

Smart Software Licensing – Product Configuration Guide (CSR)

Product Configuration Guide

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Contents

Quick Start	3
Smart Software Licensing	4
Classic Licensing	4
Licensing Model Comparison	4
Supported Licensing Model	5
License Conversion	5
Smart Accounts/Virtual Accounts	6
Request a Smart Account	6
Adding Users to a Smart Account	7
Cisco Smart Software Manager (CSSM)	9
Privacy	9
Enable Smart Software Licensing - Initial Configuration (CLI)	9
Device Registration	10
Smart Call Home	12
Cisco Smart Software Manager Satellite	13
Validation and Troubleshooting	13
License Authorization Status	13

Cisco Smart Software Licensing is a new way of thinking about licensing. It 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.

Quick Start

Step 1. Enter privileged EXEC mode by using the **enable** command and issue the appropriate command to enable Smart Software Licensing.

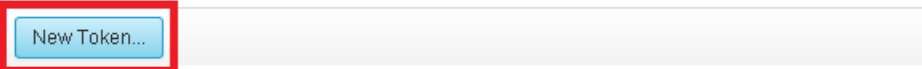
```
CSR>en
CSR#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
CSR(config)#license smart enable
```

Step 2. Obtain or copy tokenId

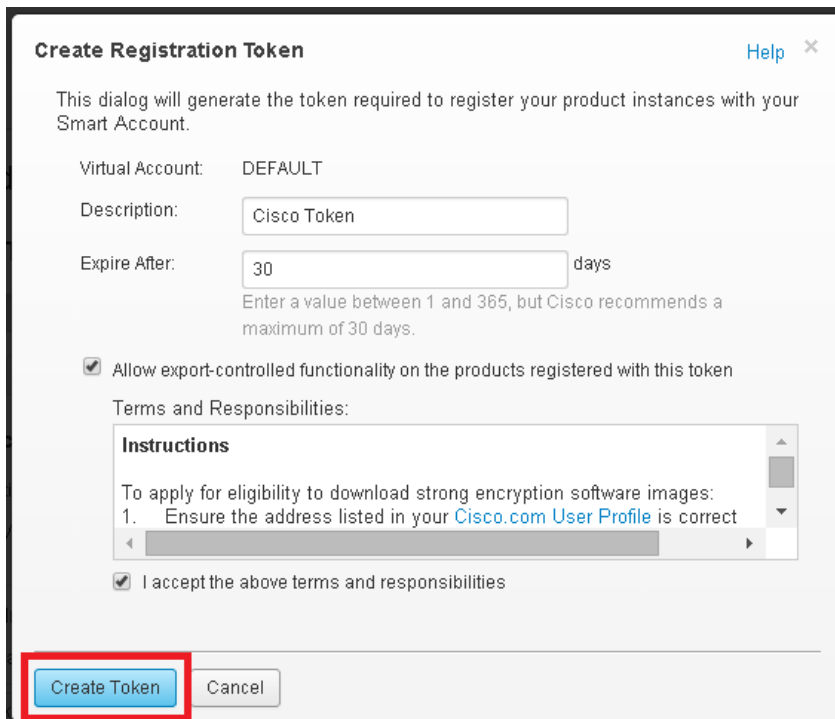
To create a new token, log into the [Cisco Smart Software Manager](#), select the appropriate Virtual Account and in the General tab, select “New Token”:

Product Instance Registration Tokens

The registration tokens below can be used to register new product instances to this virtual account.



Follow the dialog to provide a name, duration and export compliance applicability before accepting the terms and responsibilities. Choose “Create Token” to continue.

A screenshot of the "Create Registration Token" dialog box. The dialog has a title bar with "Create Registration Token" and a "Help" button. The main content area contains the following fields and options:

- Virtual Account: DEFAULT
- Description: Cisco Token
- Expire After: 30 days (with a note: "Enter a value between 1 and 365, but Cisco recommends a maximum of 30 days.")
- Allow export-controlled functionality on the products registered with this token
- Terms and Responsibilities: A scrollable area containing "Instructions" and a list of requirements, including "Ensure the address listed in your Cisco.com User Profile is correct".
- I accept the above terms and responsibilities

At the bottom of the dialog, there are two buttons: "Create Token" (highlighted with a red box) and "Cancel".

Copy the token ID. The Cisco Smart Software Manager will respond with a dialog indicating that the token has been copied to your clipboard.

Token	Expiration Date	Description	Export-Controlled Functionality	Created By	Actions
NjhmOGi3NTQtYWWE3My00...	Aug 22, 2015 (in 30 days)	Cisco Token	Allowed	timknapp	Copy Download... Revoke...

Step 3. Enable Cisco Smart Licensing

Enter privileged EXEC mode by using the **enable** command and issue the appropriate command to trigger the registration. Paste the tokenid into the command line.

```
CSR>enable
CSR#license smart register idtoken <paste>
```

Smart Software Licensing

Smart Licensing is a cloud-based approach to licensing. The solution simplifies the purchase, deployment and management of Cisco software assets. Entitlements are purchased through your Cisco account like Cisco Commerce Workspace (CCW) and immediately deposited into your Virtual Account for usage. This eliminates the need to install license files on every device. Products that are smart enabled communicate directly to Cisco to report consumption. The primary location to manage product registration and monitor smart license consumption is the Cisco Smart Software Manager (CSSM). License ownership and consumption are readily available to help make better purchase decision based on consumption or other business needs.

Classic Licensing

Classic Licensing is Cisco's legacy licensing model based on Product Activation Keys (PAK) and Unique Device Identifiers (UDI). On most IOS devices, a determination of bandwidth needs are assessed prior to obtaining and installing a tar file on the platform to retrieve the UDI. A PAK is ordered and either typically emailed to the end customer. The combination of a UDI and PAK are used to receive a license file which is installed in the boot directory to complete the installation of IOS on the platform. The License Registration Portal (LRP) is available to help migrate Classic Licenses to Smart Licenses. To access the LRP, obtain training and manage licenses visit <http://tools.cisco.com/SWIFT/LicensingUI/Home>.

Licensing Model Comparison

Cisco employs two types of license models on the CSR1KV - Classic Licensing and Smart Software Licensing. Classic Licensing consists of software activation by installing Product Activation Keys (PAK) on to the Cisco product. A Product Activation Key is a purchasable item, ordered in the same manner as other Cisco equipment and used to obtain license files for feature set on Cisco Products. Smart Software Licensing is a cloud based licensing of the end-to-end platform through the use of a few tools that authorize and deliver license reporting. Smart Software Licensing leverages Smart Call Home to complete the product registration, authorization resulting in reporting services available to the end customer.

Table 1. Comparison of Licensing Models

Description	Classic Licensing	Smart Software Licensing
License instance node-locked to the product instance	Y	N
Product self-registration upon configuration	N	Y
Offers tools to report, monitor ownership and consumption	N	Y
Requires Smart Call Home	N	Y

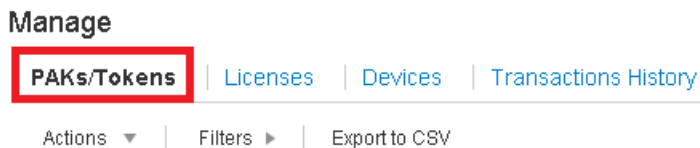
Supported Licensing Model

The CSR1KV supports both Classic and Smart Software licensing models.

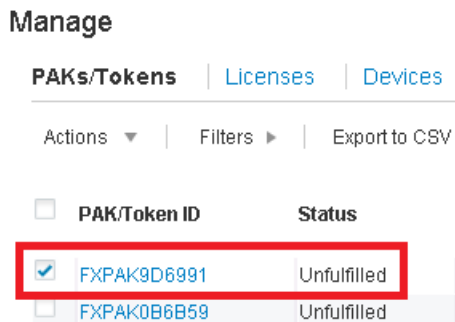
License Conversion

Classic Licenses associated with Product Activation Keys (PAK) may be converted to Smart Entitlements. Through the License Registration Portal, access Classic Licenses by selecting the “PAKs/Tokens” tab. To convert a PAK to a Smart Entitlement take the following steps.

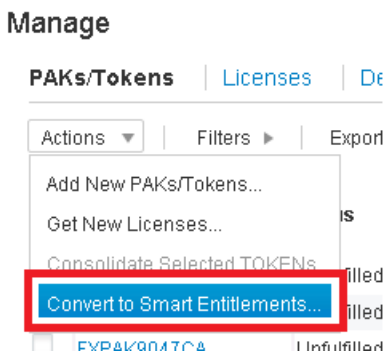
Step 1. Select the PAKs/Tokens tab:



Step 2. Select the entitlement to convert:



Step 3. Choose “Convert to Smart Entitlements” from the Actions drop down:



Smart Accounts/Virtual Accounts

A Smart Account provides a single location for all Smart enabled products and entitlements. It assists to speed procurement, deployment and maintenance of Cisco Software. When creating a Smart Account the submitter must have the authority to represent the requesting organization. After submitting the request goes through a brief approval.

A Virtual Account exists as a sub-account within the Smart Account. Virtual Accounts are a customer defined structure based on organizational layout, business function, geography or any defined hierarchy. They are created and maintained by the Smart Account administrator(s).

Visit software.cisco.com to learn about, set up or manage Smart Accounts.

Request a Smart Account

The creation of a new Smart Account is a one-time event and subsequent management of users is a capability provided through the tool. To request a Smart Account, visit software.cisco.com and take the following steps:

Step 1. After logging in Select "Request a Smart Account" in the Administration section:



Administration

[Request a Smart Account](#)
Get a Smart Account for your organization.

[Request a Partner Holding Account](#)
Allows Cisco Partners to request a Holding Smart Account

[Manage Smart Account](#)
Modify the properties of your Smart Accounts and associate individual Cisco Accounts with Smart Accounts.

[Learn about Smart Accounts](#)
Access documentation and training.

Step 2. Select the type of Smart Account to create. There are two options: (a) Individual Smart Account requiring agreement to represent your company. By creating this Smart Account you agree to authorization to create and manage product and service entitlements, users and roles on behalf of your organization. (b) Create the account on someone else's behalf.

Create Account

Would you like to create the Smart Account now?

- Yes, I have authority to represent my company and want to create the Smart Account.
- No, the person specified below will create the account:

* Email Address:

Message to Creator:

Step 3. Provide the required domain identifier and the preferred account name:

Account Information

The Account Domain Identifier will be used to **uniquely identify the account**. It is based on the email address of the person creating the account by default and must belong to the company that will own this account. [Learn More](#)

* Account Domain Identifier: domainidentifier.com [Edit](#)

* Account Name:

Step 4. The account request will be pending an approval of the Account Domain Identifier. A subsequent email will be sent to the requester to complete the setup process:



Smart Account Request Pending

The account setup process is pending approval of an Account Domain Identifier. You will receive an email confirmation and a Cisco representative will contact you at the number provided below.

Adding Users to a Smart Account

Smart Account user management is available in the Administration section of software.cisco.com. Take the following steps to add a new user to a Smart Account:

Step 1. After logging in Select "Manage Smart Account" in the Administration section:



Administration

[Request a Smart Account](#)

Get a Smart Account for your organization.

[Request a Partner Holding Account](#)

Allows Cisco Partners to request a Holding Smart Account

[Manage Smart Account](#)

Modify the properties of your Smart Accounts and associate individual Cisco Accounts with Smart Accounts.

[Learn about Smart Accounts](#)

Access documentation and training.

Step 2. Choose the “Users” Tab:

[Cisco Software Central](#) > [Manage Smart Account](#)

My Smart Account

[Account Properties](#) | [Virtual Accounts](#) | [Users](#) | [Account Agreements](#)

Step 3. Select “New User” and provide the required email address, cisco.com ID and role selection. Roles may be defined to manage the entire Smart Account or specific Virtual Accounts

My Smart Account

[Account Properties](#) | [Virtual Accounts](#) | [Users](#) | [Account Agreements](#)

Users

[New User...](#)

User Name

[Benjamin Strickland](#)

[Beth Colyear](#)

[Chris Huning](#)

New User

Enter the name, Cisco.com ID and access privileges for the new user. When you complete the process, the user will be sent an email with instructions for accessing the Smart Account

- * Email or Cisco.com ID:
- * Role Context:
- * User Roles:

-No Roles Assigned-

[Continue](#) [Cancel](#)

Step 4. Click “Continue” to complete the process

New User

Enter the name, Cisco.com ID and access privileges for the new user. When you complete the process, the user will be sent an email with instructions for accessing the Smart Account

* Email or Cisco.com ID:

* Role Context:

* User Roles:

Virtual Account Administrator [DEFAULT] (Smart Licensing) [Remove](#)

Cisco Smart Software Manager (CSSM)

Cisco Smart Software Manager (CSSM) enables the management of software licenses and Smart Account from a single portal. The interface allows you to activate your product, manage entitlements, renew and upgrade software. A functioning Smart Account is required to complete the registration process. To access the Cisco Smart Software Manager, click [here](#).

Privacy

There are three key elements that must be exchanged with the Cisco Smart Software Manager over https:

- **Trusted Unique Identifier** – This is the device ID (SUDI/SUVI/ID)
- **Organizational Identifier** – In a numerical format to associate product with a Smart/Virtual Account.
- **Licenses consumed** – Allows the Cisco Smart Software Manager to understand the license type and level of consumption

Enable Smart Software Licensing - Initial Configuration (CLI)

Step 1. First select the appropriate license level for the device. On the CSR router Enter privileged EXEC mode by using the **enable** command and issue the appropriate command to trigger the registration. A reload is necessary when changing license boot levels.

```
CSR(config)#license boot level ?
appx  Enable appx license
ax    Enable ax(ipb+sec+appx) license
ibase Enable ipbase license
security Enable security license

CSR(config)#license boot level ax
CSR(config)#
*Jul 23 10:03:36.524: %VXE_THROUGHPUT-3-RELOAD_REQUIRED: The transition from smart
licensing mode to CSL mode needs a reload
CSR(config)#^Z
CSR#
```

```
*Jul 23 10:03:42.595: %SYS-5-CONFIG_I: Configured from console by console
CSR#wr mem
Building configuration...
[OK]
CSR#reload
Proceed with reload? [confirm]
```

Step 2. Enter privileged EXEC mode by using the **enable** command and issue the appropriate command to enable Smart Software Licensing.

```
CSR>en
CSR#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
CSR(config)#license smart enable
```

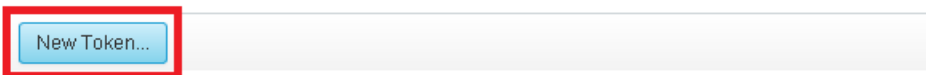
Device Registration

Step 1. Obtain or copy tokenid

To create a new token, log into the [Cisco Smart Software Manager](#), select the appropriate Virtual Account and in the General tab, select “New Token”:

Product Instance Registration Tokens

The registration tokens below can be used to register new product instances to this virtual account.



Follow the dialog to provide a name, duration and export compliance applicability before accepting the terms and responsibilities. Choose “Create Token” to continue.

Create Registration Token Help ×

This dialog will generate the token required to register your product instances with your Smart Account.

Virtual Account: DLO

Description:

Expire After: days
Enter a value between 1 and 365, but Cisco recommends a maximum of 30 days.

Allow export-controlled functionality on the products registered with this token

Terms and Responsibilities:

Instructions

To apply for eligibility to download strong encryption software images:

1. Ensure the address listed in your [Cisco.com User Profile](#) is correct

I accept the above terms and responsibilities

Create Token

Copy the token ID. The Cisco Smart Software Manager will respond with a dialog indicating that the token has been copied to your clipboard.

Token	Expiration Date	Description	Export-Controlled Functionality	Created By	Actions
NjhmOGIBNTQrYWE3My00...	Aug 22, 2015 (in 30 days)	Cisco Token	Allowed	timknapp	Copy Download... Revoke...

Step 2. Enable Cisco Smart Licensing Registration

Enter privileged EXEC mode by using the **enable** command and issue the appropriate command to trigger the registration. Paste the tokenid into the command line.

```
CSR>enable
CSR#license smart register idtoken <paste>
```

The device will respond with an Authorization Renewal Message to indicate the status (depending on license availability):

```
*Jul 23 09:59:15.780: %SMART_LIC-6-AUTH_RENEW_SUCCESS: Authorization renewal with Cisco licensing cloud successful. State=authorized
```

Smart Call Home

Smart Call Home is feature to communicate with the Cisco Smart Software Manager. Smart Call Home is enabled automatically upon configuration of Smart Software Licensing.

Smart Call Home is automatically enabled upon initial configuration of Smart Software Licensing.

```
(Command previously issued during initial configuraiton steps)
CSR(config)#license smart enable
*Jul 23 07:58:53.644: %CALL_HOME-6-CALL_HOME_ENABLED: Call-home is enabled by
Smart Agent for Licensing.
```

Smart Call Home creates a CiscoTAC-1 profile and associated Smart Call Home messages will be sent after the enablement. For platforms with Smart Software Licensing enabled by default, call-home is also enabled by default with associated messages. On the CSR1KV Smart Software Licensing is not enabled by default.

Viewing the Smart Call Home profile

```
CSR#show call-home smart-licensing
Current smart-licensing transport settings:
  Smart-license messages: enabled
  Profile: CiscoTAC-1 (status: ACTIVE)

CSR#show call-home profile all
Profile Name: CiscoTAC-1
  Profile status: ACTIVE
  Profile mode: Full Reporting
  Reporting Data: Smart Call Home, Smart Licensing
```

By default Smart Call Home hostname is enabled. To enable host name privacy:

Step 1. Enter into configuration terminal mode.

```
CSR#config terminal
Enter configuration commands, one per line. End with CNTL/Z.
CSR(config)#
```

Step 2. Proceed to the call-home configuration mode.

```
SR(config)#call-home
CSR(cfg-call-home)#
```

Step 3. Select the appropriate scrubbing level. Note that disabling host name may result in failure to process call-home message. The device will also re-establish connection with the Cisco Smart Software Manger.

```
CSR(cfg-call-home)#data-privacy hostname
% warning configure hostname may result in backend failing to process call-home
messages
```

Cisco Smart Software Manager Satellite

Cisco Smart Software Manager satellite is an element of Cisco Smart Software Licensing. It coordinates with the Cisco Smart Software Manager to manage software licenses on premises. Devices register locally to report license ownership and consumption. Synchronization between the Cisco Smart Software Manager satellite and the Cisco Smart Software Manager. To learn more about the Cisco Smart Software Manager satellite:

<http://www.cisco.com/go/smartsatellite>

Validation and Troubleshooting

Available Show Commands:

Show license all	Displays all information
Show license status	Displays status information
Show license summary	Displays summary
Show license tech	Displays license tech support information
Show license udi	Displays udi information
Show license usage	Displays usage information

Available Debug Commands:

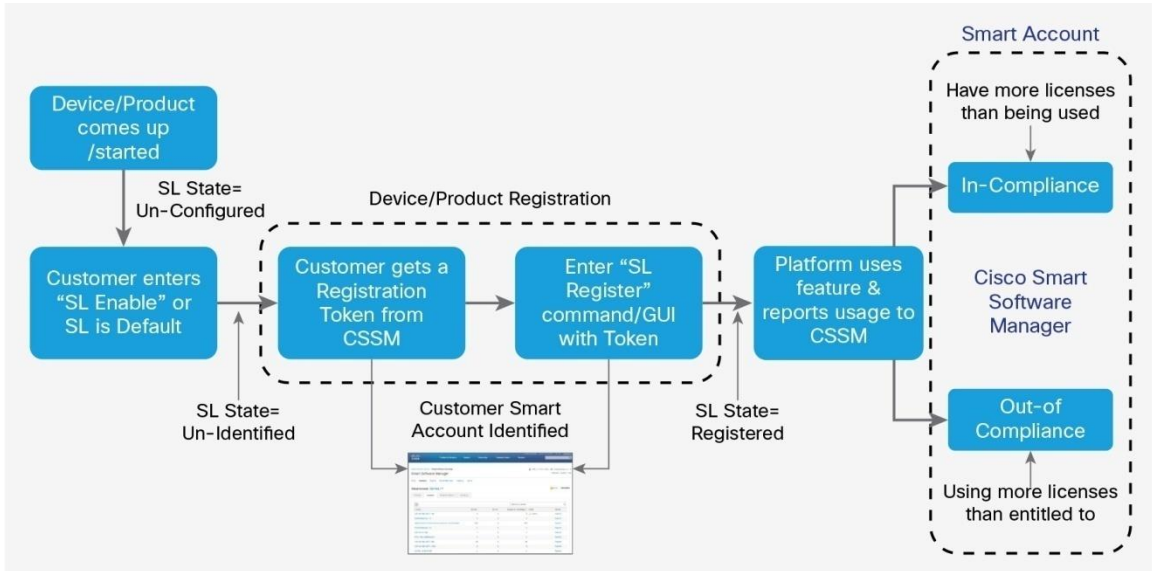
Debug smart_lic all	All available Smart Licensing debug flags
Debug smart_lic error	Displays serious problems
Debug smart_lic info	Provides information level verbose output
Debug smart_lic trace	Provides fairly verbose output

License Authorization Status

The License Authorization status has 6 primary available states:

Status	Meaning
Unconfigured	Smart Software Licensing has not been configured
Unidentified	Smart Software Licensing has been enabled but the registration has not taken place.
Registered	Device registration has been completed and an ID certificate has been received that will be used for future communication with the Cisco licensing authority.
Authorized	Registration has been completed with a valid Smart Account and license consumption has begun. This is an indication of being in compliance.
Out of Compliance	Consumption exceeds available licenses in the Smart Account.
Authorization Expired	The device has been unable to communicate with the Cisco Smart Software Manager for an extended period of time. Typically after 90 days this state will be present. The device will attempt to contact the CSSM every hour in order to renew the authorization until the registration period expires.

Figure 1. Device Smart License State Flow



Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
Cisco Systems International BV Amsterdam,
The Netherlands

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