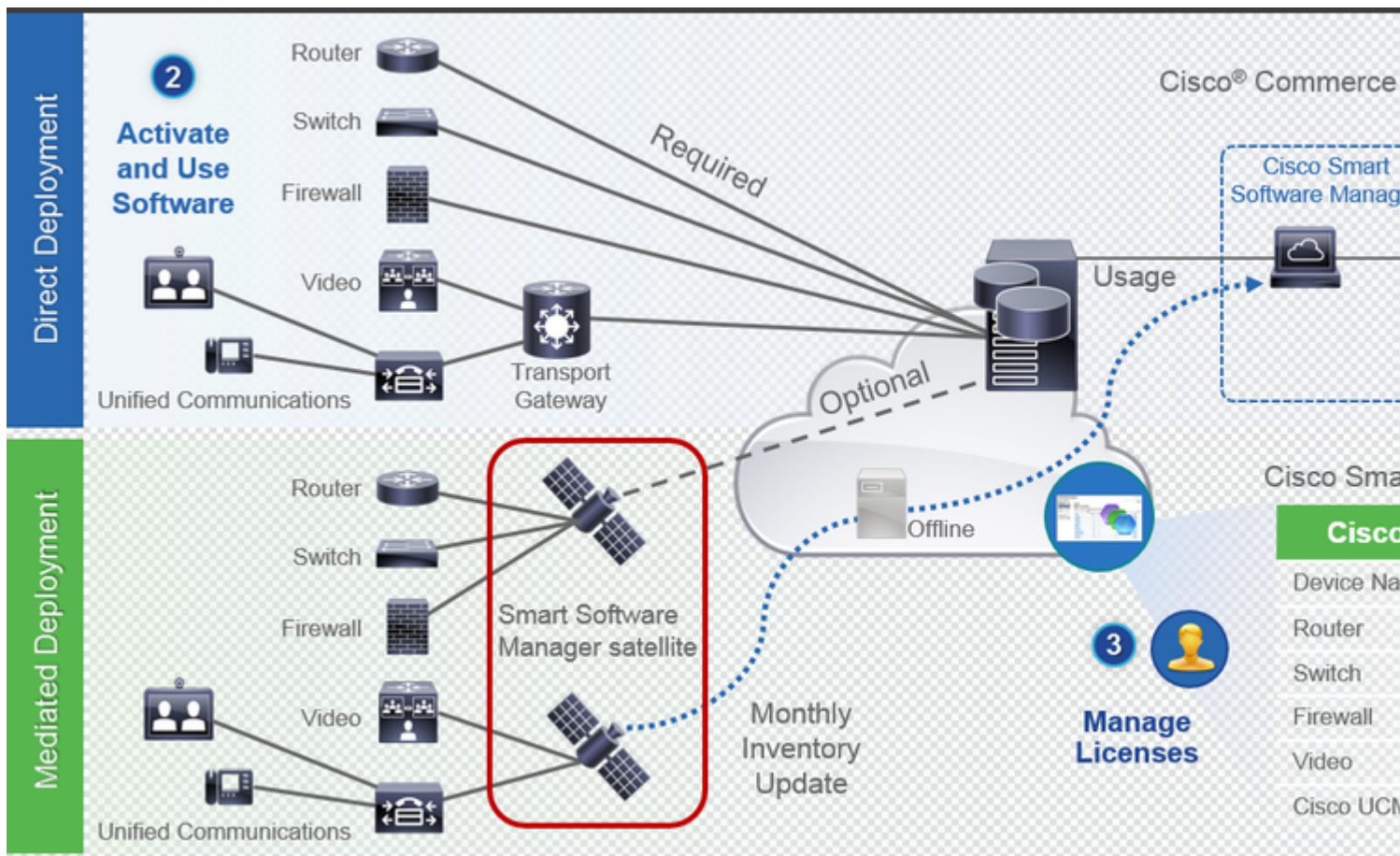
The information in this document is based on these software and hardware versions:

- Cisco Call Manager version 12.0
- Smart Software Manager 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 Software Manager, 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 CSSM, and reports license consumption to CSSM.

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 CSSM. 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 CSSM Satellite on a VM, which resides on your premises, and acts as CSSM. It can be synchronized with CSSM 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 remaining. Register with Smart Software Manager or Smart Software Manager to provision users and devices.
Unregistered OR Registration Expired	Evaluation Expired	0 days	NA	Yes		Smart Software Licensing: The system is currently unregistered with Smart Software Manager or Smart Software Manager 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 a licenses in Smart Software Manager within 90 days to avoid
Registered	Authorization Expired	NA	Same as above	Same as above		Smart Software Licensing: The system has not connected satellite for 90 days and the license authorization has expired the license authorization within 90 days to avoid losing th

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 to customers with smart licensing as well).

Configure (Mediated Deployment)

Prerequisites

These ports must be enabled for communication with CSSM:

- User Interface: HTTPS (port 8443)
- Product Registration: HTTPS (port 443), HTTP (port 80)
- Communication to CSSM: HTTPS (tools.cisco.com, api.cisco.com, cloudssso.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.

The screenshot shows a web browser window with the URL `https://10.106.81.131:8443/#/reister_satellite`. The page title is "Smart Software Manager satellite" and the user is logged in as "admin". The main content area is titled "Satellite Setup" and contains the following text: "Choose whether to configure this as a new satellite or by importing data from an existing backup file." There are two radio button options: "Configure as new satellite." (which is selected) and "Configure by importing data from a satellite backup file - this will restore configuration settings, including registered product instances." Below the second option, there is a "Browse..." button, the text "No file selected.", and a "Restore..." button. At the bottom of the form, there are "Back" and "Next" buttons.

Satellite Setup

Network Settings Setup Method Register Satellite Synchronization Settings Summary



Unless the time on the satellite is accurate, synchronization with the Cisco Smart Software Manager will fail. Verify that the time displayed below is accurate and ensure sure that the platform the satellite is running on is configured to use an NTP server.

Administration Network Interface - eth0

Edit Network

Status: Enabled Connected

Hardware Address: 00:50:56:bd:7b:93

IPv4:	IPv6:
Configuration: static	Configuration: not configured
IP Address: 10.106.81.131	IP Address:
Subnet Mask: 255.255.255.192	Prefix Length:
Gateway: 10.106.81.129	Gateway:

DNS Settings

DNS Servers: 10.106.97.145

Search Domains:

NTP Settings

Current Time on Satellite: 2018-Jan-26 13:45:12 UTC

Selected NTP Server: pool.ntp.org [Sync Time Now](#)

CSPC Specific Settings

If you are a CSPC customer, use "Edit Network Settings" to configure the Public IP Address or FQDN. Otherwise, please ignore this field.

[Back](#) [Next](#)

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

Smart Software Manager satellite

Satellite Setup

✓ Network Settings **Setup Method** Register Satellite Synchronization Settings Summary

Before the satellite can be configured, it must first be registered with your Smart Account using Smart Software Manager. Choose a registration method or application to have internet access.

Network Setup - the setup utility will connect to Cisco to complete the registration.



When you click the Next button you will be redirected to a login page to enter your Cisco.com user name and password.

Manual Setup - the setup utility will generate a file that you will need to upload to Smart Software Manager to complete the registration.

Back

Next

Smart Software Manager satellite

Satellite Setup

✓ Network Settings ✓ Setup Method **Register Satellite** Synchronization Settings Summary



The registration process will take several minutes and will require the satellite setup application to restart. When you click Register Satellite be progress page and then automatically redirected to the login page when the restart has completed. After you log in, you will be taken to the next

Before the satellite can be configured, it must first be registered with your Smart Account using Smart Software Manager. Follow the steps below to complete

1. Generate a Satellite Registration File using the button below and save the file to your PC

Generate Registration File

2. Register the Satellite with your Smart Account on Smart Software Manager

- Log into your Smart Account in [Smart Software Manager](#)
- Navigate to the "Satellites" section of Smart Software Manager and click the "New Satellite..." button
- When prompted, upload the Satellite Registration File
- A Satellite Authorization File will be generated. Download the file to your PC

3. Upload this Satellite Authorization File below

Browse...

No file selected.

Upload

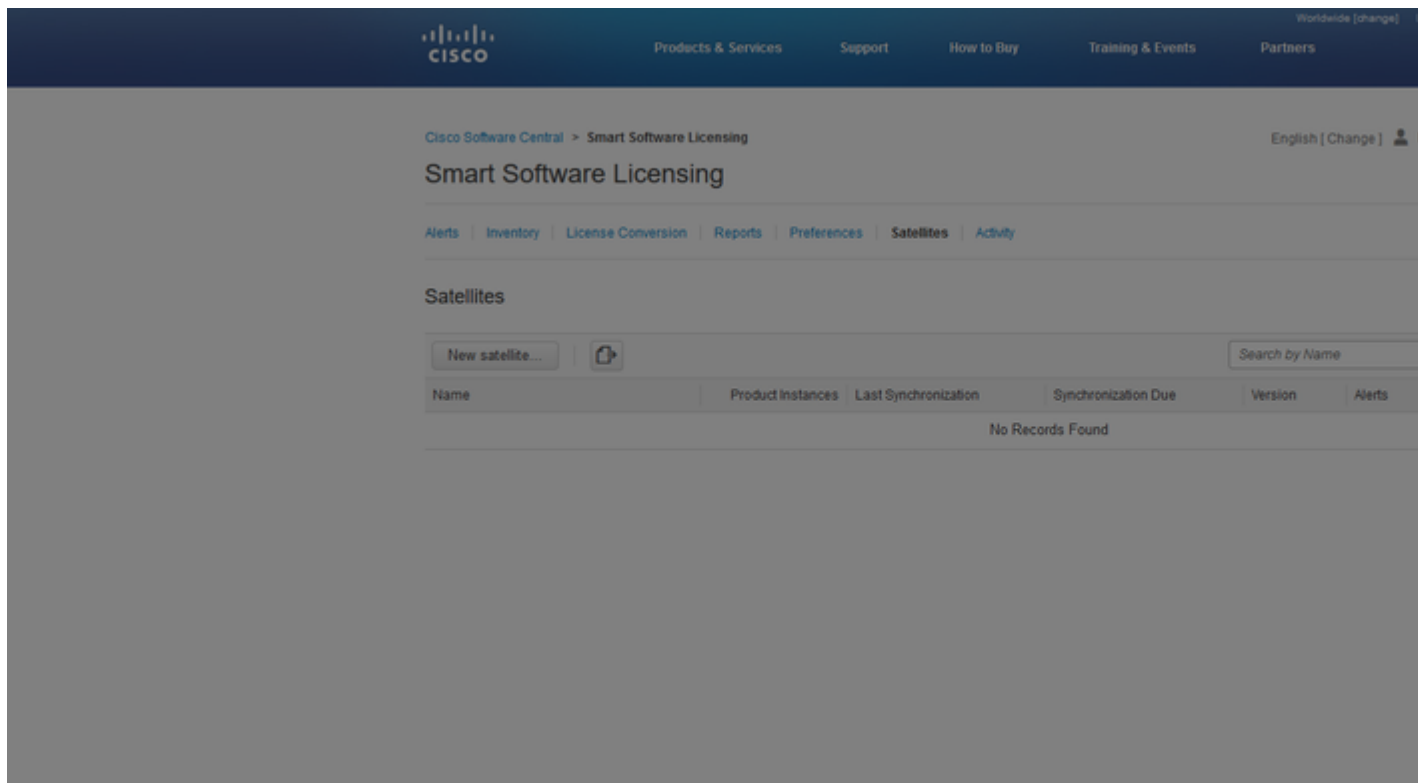
Back

Register Satellite

2. Log into your Smart Account in [Smart Software Manager](#)

3. Navigate to **Satellites** under the section of Smart Software Manager 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.



New satellite

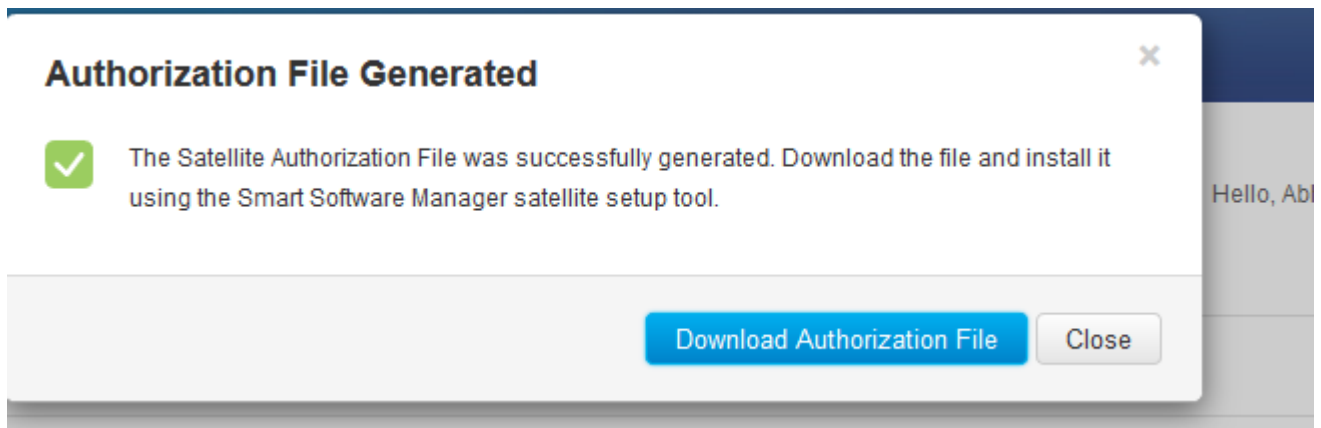


Enter a name, select the satellite Registration File generated by the Smart Software Manager satellite setup wizard and choose one or more virtual accounts to associate with this satellite. This will generate a satellite Authorization file for you to download and use to complete the registration on the satellite.

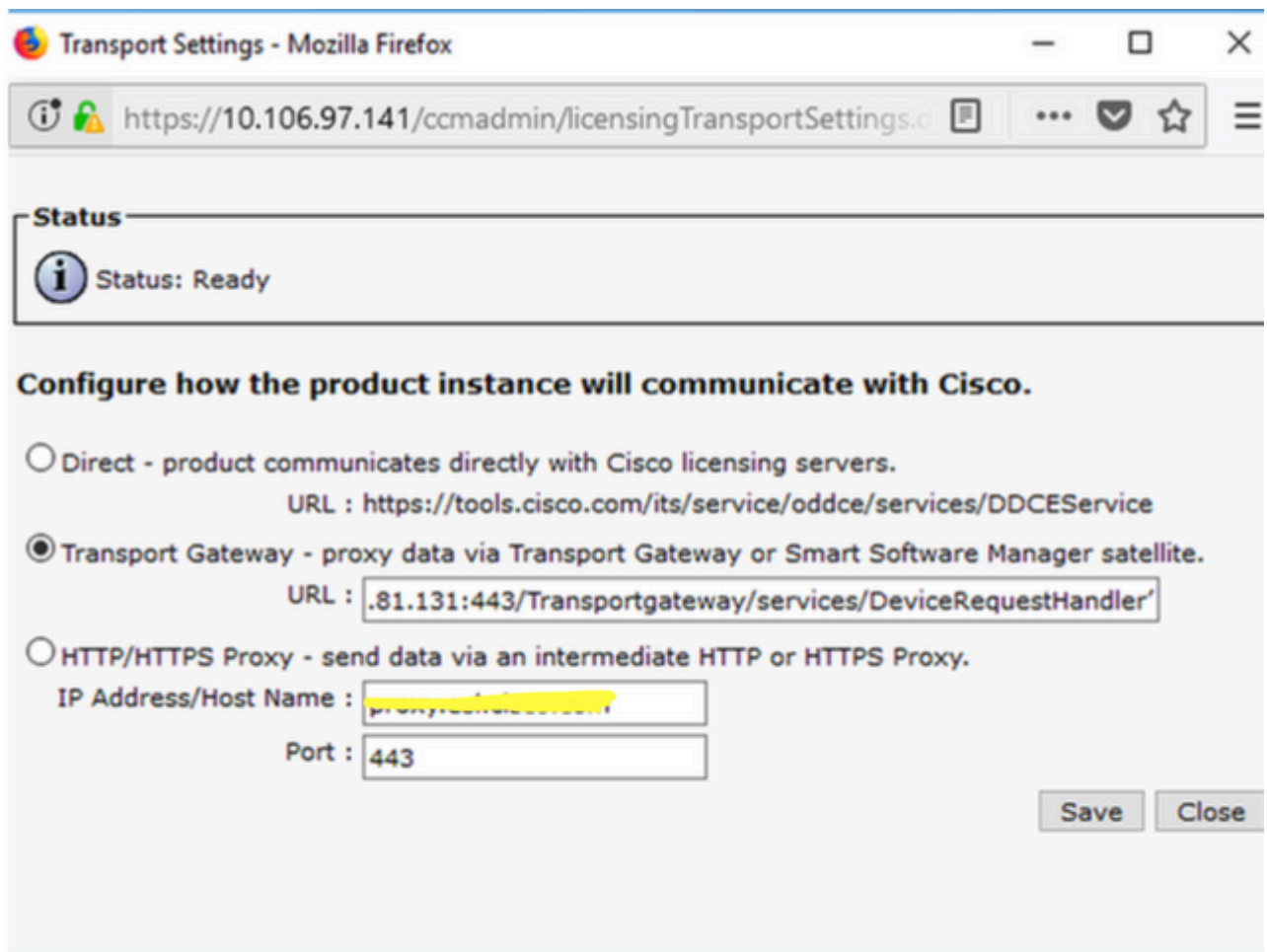
- ★ Satellite Name:
- ★ Registration File: smart-satellite-registration-request_20180126-084851.yml
- ★ Virtual Accounts:

Name	Description	Actions
------	-------------	---------

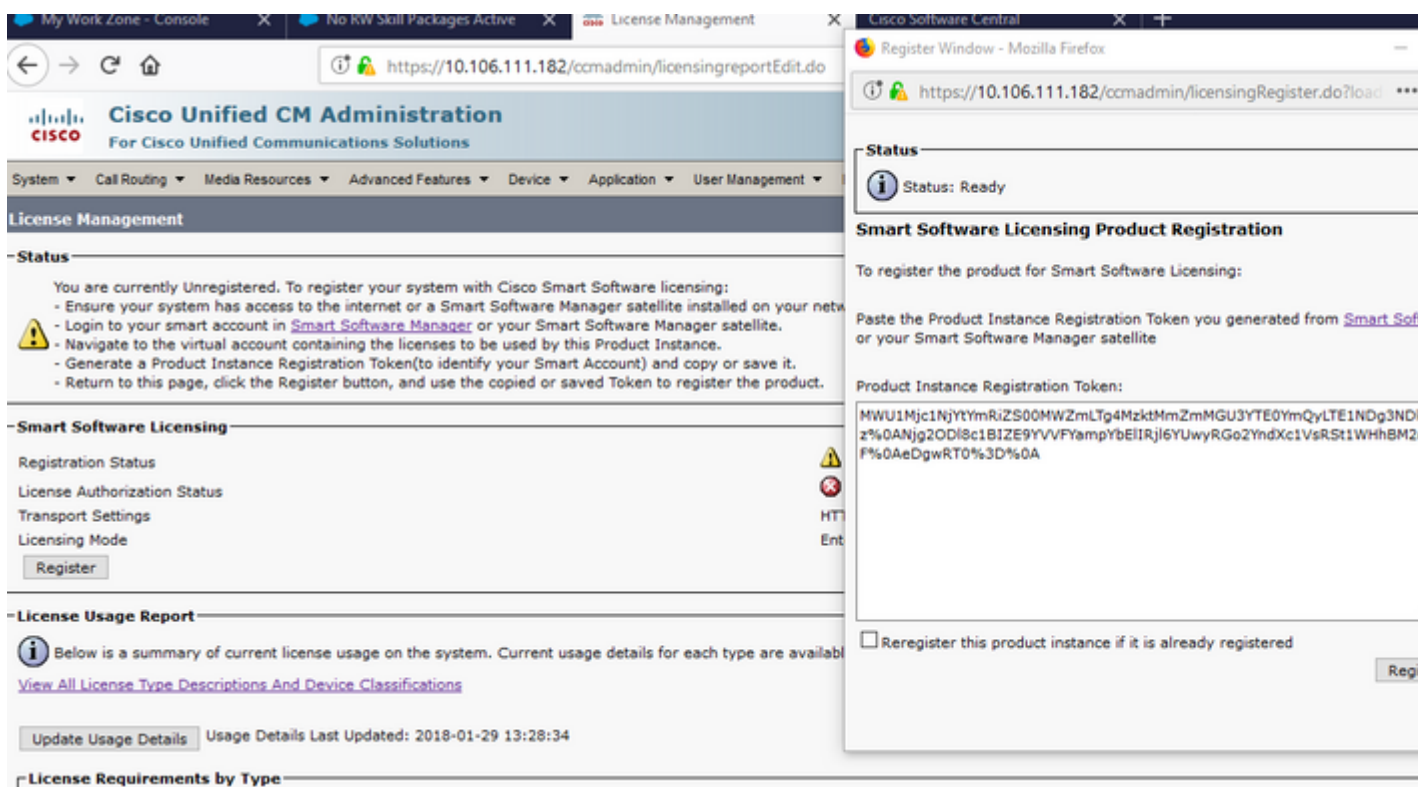
Select or add at least one virtual account above



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 SSM 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.

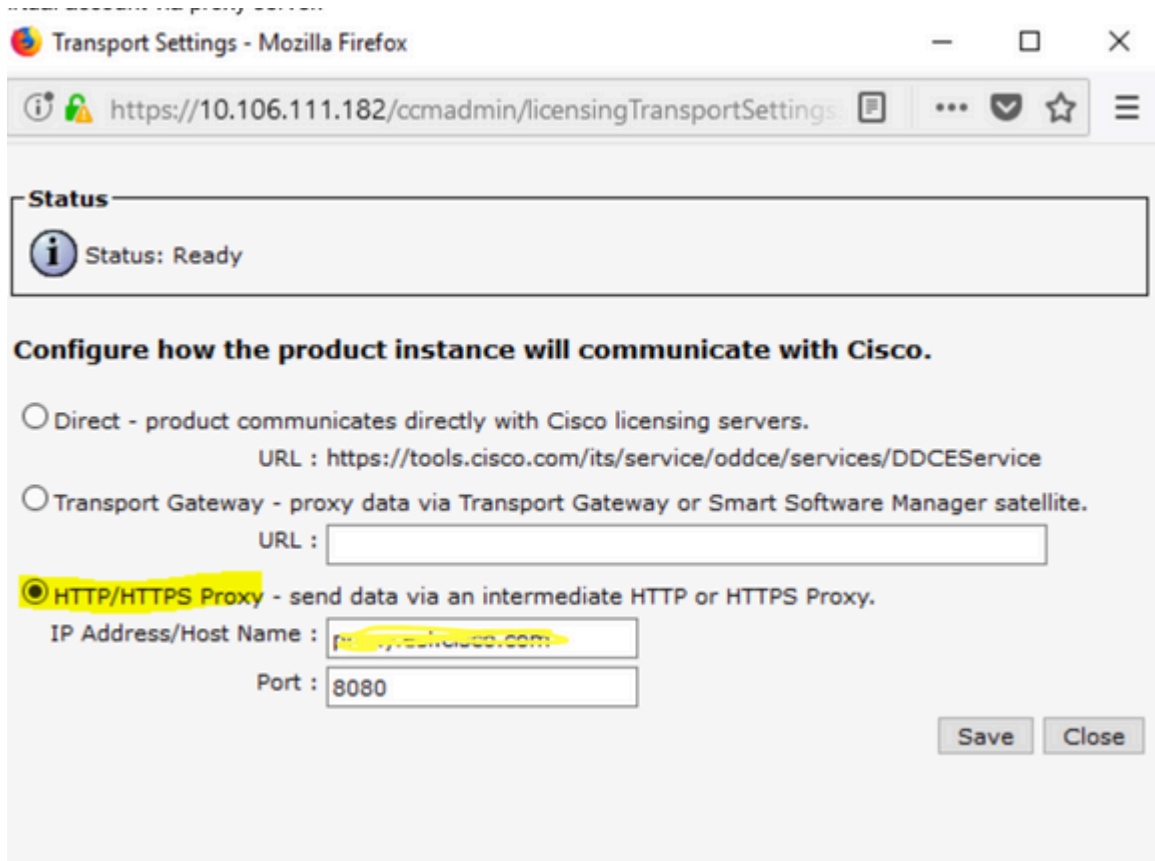


7. Click **Register** and paste the token generated in step 6.

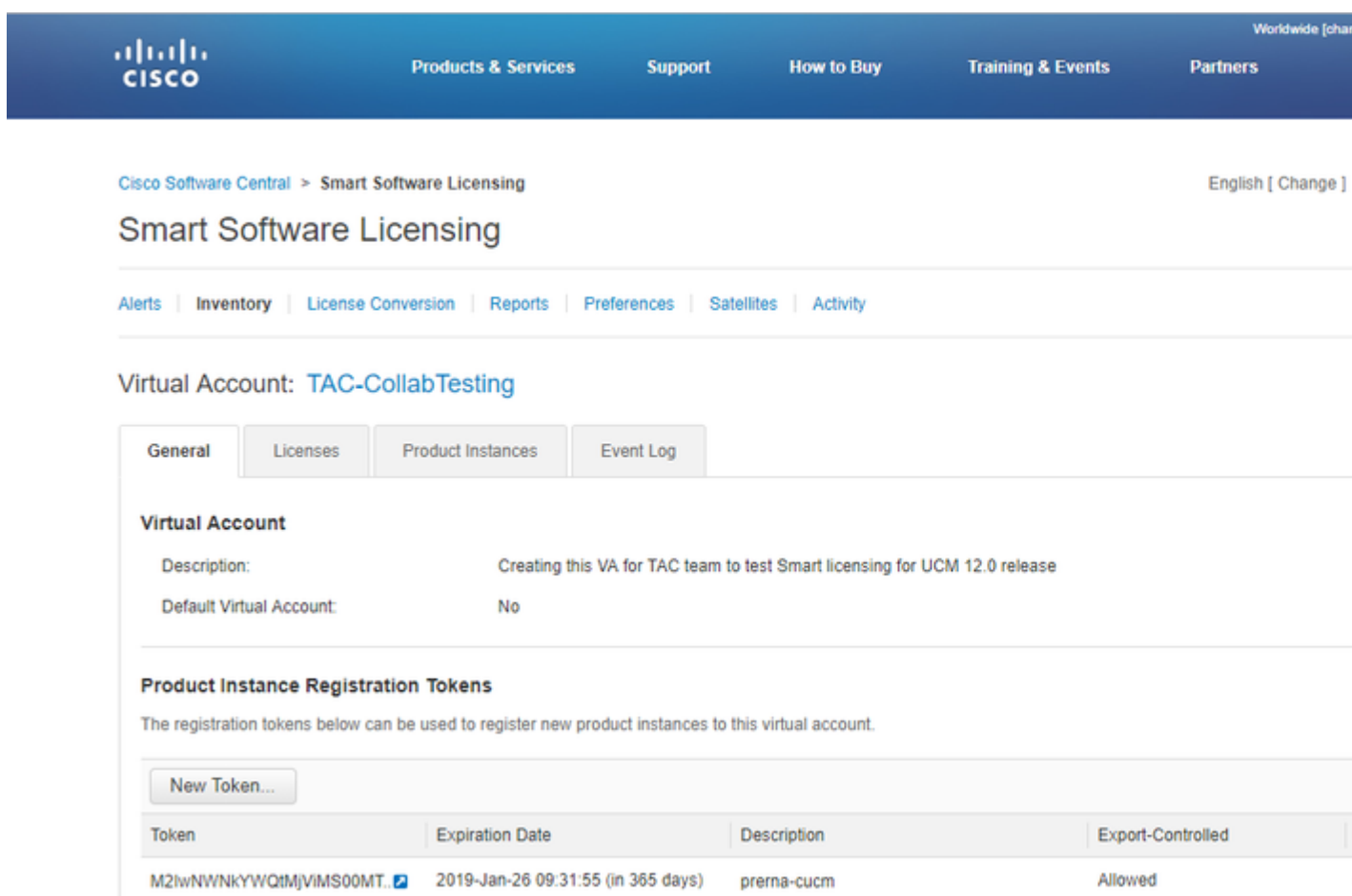


Configuration (Proxy Server)

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, select **deregister**.
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.

Cisco Unified CM Administration
For Cisco Unified Communications Solutions

System | Call Routing | Media Resources | Advanced Features | Device | Application | User Management

License Management

Status

You are currently Unregistered. To register your system with Cisco Smart Software licensing:

- Ensure your system has access to the internet or a Smart Software Manager satellite installed on your network.
- Login to your smart account in [Smart Software Manager](#) or your Smart Software Manager satellite.
- Navigate to the virtual account containing the licenses to be used by this Product Instance.
- Generate a Product Instance Registration Token(to identify your Smart Account) and copy or save it.
- Return to this page, click the Register button, and use the copied or saved Token to register the product.

Smart Software Licensing

Registration Status
License Authorization Status
Transport Settings
Licensing Mode
[Register](#)

License Usage Report

Below is a summary of current license usage on the system. Current usage details for each type are available [View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#) Usage Details Last Updated: 2018-01-29 13:28:34

License Requirements by Type

Register Window - Mozilla Firefox

Status: Ready

Smart Software Licensing Product Registration

To register the product for Smart Software Licensing:

Paste the Product Instance Registration Token you generated from [Smart Software Manager](#) or your Smart Software Manager satellite

Product Instance Registration Token:

```
MWU1Mjc1NjYyYmRiZS00MWZmLTg4MzktMmZmMGU3YTE0YmQyLTI1NDg3NDIz%0ANjg2ODI8c1B1ZE9YVVFyYmpYbEIRj6YUwyRGo2YndXc1VsRSt1WHhBM2F%0AeDgwRT0%3D%0A
```

Reregister this product instance if it is already registered

Verify

System | Call Routing | Media Resources | Advanced Features | Device | Application | User Management | Bulk Administration | Help

License Management

Smart Software Licensing

Registration Status: ✔ [Registered](#)

License Authorization Status: ✔ [Authorized](#) (Friday, January 26, 2018 3:12:59 PM IST)

Smart Account: BU Production Test

Virtual Account: TAC-CollabTesting

Transport Settings: Direct [View/Edit the Licensing Smart Call Home settings](#)

Licensing Mode: Enterprise

License Usage Report

Below is a summary of current license usage on the system. Current usage details for each type are available by pressing "Update Usage Details". Note that collecting these data is a resource intensive process and may take several minutes.

[View All License Type Descriptions And Device Classifications](#)

[Update Usage Details](#) Usage Details Last Updated: 2018-01-26 15:12:43

License Requirements by Type

License Type	Current Usage	Status	
CUWL	0	✔ No Licenses in Use	Users(0) Unassigned Devices(0)
Enhanced Plus	0	✔ No Licenses in Use	Users(0)
Enhanced	5	✔ Authorized	Users(1) Unassigned Devices(4)
Basic	2	✔ Authorized	Users(2) Unassigned Devices(0)
Essential	0	✔ No Licenses in Use	Users(0) Unassigned Devices(0)
TelePresence Room	0	✔ No Licenses in Use	Users(0) Unassigned Devices(0)

Users and Unassigned devices

Users: 3 [View Usage Report](#)

Unassigned Devices: 4 [View Usage Report](#)

Smart Licensing Product Registration

The licenses for this system are managed by [Smart Software Manager](#)

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-1cd8-4b36-8366-6f4d2abba965
	regid.2016-07.com.cisco.UCM_EnhancedPlus,12.0_d8372792-588c-4caa-b279-8587
66d0d1cf-4863-4761-91d0-d01d3eb1949a	regid.2016-07.com.cisco.UCM_Enhanced,12.0_66d0d1cf-4863-4761-91d0-
ef827a2f-f4ae-4ebb-887f-052737063d3a	regid.2016-07.com.cisco.UCM_Basic,12.0_ef827a2f-f4ae-4ebb-887f-052
	regid.2016-07.com.cisco.UCM_Essential,12.0_25f9c396-c67c-4519-aa98-d4b3ad1
	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-d0)
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-0527370)
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 CSSM 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

[Smart Software Manager Satellite Installation Guide](#)

[Cisco Smart Software Manager Satellite User Guide](#)

[Technical Support & Documentation - Cisco Systems](#)