



Smart Software Manager satellite Classic Edition

Installation Guide

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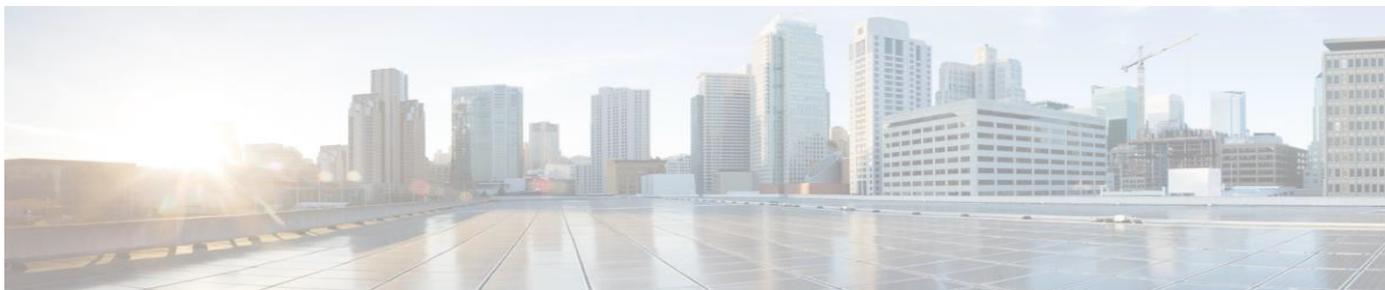
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Preface

This preface contains the following sections:

- [Audience, page iii](#)
- [Document Conventions, page iii](#)
- [Obtaining Documentation and Submitting a Service Request, page 4](#)

Audience

This guide is intended for site administrators who will manage Cisco Smart-enabled software installation and licensing.

Document Conventions

Command descriptions use the following conventions.

Convention	Description
bold	Bold text indicates the commands and keywords that you enter literally as shown.
<i>Italic</i>	Italic text indicates arguments for which the user supplies the values.
[x]	Square brackets enclose optional arguments (keyword or argument).
[x y]	Square brackets enclosing keywords or arguments separated by a vertical bar indicate an optional choice.
{x y}	Braces enclosing keywords or arguments separated by a vertical bar indicate a required choice.

Convention	Description
[x {y z}]	Nested set of square brackets or braces indicate optional or required choices within optional or required elements. Braces and a vertical bar within square brackets indicate a required choice within an optional element.
<i>variable</i>	Indicates a variable for which you supply values, in context where italics cannot be used.
string	A non-quoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.
<code>screen font</code>	Terminal sessions and information the switch displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
<>	Nonprinting characters, such as passwords, are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.



Note The pencil icon is an alert that the reader should special take note of the information provided in the noted section. Notes contain helpful suggestions or references to material not covered in the manual.



Caution The caution icon is an alert to the reader that a section includes procedural information that must be followed carefully to avoid doing something that could result in equipment damage or loss of data.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, using the Cisco Bug Search Tool (BST), submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation*, at: <http://www.cisco.com/c/en/us/td/docs/general/whatsnew/whatsnew.html>.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds is a free service.



Overview

This chapter contains the following sections:

- [Device Terminology](#)
- [System Requirements](#)

Smart Software Manager satellite is a component of Cisco Smart Licensing. It works in conjunction with Cisco Smart Software Manager to intelligently manage customer product licenses, providing near-real-time visibility and reporting of Cisco licenses customers purchase and consume.

In a typical scenario, customers are able to view their installed base from the cloud-based Cisco Smart Software Manager using a highly secure Internet connection, protected by various levels of user authorization and encrypted passwords. However, for security-sensitive customers who do not want to manage their installed base with a direct Internet connection, Smart Licensing provides Smart Software Manager satellite software, which can reside on customer premises. Devices or software products self-register and report license consumption to the Smart Software Manager satellite as though it were a replicate of the Smart Software Manager.

The satellite version of Smart Licensing contains a subset of Cisco Smart Software Manager functionality and must communicate with the latter periodically to operate. Customers need to synchronize their local databases with the Cisco portal to make sure that the most recent purchases are reflected in their local copies. This may be initiated automatically or manually. The automatically scheduled synchronizations can be daily, weekly, or monthly. Depending on the frequency the data on the satellite can be as current as the portal on a daily basis. On the other hand, the manual synchronization involves a file transfer at least once a month and represents an air gap for high-security customers. Figure 1 depicts the Smart Software Manager satellite Classic deployment.

Device Terminology

Term	Description
ESXi	Virtualization platform used to create the virtual machines as a set of configuration and disk files.
ISO Image	International Organization for Standardization file is an archive file that contains a disk image called ISO 9660 file system format.
Virtual Machine (VM)	Virtualized x86 PC environment in which a guest operating system and associated application software can run. Multiple VMs can operate on the same host system concurrently.
vSphere Client	User interface that enables users to connect remotely to vCenter Server or ESXi from any Windows PC. You can use the primary interface for vSphere Client to create, manage, and monitor VMs, their resources, and the hosts. vSphere Client also provides console access

System Requirements

section.

Ensure that the software image supplied for the installation of Smart Software Manager satellite Classic has the following minimum configuration:

- 200GB hard disk
- 8GB Memory
- 4 vCPUs (if customers have more than 4,000 product instances, we recommend 8vCPUs)

Supported Web Browsers

Smart Software Manager satellite Classic supports the following web browsers:

- Chrome 32.0 and later versions
- Firefox 25.0 and later versions
- Safari 6.0.5



Note

Ensure that you have an assigned to a Smart Account before you proceed with the deploying satellite Classic Edition

Deploying Smart Software Manager satellite Classic

This chapter contains the following sections:

- [Introduction](#)
- [Smart Software Manager satellite Classic ISO Installation](#)
- [Connecting to the satellite](#)
- [Registering the satellite](#)

Introduction

Cisco Smart Software Manager satellite software is delivered as a CentOS 7 ISO image that can be deployed on various virtualized platforms (i.e., bare metal, OVA, Hyper-V, KVM, etc.), using standard CentOS installation procedures.

Smart Software Manager satellite Classic ISO Installation

The following steps shows the satellite installation workflow to install an ISO image:

1. Download the ISO image from CCO
2. Create a VM using vSphere Client
3. Mount the ISO image on a VM Manager
4. Enter the information requested on the Cisco SSM satellite Classic Kickstart Installation UI
 - a. Setup Hostname
 - b. Select System Profile
 - c. Select Security Classification
 - d. SCAP Profile and Kernel fields are not selectable
 - e. Configure IP address, DNS settings, and Admin password
5. Follow the Kickstart UI options
 - a. When you configure IPV6 address, ensure you add the IPV4 address to prevent Kickstart from failing. This IPV4 address must not be used by another machine or the installation will fail. This is an existing issue with Kickstart from Redhat.
 - b. Security Classification - The options are Default Unclassified, Confidential, Secret, Top Secret. If you choose the option, this classification shows up on the console Message of the Day banner.
 - c. SCAP Profile - Not changeable
 - d. Kernel in FIPS 140-2 Mode - Allow or disallow weak cryptographic algorithm within the satellite application
 - e. Administration Network Interface – You can choose Eth0 or Eth1
 - f. Configure DNS - If use IPV6 only, make sure DNS is IPV6. If you use dual stack, ensure IPV4 and IPV6 addresses with comma separation.
 - a) Admin Password – This is the password for SSH (not password for GUI which is defaulted to Admin/Admin!23)

Cisco SSM satellite Kickstart Installation

System Settings:
Hostame: System Profile:

Security Classification: SCAP Profile: Kernel in FIPS 140-2 Mode:

Hardware Settings:
CPU Model: Intel(R) Xeon(R) CPU E5-4650 0 @ 2.70GHz CPU Threads: 2 Architecture: 64-bit
Total System Memory: 8175940 kB Free Memory: 7441196 kB Available Disks: sda (100Gb)

Configure Administration Network Interface:

IPv4 Configuration **IPv6 Configuration**

Configuration: Configuration:

IPv4 Address:
Netmask:
Gateway:

IPv6 Address:
Prefix:
Gateway:

Configure DNS:
DNS:

Configure Admin Password:
Password: Verify Password:

Must be 15-128 alphanumeric characters, have both upper and lower case letters, at least one number, and at least one special character (._-@#!\$%^&*).

6. Wait until the installation completes (approximately 10-15 mins)
7. Dismount the ISO image so the system doesn't boot from there

8. Satellite system automatically boots up
9. Launch the satellite from a browser using the configured IP address as described in **Connecting to the satellite** on page 5
10. Select the option to configure a new satellite or restore from a backup
11. Edit network settings
12. Synchronize time
13. Register the satellite with CSSM

Connecting to the satellite

In a web browser, enter the URL for the satellite in the format, <http://<ip-address>:8080> or <https://<ip-address>:8443>, to

launch Smart Software Manager satellite Classic. The login screen appears. Upon logging in using the admin credentials

(defaults are admin/Admin!23), you are presented with a screen that asks you to select the following options:

- **Configure a new satellite**, or
- **Configure by importing data from a satellite backup file** – this option allows you to restore a backup file from your hard drive, which includes configuration settings and registered product instances.

Click **Next** to continue.

Network Settings

If you are configuring a new satellite, you are presented with the **Network Interfaces, DNS Settings, and NTP Settings** screen with the information configured using CentOS commands above. You can change these parameters by selecting **Edit Network Settings**, which allow you to verify or make changes to the IP address, add a 2nd network interface, adjust DNS parameters and synchronize with an NTP server.

Setting the Time

Procedure

To sync the time with the NTP server:

1. Click the **NTP** tab in the **Edit Network Settings** to synchronize the satellite time with the NTP server, or
2. Click on **Sync Time Now** on the **Network Settings** UI to sync the time.
3. Click **Next** to go to the **Setup Method** tab.

Registering a new satellite

After the above steps, you must register your satellite with Cisco SSM to establish identity, which is required for secure on-going communication. You can register the satellite using the online or offline method through the GUI. The online (network) option requires a network connection; you would use the offline (manual) when you are disconnected from the Cisco Smart Software Manager portal. After you complete the satellite registration process, you receive an immediate response, confirming the registration, from Cisco Smart Software Manager.

Choose Setup Method

Before registration, set up the satellite with Network or Manual connectivity. In the **Setup Method** screen, you can select either **Network Setup** (Internet connectivity), or **Manual Setup** (no Internet connectivity)

Click **Next** to continue

You will be presented with a **Single Sign-On** screen. Enter your credentials and continue.

Click **Allow** on the **Request For Approval** screen

Registering via Network Setup

If the satellite is has reachability to Cisco via a network connection, follow this procedure to register it online.

Procedure

1. Select the **Network Setup** radio button for online registration, and then click **Next**. You are presented with a CCO Single Sign-On screen.
2. Click **Log In** and use the CCO credentials.
3. After the Single SignOn screen, click **Allow**.
4. Enter the satellite name.
5. Select **Smart Account** from the list you have access to.
6. Add a new Virtual Account or use an existing account. You can have multiple virtual accounts.
7. Click **Register Satellite**. A warning alerts you that this process might take some time.
8. Click **Continue** to confirm. The system automatically restarts during this process. After restart, the satellite returns to the same step the user was in before the restart. The system returns to the **Synchronization Settings** page with **Network Setup** option selected.
9. Click **Next**. Note that a periodic synchronization must happen between the satellite and the Cisco Smart Software Manager to update the license entitlement and usage (30 days is recommended; 90 days is required). For networked environment, this can be scheduled at various intervals.
10. In the next screen with the **Summary** dialog box, you are provided with a Summary of the satellite settings. Click **Configure Satellite**. The registration process completes and returns you to the main screen on the **General** tab.

What to do next

This completes the satellite configuration process. Product instances can register to the satellite. In addition, you can now navigate to the Cisco Smart Software Manager and view the details of the satellite you just registered under the refreshed **Satellites** pane.

Refer to the other sections of the *User Guide* to view or perform various tasks of Smart Licensing.

Registering via Manual Setup

If the satellite is completely disconnected, follow this procedure to register it manually.

Procedure

1. Select the **Manual Setup** radio button for offline registration and click **Next**.
2. Click **Generate Registration File** and save the file to your computer. The system generates a registration request file.
3. Go to Cisco Smart Software Manager and click **Satellites**.
4. In the **Satellites** tab, click **New Satellite**.
5. In the **New Satellite** dialog box, enter the name of the satellite that requires registration.
6. Click the **Browse** button located next to the **Registration File** field and select the registration file that was generated on the satellite in a previous step.
7. In the **Virtual Accounts** field, select an existing Virtual Account that you want the new satellite to manage. You can also create a new Virtual Account if you have the appropriate access (in other words, Smart Account Administrator). You can have multiple virtual accounts.
8. Click **Create Authorization File**.
9. When prompted, click **Download Authorization File** and save it to your computer. Previously you had to wait 48 hours, but now you can download the registration response file immediately. You can also see that the new satellite is created in the refreshed **Satellite** tab.
10. In the Cisco Smart Software Manager satellite, at the **Register Satellite** step, click **Browse** and navigate to the location where the authorization file was downloaded.
11. Click **Upload** to upload the authorization file.
12. Click **Register Satellite**. The system automatically restarts during this process. After restart, the satellite returns to the same step the user was in before the restart.

13. On the **Synchronization Settings** page, select **Manual Synchronization**. click **Next**. You will get a warning that a periodic synchronization must happen between the satellite and the Cisco Smart Software Manager to update the license entitlement and usage (30 days is recommended; 90 days is mandatory).
14. In the **Satellite Setup Summary** dialog box, review the summary details, and click **Configure Satellite** if the configuration is correct.

What to do next

This completes the satellite configuration process. Product instances can register to the satellite. In addition, you can now navigate to the Cisco Smart Software Manager and view the details of the satellite under the refreshed **Satellites** pane.

Refer to the other sections of the *Cisco Smart Software Manager satellite Classic User Guide* to view or perform various tasks of Smart Licensing.

Upgrading Smart Software Manager satellite Classic

Please refer to the correct Upgrade Install Notes of the release for up to date information.

New customers can install Smart Software Manager satellite Classic 5.0 to leverage Utility billing and other features in 4.x. Existing customers can migrate to 5.0 and the following releases are supported:

- 3.x.y => 5.0
- 4.x.y => 5.0

Standalone satellite Migration

Procedure

1. Run a backup for 3.x or 4.x satellite
 - a. Navigate to the **Administration** Pane
 - b. Select **Backup/Restore** Tab
 - c. Click on **Run Backup Now** option
 - d. Once the backup is complete, the file will appear on the list under **Backup Files**
 - e. Go to that file entry and click on **Actions**
 - f. Select **Download** to download the backup file onto your PC
2. Download satellite 5.0 ISO from CCO
3. Install satellite 5.0 ISO image separately
 - a. Use the procedure in **Smart Software Manager satellite ISO Installation** chapter of the satellite Classic Installation Guide
4. Launch the satellite from a browser using the configured IP address in #3
 - a. Select the option **Configure by importing data from a satellite backup file**
 - b. **Browse** the backup file in #1.
 - c. Click **Upload**
 - d. Click **Restore**
5. Continue to register and synchronize the satellite with CSSM

High Availability (HA) Migration

Procedure

1. Backup the current 3.x, or 4.x primary satellite (note that the primary database is the same as secondary)
 - a. Navigate to the **Administration** Pane
 - b. Select **Backup/Restore** Tab
 - c. Click on **Run Backup Now** option
 - d. Once the backup is complete, the file will appear on the list under **Backup Files**
 - e. Go to that file entry and click on **Actions**
 - f. Select **Download** to download the backup file onto your PC
2. Download the 5.0 ISO from CCO
3. Deploy satellite 5.0 ISO as primary
4. Launch the satellite from a browser using the configured IP address in #3
 - a. Select the option **Configure by importing data from a satellite backup file**
 - b. **Browse** the backup file in #1.
 - c. Click **Upload**
 - d. Click **Restore**
5. Deploy another satellite 5.0 ISO as secondary
6. Go to the newly upgraded 5.0 primary satellite system, and reconfigure your HA system.
 - a. From the **Administration** pane, click on the **High Availability** tab.
 - b. Select **Enable/Disable** to enable High Availability
 - c. Enter the **Standby IP Address**
 - d. Enter the **Virtual IP Address**
 - e. Click **Save**.
7. The VIP satellite will need to be synchronized (may need to do this twice). You may receive an error about VAs not be updated correctly.

Note 1: Some of the migration items are missing in 3.x to 5.0.1 upgrade path. It is advisable to use 3.x to 4.x upgrade followed by 4.x to 5.0.1 upgrade if you are using DLC feature.

Note 2: If you try to renew PI directly after upgrading to 5.0.1, it's possible that your PI may go unregistered because of a bug in the Smart Agent. If SSM satellite has an invalid certificate after upgrading to 5.0.x., follow these steps.

1. Login in to SSMS satellite command line (backend), put below contents in a shell script and execute that script as root (sudo -s)

```
#!/bin/bash
mysql -uroot -pciscoLab123 rhodes <<EOF
SET autocommit = 0;
update collector_instances set tg_registered = false;
update collector_instances set extra = REPLACE(extra, ':is_ssl_cert_exist: true',
':is_ssl_cert_exist: false');
COMMIT;
EOF
```

2. Synchronize the satellite with CSSM and make sure it's successful.
3. Restart nginx with command “systemctl restart nginx” in non-HA environment.
In the HA environment run following commands

```
pcs cluster stop -all
pcs cluster start --all
```