Deploy SSM On-Prem on ESXI and Register Catalyst 9000 Switches

Contents

Introduction

This document describes how to Deploy SSM On-Prem on ESXI and register Catalyst 9000 Series Switches.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Basic configuration of VMware ESXi.

- Smart Licensing Using Policy for Cisco Catalyst 9000 Series Switches.

- Familiarity with Smart Software Manager On-Prem.

Components Used

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

- C9200
- C9300
- C9400
- C9500
- C9600

- Cisco IOS® XE &17.X software

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.
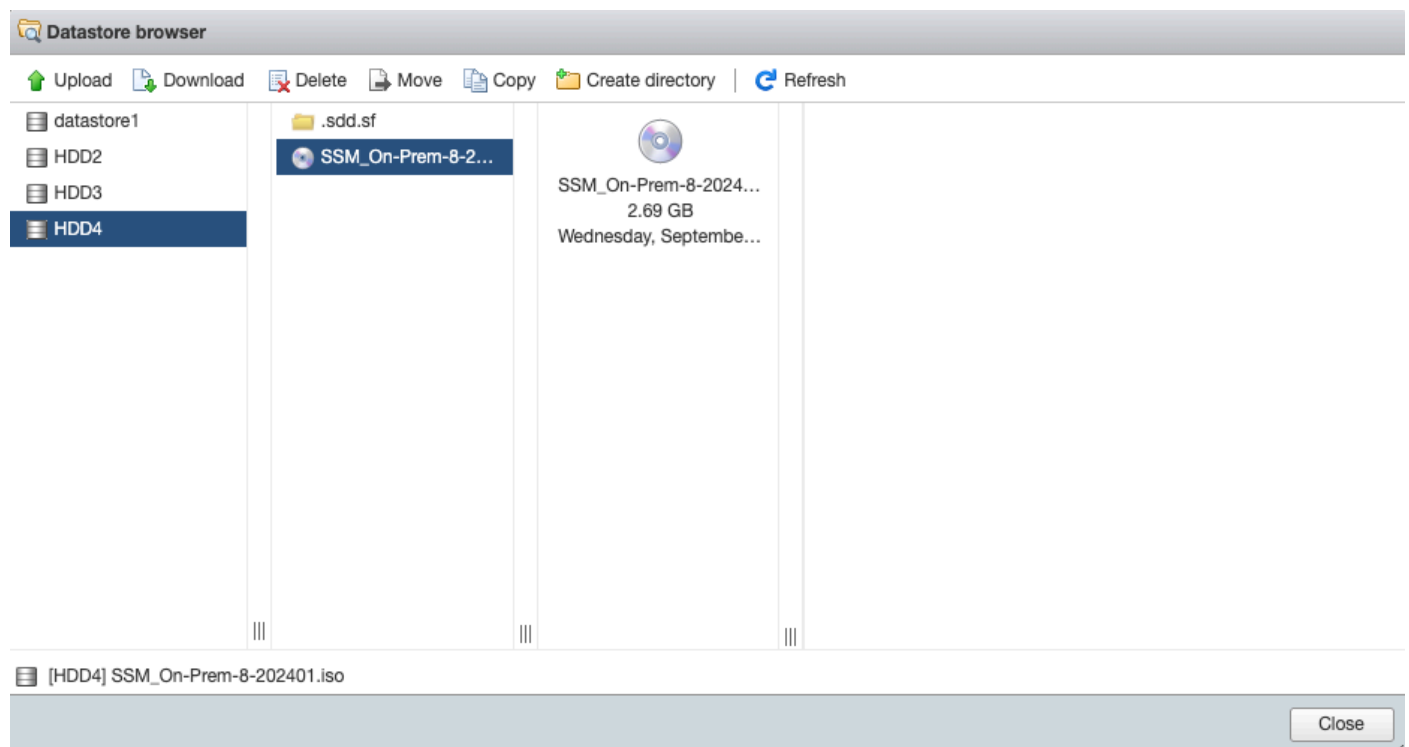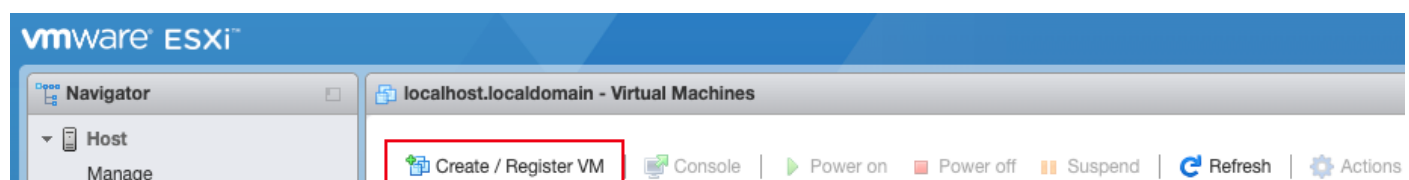
Configure

Network Diagram
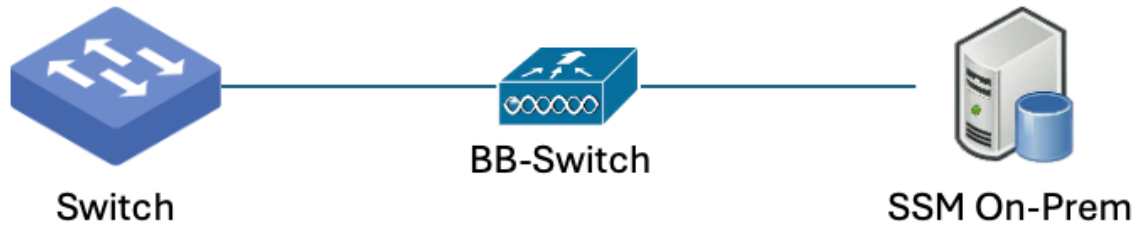
Configurations

Deploy SSM On-Prem on ESXI

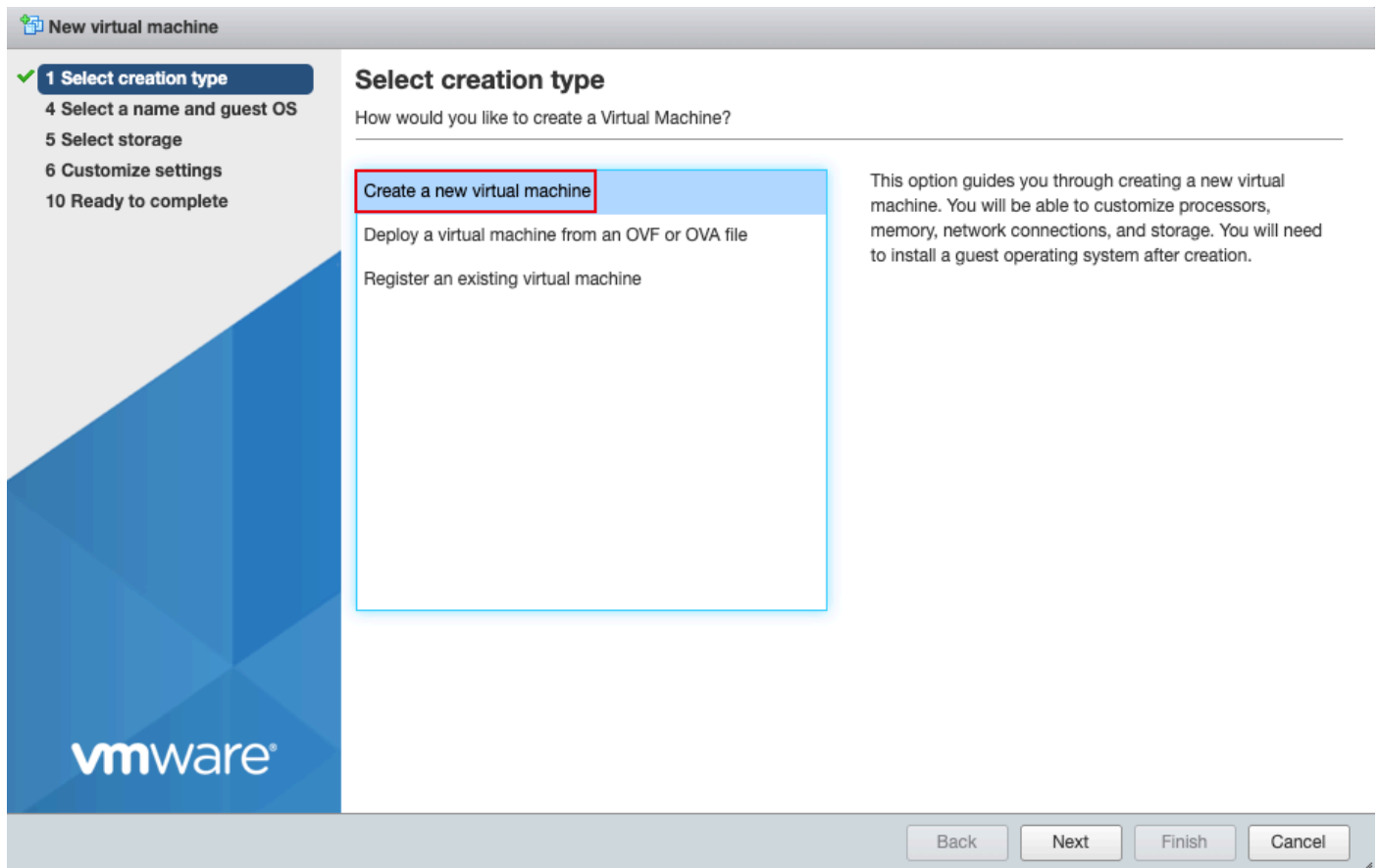1. Download the **ISO image** from CCO and upload it to the ESXi datastore.

Image Link: Smart Software Manager On-Prem - 8-202401

2. Click **Create / Register VM** in the upper left corner of ESXI to create a virtual machine.

3. On the **Select creation type** page, select **Create a new virtual machine** and click **next** to proceed to the next step.

4. Select a **VM name** and **guest OS**, ensure the OS type is set to **Linux** and the Guest-OS is set to either **CentOS 7 64 bit** or **Linux Other 64 bit**.

Select a name and guest OS

Specify a unique name and OS

Name

DEMO-SSM-ON-PREM

Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.

Identifying the guest operating system here allows the wizard to provide the appropriate defaults for the operating system installation.

Compatibility	ESXi 6.5 virtual machine ▼
Guest OS family	Linux ▼
Guest OS version	Other Linux (64-bit) ▼

Step navigation:
- ✔ 1 Select creation type
- 4 Select a name and guest OS
- 5 Select storage
- 6 Customize settings
- 10 Ready to complete

Back | Next | Finish | Cancel

---

5. Select **storage** for On-Prem deployment. Please ensure that there is sufficient space.

Select storage

Select the datastore in which to store the configuration and disk files.

The following datastores are accessible from the destination resource that you selected. Select the destination datastore for the virtual machine configuration files and all of the virtual disks.

Name	Capacity	Free	Type	Thin pro...	Access
datastore1	922.75 GB	918.34 GB	VMFS5	Supported	Single
HDD2	930.25 GB	67.65 GB	VMFS6	Supported	Single
HDD3	930.25 GB	284.38 GB	VMFS6	Supported	Single
HDD4	930.25 GB	928.83 GB	VMFS6	Supported	Single

4 items

Step navigation:
- ✔ 1 Select creation type
- ✔ 4 Select a name and guest OS
- ✔ 5 Select storage
- 6 Customize settings
- 10 Ready to complete

Back | Next | Finish | Cancel

---

6. Configure the **virtual machine hardware** and **virtual machine additional options**, the configuration of the virtual machine must meet these configuration requirements as listed in the table.

	Small	**Medium**	**Large**	**Maximum**
Products	4000	50,000	100,000	300,000
Hard Disk	200 Gig	200 Gig	200 Gig	200 Gig
Memory	8 Gigabyte	8 Gigabyte	16 Gigabyte	16 Gigabyte
vCPU	2 vCPU	4 vCPU	6 vCPU	8 vCPU

7. Review your settings selection before finishing the wizard. After confirmation, click the **Finish** button to complete the deployment of the virtual machine.

New virtual machine - DEMO-SSM-ON-PREM (ESXi 6.5 virtual machine)

✓ 1 Select creation type
✓ 4 Select a name and guest OS
✓ 5 Select storage
✓ 6 Customize settings
✓ 10 Ready to complete

Ready to complete

Review your settings selection before finishing the wizard

Name	DEMO-SSM-ON-PREM
Datastore	HDD4
Guest OS name	Other Linux (64-bit)
Compatibility	ESXi 6.5 virtual machine
vCPUs	4
Memory	8 GB
Network adapters	1
Network adapter 1 network	VM Network
Network adapter 1 type	E1000
IDE controller 0	IDE 0
IDE controller 1	IDE 1
SCSI controller 0	LSI Logic Parallel
Hard disk 1	
Capacity	200GB
Datastore	[HDD4] DEMO-SSM-ON-PREM/
Mode	Dependent
Provisioning	Thick provisioned, lazily zeroed
Controller	SCSI controller 0 : 0
CD/DVD drive 1	
Backing	[HDD4] SSM_On-Prem-8-202401.iso
Connected	Yes
USB controller 1	USB 2.0

Back   Next   Finish   Cancel

8. Next, please power on the **newly deployed virtual machine** to start the installation process. Find the **VM** you just created in **Virtual Machines in ESXI**, select **it** and click **Power On** above.

9. Open console for **VM** and choose **Install Cisco SSm On-Prem**. This state stays for about 1 minute, and then it enters the basic settings page.

DEMO-SSM-ON-PREM

```
-  Press the <ENTER> key to begin the installation process.

[    8.404971] dracut-pre-udev[342]: modprobe: ERROR: could not insert 'floppy':
 No such device
[  OK  ] Started Device-Mapper Multipath Device Controller.
         Starting Open-iSCSI...
[  OK  ] Started Show Plymouth Boot Screen.
[  OK  ] Reached target Paths.
[  OK  ] Reached target Basic System.
[  OK  ] Started Open-iSCSI.
         Starting dracut initqueue hook...
[    9.693637] sd 2:0:0:0: [sda] Assuming drive cache: write through
[   12.293693] dracut-initqueue[693]: mount: /dev/sr0 is write-protected, mounting read-only
[  OK  ] Started Device-Mapper Multipath Device Controller.
         Starting Open-iSCSI...
[  OK  ] Started Show Plymouth Boot Screen.
[  OK  ] Reached target Paths.
[  OK  ] Reached target Basic System.
[  OK  ] Started Open-iSCSI.
         Starting dracut initqueue hook...
[   12.293693] dracut-initqueue[693]: mount: /dev/sr0 is write-protected, mounting read-only
[  OK  ] Created slice system-checkisomd5.slice.
         Starting Media check on /dev/sr0...
/dev/sr0:    291881cc07d4c6c648635e41e57a0dc5
Fragment sums: 11fef97cf5478a6814e7cbb2aeb8d8c5cf9cc145d61362bd82d24826b23d
Fragment count: 20
Press [Esc] to abort check.
Checking: 013.3%_
```

10. On this page, you need to fill in some SSM On-Prem configurations such as **hostname**, **ip**, **dns** and so on.

11. After clicking OK, the system asks you to set a password. The passwords you enter twice must be the same. This password is used to log in to the CLI later.

12. Then SSM On-Prem continues to install. The whole process takes about 30 minutes. Once completed, the VM automatically starts. Then, SSM On-Prem continues to install.

```
DEMO-SSM-ON-PREM                                                    🔲🔲🔲🏳 ⚙Actions ⊗
Starting automated install.....
Checking software selection
Generating updated storage configuration
Checking storage configuration...

================================================================================
================================================================================
Installation

 1) [x] Language settings              2) [x] Time settings
        (English (United States))             (Etc/UTC timezone)
 3) [x] Installation source            4) [x] Software selection
        (Local media)                         (Custom software selected)
 5) [x] Installation Destination       6) [x] Kdump
        (Custom partitioning selected)        (Kdump is enabled)
 7) [x] Network configuration
        (Wired (ens32) connected)
================================================================================
================================================================================
Progress
Setting up the installation environment
.
Creating disklabel on /dev/sda
.
Creating xfs on /dev/sda1
.
Creating lvmpv on /dev/sda2
.
Creating xfs on /dev/mapper/vg1-lv_home
.
Creating xfs on /dev/mapper/vg1-lv_audit
.
Creating xfs on /dev/mapper/vg1-lv_log
.
Creating xfs on /dev/mapper/vg1-lv_var
[anaconda] 1:main* 2:shell  3:log  4:storage-log  5:program-log     Switch tab: Alt+Tab | Help: F1
```

13. After the restart is complete, you can log in to the **CLI** to verify. The username is **admin** and the password is the one you just set.

```
SSM-On-Prem login:

###########################################################################
#                    Authorized access only!                             #
#                                                                        #
#    Disconnect IMMEDIATELY if you are not an authorized user!!!         #
#           All actions Will be monitored and recorded                   #
###########################################################################


SSM-On-Prem login: admin
Password:
Last login: Tue Sep  2 06:24:16 UTC 2025 on tty1
Last login: Tue Sep  2 06:40:51 on tty1
[admin@SSM-On-Prem ~]$
```

14. After the installation is complete, you can use your browser to log in to **https://x.x.x.x:8443** and proceed to the next step. When the login screen displays, login using these credentials---
admin/CiscoAdmin!2345, This is the initial password for the first login to On-Prem.

15. After clicking **Log In**, the On-Prem deployment enters the next stage, starting with **System Language Selection**.

16. On the **Temporary Password Reset** page, this step resets the GUI password.

Welcome to Cisco Smart Software Manager On-Prem

STEP 1	STEP 2	STEP 3	STEP 4
System Language Selection	**Temporary Password Reset**	Host Common Name	Review and Confirm

The one-time temporary password has been provided to allow for initial access to Cisco SSM On-Prem installation. For your security, the temporary password may only be used once, and must now be changed in order to continue the configuration procedure.

The new password may not be the same as the default, and must be at least 15 characters. It should include at least 1 uppercase letter, 1 lowercase letter, and 1 number. Passwords are case-sensitive. It may include symbols, but not these: = ?<> ( ) ' " / \ &. When all requirements are met, you will be able to change the password. Securely store the password as it will be needed each time the admin user logs in.

Once you have successfully changed the temporary password, you will be directed back the Login Screen.

Password *

················

Reenter Password *

················

Back   Next

17. Next, please set the **Host Common Name**.

Welcome to Cisco Smart Software Manager On-Prem

STEP 1	STEP 2	STEP 3	STEP 4
System Language Selection	Temporary Password Reset	**Host Common Name**	Review and Confirm

Products that support String SSL Cert Checking require the SSM On-Prem's "Host Common Name" to match the "destination" URL address. For example:

- Products using Smart Transport must use both the "license smart url" configuration and the "10.124.38.112" value in the URL string.
- Legacy products using Smart Call Home must use both the "destination address http" configuration and the "10.124.38.112" value in the URL string.

If the above URLs do not match expectations, refer to the SSM On-Prem AdminWorkspace -> Security Widget to change the Host Common Name to the correct value.

The option to configure alternative names (SAN) is available in Admin Console under Security -> Certificates and can be configured after the initial setup.

* Host Common Name
10.124.38.112

Back   Next

18. Finally, on the **Review and Confirm** page, please **review** the configuration just made.

Welcome to Cisco Smart Software Manager On-Prem

STEP **1**	STEP **2**	STEP **3**	STEP **4**
System Language Selection	Temporary Password Reset	Host Common Name	**Review and Confirm**

Once you click "Apply", you will be redirected to the login page where you will need to login with your new password. Please ensure you have securely stored your password for future logins.

Review and Confirm

Language Selected:	English
Password Reset:	Yes
Host Common Name:	10.124.38.112

Back   **Apply**

19. Once you click the **Apply** button, the page jumps. Please log in with your **new password**. The installation of SSM On-Prem is now complete.

Log into an Existing Account

User Name
admin

Password

Log In

Forgot Password

Welcome to Smart Software Manager On-Prem where you can locally manage Smart Licensing and perform local Account Management functions for your organization.

Register Catalyst 9000 Series Switches

1. Click on **Admin Workspace** in the upper right corner to enter the On-Prem Admin Workspace.

On-Prem License Workspace   cisco   Admin Workspace Hello, Local Admin

Smart Software Manager On-Prem

License
Smart Licensing
Track and manage Smart Licensing

Administration
Request an Account
Get an Account for your organization. The Account must be approved by your System Administrator or System Operator before it can be used.

Request Access to an Existing Account
Submit a request for access to an existing local Account. Approval must be granted by a Smart Account Administrator for your local Account.

Manage Account
Modify the properties of your Accounts and associate existing User IDs with Accounts.

2. **Click Accounts** on the left, create an **account** and activate **it**, please make sure the account status is

Active. For information on how to Create a New Local Account and Re-Registering an Account, please refer to pages 77 to 82 of [Cisco Smart Software Manager On-Prem User Guide](#) .

3. Ensure network reachability for product instance-initiated communication.

```
#conf t
(config)#ip http server
(config)#ip http secure-server
(config)#ip http secure-trustpoint SLA-TrustPoint
(config)#ip http client source-interface g x/x/x
(config)#ip name-server x.x.x.x
(config)#ip domain lookup source-interface g x/x/x
(config)#ip domain name xxx

(config)#crypto pki trustpoint SLA-TrustPoint
(ca-trustpoint)#enrollment terminal
(ca-trustpoint)#revocation-check none

(config)#exit
#copy running-config startup-config
```
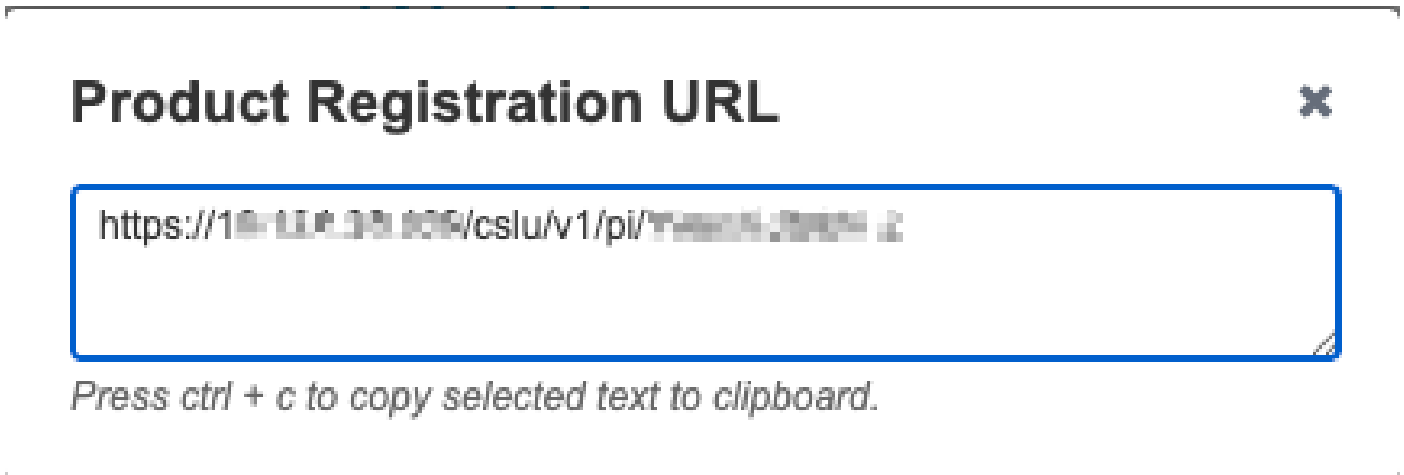
4. Retrieve the Transport URL from **Smart Software Manager On-Prem > Smart Licensing > Inventory > General**.

Smart Software Manager On-Prem > Smart Licensing

Smart Licensing

Alerts   **Inventory**   Convert to Smart Licensing   Reports   Preferences   Activity

Local Virtual Account: Default

General   Licenses   Product Instances   SL Using Policy   Event Log

Local Virtual Account

Description   This is the default virtual account created during company account creation.

Default Local Virtual Account   Yes

Product Instance Registration Tokens

The registration tokens below can be used to register new product instances to this Local Virtual Account. For products that support Smart Transport, you must configure the "license smart url" on the product to use the Smart Transport Registration URL. For products that support Smart Licensing Using Policy that use cslu as transport, you must configure the "license smart transport cslu" to use the CSLU Transport URL. For legacy products that still use Smart Call Home, you must configure the "destination address http" on the product to use the Smart Call Home Registration URL. The recommended method is Smart Transport. Please consult your Products Configuration Guide for setting the destination URL value.

New Token...

When you click the CSLU Transport URL, On-Prem returns this Product Registration URL.

Product Registration URL   ✕

```
https://1██.██.██.██/cslu/v1/pi/█████████
```

Press ctrl + c to copy selected text to clipboard.

5. Setting the Transport Type, URL on Catalyst switch.

```
#conf t
(config)#license smart transport cslu
(config)#license smart url cslu https://x.x.x.x/cslu/v1/pi/xxxxx%xxxx-x
(config)#exit
#copy running-config startup-config
```

6. Synchronize the product instance with SSM On-Prem, the switch actively initiates synchronization with SSM On-Prem.

```
#license smart sync all
```

7. Check Product Instances for SSM On-Prem, The switch information can be observed, which means that the switch is synchronized with SSM On-Prem successfully.

8. Next, synchronize the usage information on the SSM On-Prem with the Cisco SSM (CSSM) in **Smart Software Manager On-Prem > Smart Licensing > Reports > Usage Schedules**.

9. Log in to [Smart Software Manager](#) and check whether the synchronization with SSM On-Prem is successful.

Related Information

- [Cisco Smart Software Manager On-Prem User Guide](#)
- [Cisco Smart Software Manager On-Prem Quick Start Installation Guide](#)

- [Smart Licensing Using Policy for Cisco Catalyst 9000 Series Switches](#)