

Cisco Catalyst 9800 Wireless Controller Smart Licensing and Specific License Reservation Guide



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Introduction to Smart Licensing

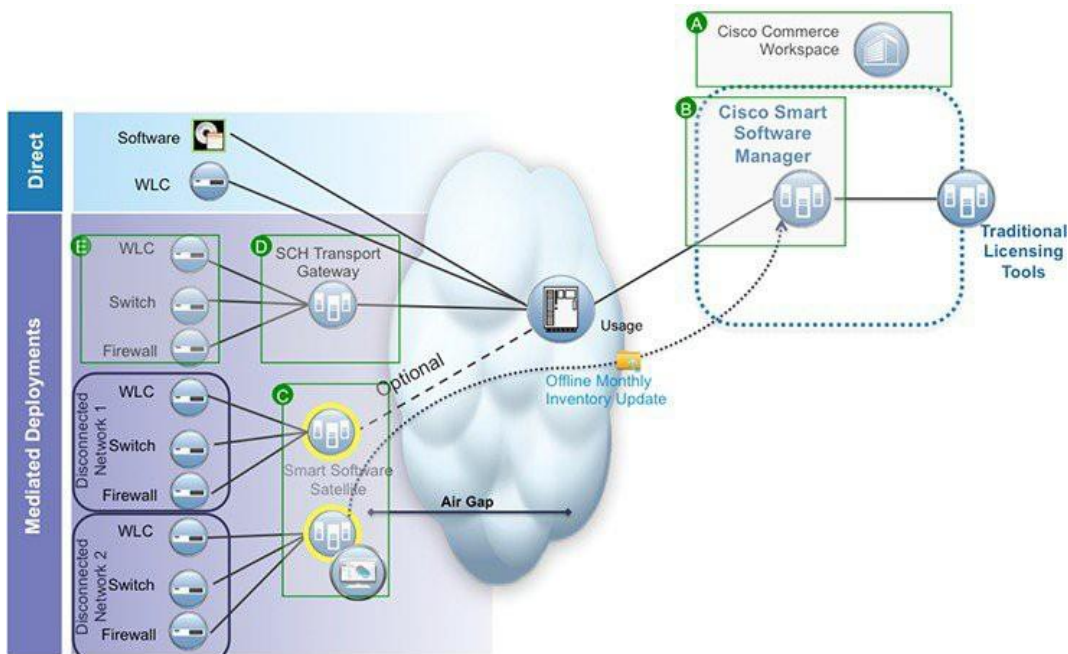
Cisco Smart Licensing is a flexible licensing model that provides you with an easier, faster, and more consistent way to purchase and manage software across the Cisco portfolio and across your organization. And it's secure – you control what users can access. With Smart Licensing you get:

- **Easy Activation:** Smart Licensing establishes a pool of software licenses that can be used across the entire organization—no more PAKs (Product Activation Keys).
- **Unified Management:** My Cisco Entitlements (MCE) provides a complete view into all of your Cisco products and services in an easy-to-use portal, so you always know what you have and what you are using.
- **License Flexibility:** Your software is not node-locked to your hardware, so you can easily use and transfer licenses as needed.

To use Smart Licensing, you must first set up a Smart Account on Cisco Software Central (software.cisco.com).

For a more detailed overview on Cisco Licensing, go to cisco.com/go/licensingguide.

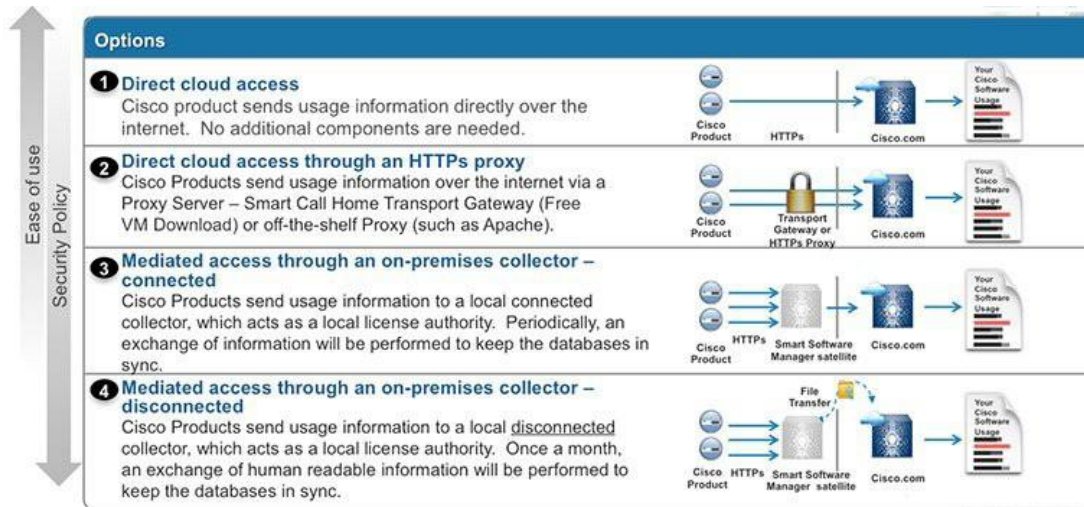
Quick Start Diagram



Smart Licensing Deployment Modes

Security is a concern for many customers. The options below are listed in an order from easiest to use to most secure.

- The first option is to transfer usage over the Internet to the Cloud server directly from the devices to the cloud via HTTPs.
- The second option is to transfer files directly over the Internet to the Cloud server through an HTTPs proxy, either Smart Call Home Transport Gateway or off the shelf HTTPs proxy such as Apache.
- The third option uses a customer internal collection device called the “Cisco Smart Software Satellite.” The Satellite periodically transmits the information into the cloud using periodic network synchronization. In this instance the only customer system or database transferring information to the cloud is the Satellite. The customer can control what is included in the collector database, which lends itself to higher security.
- The fourth option is to use the Satellite, but to transfer the collected files using manual synchronization at least once a month. In this model the system is not directly connected to the Cloud and an air gap exists between the customers network and the Cisco Cloud.



Note:

Due to the change in the format of the messages when using ERM, we are unable to get a count of the Licenses for APs on SSM. With the quick workaround going into SSM OnPrem 8-202004, it will not show any counting of the APs. The workaround only provides customers with an In-Compliance response from SSM OnPrem.

- The actual AP count will NOT be shown in CSSM
- The actual AP count will NOT be shown in SSM OnPrem
- Both CSSM and OnPrem will show the AP count as 0

- The WLC will show IN compliance
- If and AP moves from WLC1 to WLC2, both will show as In Compliance with a count of 0 APs

Customers would have to upgrade to the latest release 8-202004 of the satellite software which will be available Mid-May.

Once the fix available on August 2020, customers only need to upgrade the SSM on-prem and don't need to upgrade controllers IOS XE release versions. The plan is that OnPrem 8-202007 will have the full ERM functionality that will include having the proper license counts displayed in OnPrem and CSSM.

Components Used

- Cisco Catalyst 9800 Wireless Controller
- 802.11ac and 11ax Access Points
- Cisco Catalyst Switch
- Client computer (example. laptop) that is Windows or Mac, with an available wired Ethernet port
- Wireless clients (tablets, smartphones, and so on.)

Smart Account Creation

A Customer Smart Account provides the repository for Smart enabled products and enables Users to manage Cisco Licenses. Once they are deposited, Users can activate licenses, monitor license usage and track Cisco purchases. Your Smart Account can be managed by the Customer directly or a Channel Partner or authorized party. All Customers will need to create a Customer Smart Account to fully utilize the license management features of their smart enabled products. The creation of your Customer Smart Account is a one-time setup activity using the link [Training Resources for Customers, Partners, Distributors, B2B](#)

After the Customer Smart Account Request has been submitted and the Account Domain Identifier has been approved (if edited), the Creator will receive an email notification informing them that they will need to complete the Customer Smart Account setup in Cisco Software Central (CSC).

Simplifying the Cisco Software Experience
Cisco's Software Transformation is moving towards a simplified end-to-end software experience. Below, are the training materials to help Customers and Partners learn about the upcoming enhancements to the software experience. Please use this page for your software training needs.

Use the drop down menu below to filter through self-paced training materials and quick reference guides on various software capabilities.

English | Chinese 简体中文 | Japanese 日本語 | Korean 한국어 | Portuguese Português | Spanish Español

See more information on: **Smart Accounts**

1-Tier Partner | Distributor(2-Tier Partner) | B2B | **End Customer**

Request Customer Smart Account

To create a Customer Smart Account you can request account and complete the setup for your company, or you can request a Smart Account on behalf of another person. This is a quick reference guide on how to request Customer Smart Account. All Customers need a Customer Smart Account, so Partners may initiate the Smart Account request on your behalf. In that case, you will only need to complete the Smart Account Setup.

Quick Reference Guide | Request and Setup Demo | Initiate Request and Nominate Creator Demo

Complete Customer Smart Account Setup

Quick reference guide on how to complete set up of a Customer Smart Account.

Quick Reference Guide | Complete Setup Demo

Search Operations Exchange
Find
All Types

Additional Resources on Software Tool Capabilities

- Current List of Smart Licensing Enabled SKU's
- Smart Account Overview and System Access
- Register for Live Smart Account & Smart Licensing Training Today!
- Archive Release page

Get Support

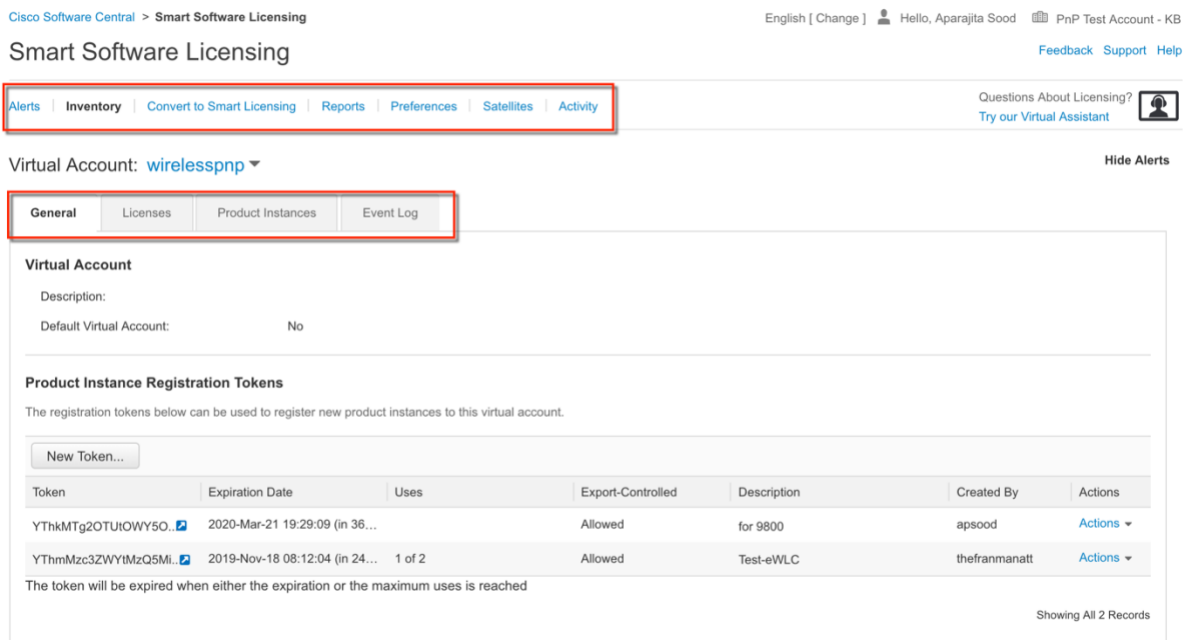
- Smart Accounts
- General Software

Social Resources

Cisco Smart Software Manager

Cisco Smart Software Manager enables you to manage all of your Cisco Smart software licenses from one centralized website. With Cisco Smart Software Manager, you organize and view your licenses in groups called virtual accounts. You use Cisco Smart Software Manager to transfer the licenses between virtual accounts as needed.

CSSM can be accessed from the Cisco Software Central homepage at software.cisco.com under the Smart Licensing section. Cisco Smart Software Manager is divided into two main sections: a Navigation pane on the top and the main Work pane.



You can use the Navigation pane to do the following tasks:

- Choose virtual accounts from the list of all virtual accounts that are accessible by the user.

Virtual Account: wirelesspnp



General | Licen | og

Virtual Account

Description:

Default Virtual Acco

Product Instance

The registration tokens

New Token...

Token	Ex
YThkMTg2OTUtOWV	All
YThmMzc3ZWYtMzc	of 2 All

The token will be exp

stances to this virtual account.

ses

of 2

num uses is reached

By Name | By Tag

- AAA-SANJIV-BLR
- ACME01 - G1000...
- ANZ-SDWAN-01
- ANZ-SDWAN-02
- ANZ-SDWAN-03
- APAC-DEMO
- APAC-SDWAN-LAB...
- ASIG 1
- ASNGENA - G100...
- ASNGENA - G100...
- AS_NGENA5
- Andromeda Gala...
- BASE2HQ
- BCH_UC 1 3

- Run reports against your virtual accounts.

[Alerts](#) | [Inventory](#) | **Reports** | [Email Notification](#) | [Satellites](#) | [Activity](#)

Reports

Name	Description
Licenses	Includes a summary of current license counts and usage over selected virtual accounts.
Product Instances	Includes count and listing of current product instances for selected virtual accounts.

- Modify your email notification settings.

Cisco Software Central > Smart Software Licensing English [Change] Hello, Aparajita Sood PnP Test Account - KB [Feedback](#) [Support](#) [Help](#)

Smart Software Licensing

[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [Satellites](#) | [Activity](#) [Questions About Licensing?](#) [Try our Virtual Assistant](#)

Email Notification

Daily Event Summary

Receive a daily email summary containing the events selected below

Email Address: apsood@cisco.com

Alert Events:

- Insufficient Licenses** - Usage in account exceeds available licenses
- Licenses Expiring** - Warning that term-limited licenses will be expiring. Sent 90, 60, 30, 14, 7, 3 and 1 day prior to expiration.
- Licenses Expired** - Term-limited licenses have expired. Only displayed if Licenses Expiring warning have not been dismissed.
- Product Instance Failed to Connect** - Product has not successfully connected during its renewal period
- Product Instance Failed to Renew** - Product did not successfully connect within its maximum allowed renewal period.
- Satellite Synchronization Overdue** - Satellite has not synchronized within the expected time period.
- Satellite Unregistered and Removed** - Satellite failed to synchronize in 90 days and has been removed.
- Licenses Not Converted** - One or more traditional licenses were not automatically converted to Smart during Product Instance Registration.

Informational Events:

- New Licenses** - An order has been processed and new licenses have been added to the account
- New Product Instance** - A new product instance has successfully registered with the account
- Licenses Reserved** - A product instance has reserved licenses in the account

Status Notification

Receive an email when a Satellite synchronization file has finished processing by Smart Software Manager

- Manage Major and Minor Alerts.

Smart Software Licensing

[Feedback](#) [Support](#) [Help](#)

[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [Satellites](#) | [Activity](#)

Questions About Licensing?
[Try our Virtual Assistant](#) 

Alerts

32 Major | 64 Minor

Sev	Message	Source	Action Due	Actions
✖	Insufficient Licenses - The Virtual Account "scgillin" has a shortage of Unity Express 9.x IVR Session licenses. 4 licenses are requir...	scgillin	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "DubDemo Enterprise Networks" has a shortage of ISR_4400_Security licenses. 1 licens...	DubDemo Enterpris...	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "DubDemo Enterprise Networks" has a shortage of ISR_4400_Application licenses. 1 lic...	DubDemo Enterpris...	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "DubDemo Enterprise Networks" has a shortage of ISR_4400_UnifiedCommunication lic...	DubDemo Enterpris...	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "DubDemo Enterprise Networks" has a shortage of ISR_4400_FoundationSuite licenses....	DubDemo Enterpris...	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "ENFV-LAB" has a shortage of ASAv10 Standard - 1G licenses. 1 license is required to r...	ENFV-LAB	Now	Actions ▼
✖	Synchronization Overdue - The Smart Software Manager satellite "DNACsatellite10" has not synchronized for 179 days. If it is not s...	DNACsatellite10	Now	-
✖	Insufficient Licenses - The Virtual Account "UCS_ENCS" has a shortage of ISRV AX 2500M licenses. 2 licenses are required to ret...	UCS_ENCS	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "Icartwri - SD-WAN BT-1" has a shortage of Firepower MCv Device License licenses. 6 li...	Icartwri - SD-WAN B...	Now	Actions ▼
✖	Insufficient Licenses - The Virtual Account "Icartwri - SD-WAN BT-1" has a shortage of FPR4110 Threat Defense Malware Protectio...	Icartwri - SD-WAN B...	Now	Actions ▼

- View overall account activity, license transactions and event log.

Cisco Software Central > Smart Software Licensing English [Change] Hello, Aparajita Sood PnP Test Account - KB

Smart Software Licensing [Feedback](#) [Support](#) [Help](#)

[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [Satellites](#) | **Activity** [Questions About Licensing?](#) [Try our Virtual Assistant](#)

Activity

License Transactions Event Log

Search by License SKU, License or by Virtual Account

Transaction Date	License SKU	License	Quantity	License Expiration	Virtual Account	Source
2019-Mar-22 19:48:35	SLASR1-IPB-AES	ASR_1000_Ad...	10	2019-Sep-18 (Term)	wirelesspnp	Manual Entry
2019-Mar-22 19:47:13	SLASR1-IPB-AIS	ASR_1000_Ad...	10	2019-Sep-18 (Term)	wirelesspnp	Manual Entry
2019-Mar-22 19:46:07	AIR-DNA-A-T	Aironet DNA A...	10	2019-Sep-18 (Term)	wirelesspnp	Manual Entry
2019-Mar-22 19:45:34	AIR-DNA-NWSTA...	AP Perpetual...	10	Perpetual	wirelesspnp	Manual Entry
2019-Mar-22 13:17:24	L-ASAV30S-STD	ASAv30 Stand...	1	2019-Apr-21 (Demo)	IoT-IA-PTP	Manual Entry

The following web browsers are supported for Cisco Smart Software Manager:

- Chrome 36.0 and later versions
- Firefox 30.0 and later versions
- Safari 5.1.7
- Internet Explorer 10.0 and later versions



Note Javascript 1.5 or a later version must be enabled in your browser.

Feature Configuration Step-by-Step

Smart Account Creation

Procedure

-
- Step 1 Create your Smart Account and virtual accounts as needed at Cisco Software Central (CSC) <https://software.cisco.com/software/company/smartaccounts/home#accountcreation-account> using the reference link <http://www.cisco.com/c/en/us/buy/smart-accounts.html>
- Step 2 On this page select End Customer and refer to the Quick Reference Guide
-

Registration and Activation

Token Creation

Token is required to register the product. Registration tokens are stored in the Product Instance Registration Token Table that is associated with your smart account. Once the product is registered, the registration token is no longer necessary and can be revoked and removed from the table. Registration tokens can be valid from 1 to 365 days.

Procedure

-
- Step 1 In the General tab of the virtual account, click New Token.

Smart Software Licensing

[Feedback](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [Satellites](#) | [Activity](#)[Questions About Licensing?](#)
[Try our Virtual Assistant](#) Virtual Account: [wirelessnpn](#) ▾[Hide Alerts](#)

General Licenses Product Instances Event Log

Virtual Account

Description:

Default Virtual Account: No

Product Instance Registration Tokens

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

[New Token...](#)

Token	Expiration Date	Uses	Export-Controlled	Description	Created By	Actions
YThkMTg2OTU0WY5O...	2020-Mar-21 19:29:09 (in 36...		Allowed	for 9800	apsood	Actions ▾
YThmMzc3ZWYmZ05M...	2019-Nov-18 08:12:04 (in 24...	1 of 2	Allowed	Test-eWLC	thefranmanatt	Actions ▾

The token will be expired when either the expiration or the maximum uses is reached

Showing All 2 Records

- Step 2 In the Create Registration Token dialog box, enter a description and the number of days that you want the token to be valid for. Select the checkbox for export-controlled functionality and accept the terms and responsibilities.
- Step 3 Click Create Token to create token.
- Step 4 Once the token is created click Copy to copy the newly created token.

Virtual Account: [wirelessnpn](#) ▾ [Hide Alerts](#)

General Licenses Product Instances Event Log


Virtual Account

Description:

Default Virtual Account: No

Product Instance Registration Tokens

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

Token 

`YThkMTg2OTU0WY5OS00MGUxLW4ZTQhN2QyYTZjZTc4ZDRkLTE1ODQ4MTg5%0ANDk1OTZ8Yk9HclVpbmpHb29XUJibH2NUZ2PTTI EZnFqbExzS0IndjZBNjBH%0AV0x6az0%3D%0A`

Press ctrl + c to copy selected text to clipboard.

Token	Expiration Date	Uses	Export-Controlled	Description	Created By	Actions
YThkMTg2OTU0W...	2020-Mar-21 19:29:09...		Allowed	for 9800	apsood	
YThmMzc3ZWYmZ...	2019-Nov-18 08:12:04...	1 of 2	Allowed	Test-eWLC	thefranmanatt	

The token will be expired when either the expiration or the maximum uses is reached

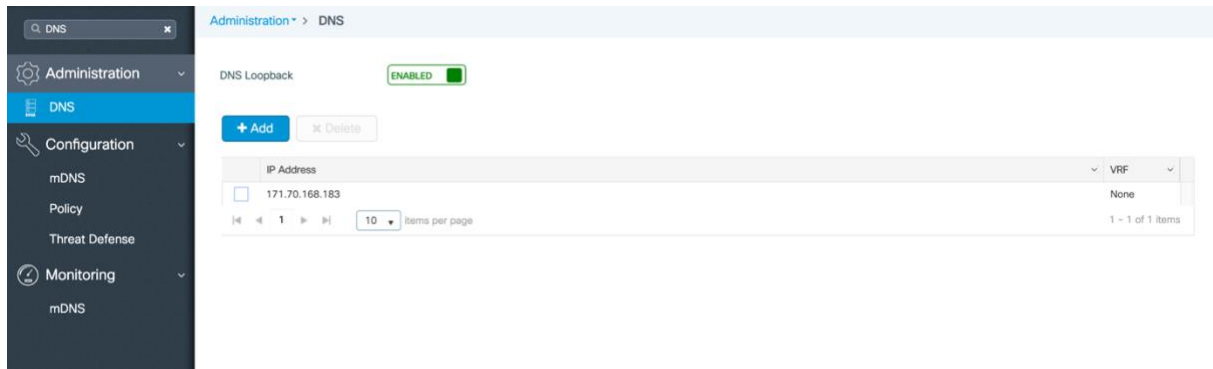
Showing All 2 Records

[Contacts](#) | [Feedback](#) | [Help](#) | [Site Map](#) | [Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks](#)

Enable Smart Licensing and Register Device

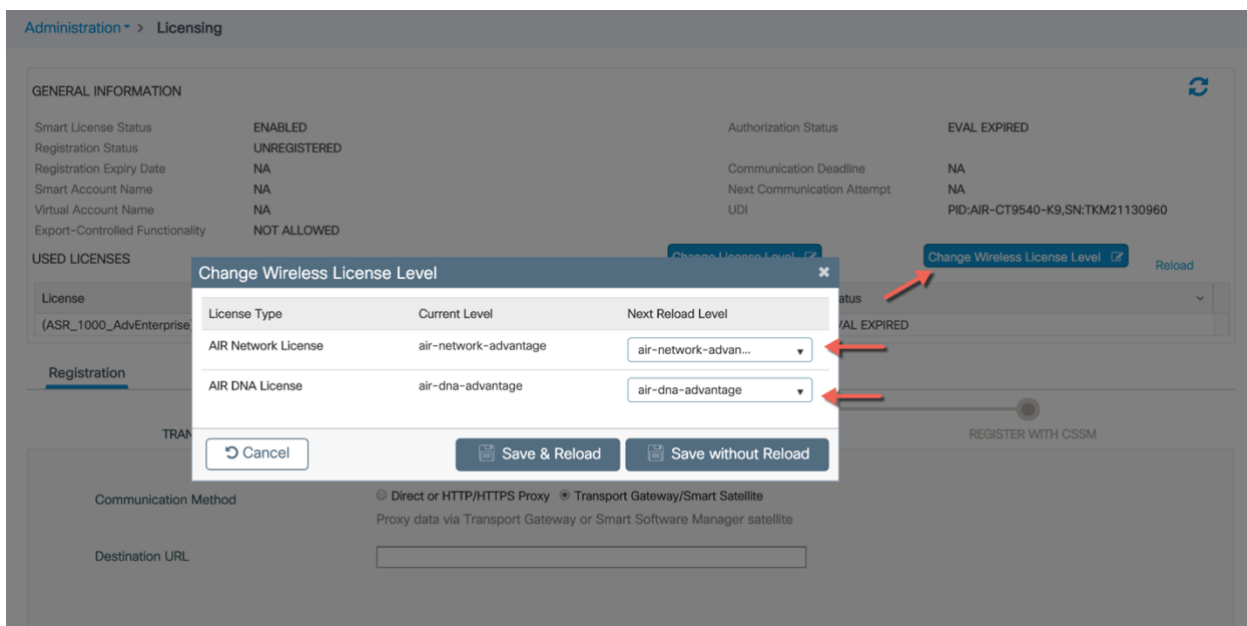
Procedure

Before configuring Smart Licensing Verify that DNS IP has been set to resolve the hostname for CSSM



Step 1 To activate Smart Licensing on the C9800 go to Administration > Licensing.

Step 2 Set the Wireless License Level for AIR Network License and AIR DNA License as per the licenses available in the Smart Account. The default is air-network-advantage and air-dna-advantage. When the license term expires the license level should be set to air-network-essentials by selecting the same from the drop down.



Note The following steps are for the Direct Cloud Access deployment mode. For other deployment modes please refer to the section Smart Software Satellite and Transport Gateway Mode and then return to step 3 below to complete registration.

Step 3 Select Direct or HTTP/HTTPS Proxy. Click Next

Administration > Licensing

GENERAL INFORMATION

Smart License Status	ENABLED	Authorization Status	EVAL EXPIRED
Registration Status	UNREGISTERED	Communication Deadline	NA
Registration Expiry Date	NA	Next Communication Attempt	NA
Smart Account Name	NA	UDI	PID:AIR-CT9540-K9,SN:TKM21130960
Virtual Account Name	NA		
Export-Controlled Functionality	NOT ALLOWED		

USED LICENSES

License	Count	Status
(ASR_1000_AdvEnterprise)	1	EVAL EXPIRED

Registration

TRANSPORT SETTINGS (Completed) | GENERATE REGISTRATION TOKEN (Current) | REGISTER WITH CSSM

- Login to your Smart Account in [Smart Software Manager](#) or your Smart Software Manager Satellite.
- Navigate to the virtual account containing licenses to be used by this product instance.
- In the General tab of virtual account, click New Token.
- In the Create Registration Token dialog box, enter a description and the number of days that you want the token to be valid for.
- Click Create Token to create token
- Once the token is created click Copy to copy the newly created token.

Back Next

Step 4 Enter the token from CSSM as shown below and Click Finish

GENERAL INFORMATION

Smart License Status	ENABLED	Authorization Status	EVAL EXPIRED
Registration Status	UNREGISTERED	Communication Deadline	NA
Registration Expiry Date	NA	Next Communication Attempt	NA
Smart Account Name	NA	UDI	PID:AIR-CT9540-K9,SN:TKM21130960
Virtual Account Name	NA		
Export-Controlled Functionality	NOT ALLOWED		

[Change License Level](#)

[Change Wireless License Level](#)

[Reload](#)

USED LICENSES

License	Count	Status
(ASR_1000_AdvEnterprise)	1	EVAL EXPIRED

Registration



Enter the token id obtained from previous step and click on Finish to register with CSSM.

Product Instance Registration Token

Register this product instance if it is already registered

MTQ3MzBhZDElNmJlOC00ZWw3LWFiODk1YTUwNmM4ZTU3ZWQ3LTE0NDQ4Njgw
%0AODY5NjJlZFRhRzYvcTRxalUk5K09KcVRZanVVeHE1K2F3SnU1Rik0L1H4WTIY
%0ANSzND0%3D%0A

[Back](#)

[Finish](#)

In the CSSM portal the device will show up under the Product Instances tab on the corresponding virtual account that the device was registered with.

The screenshot shows the Cisco Software Central interface for Smart Software Licensing. The user is logged in as 'Hello, Aparajita Sood' and is viewing the 'wirelesspnp' virtual account. The 'Product Instances' tab is selected, displaying a table with two entries:

Name	Product Type	Last Contact	Alerts	Actions
FranMan-eWLC-00001	AIRCTC5	2018-Nov-19 15:39:51		Action...
WLC	AIRCTC5	2019-Mar-22 19:41:51		Action...

A red arrow points to the 'WLC' entry in the table. The interface also includes a search bar, navigation tabs (General, Licenses, Product Instances, Event Log), and a footer with various links.

The licenses available in the account and the licenses in-use can be seen under the Licenses tab. In this example, the Cisco 9800 controller has two APs connected to it

The screenshot shows the Cisco Software Central interface for Smart Software Licensing, now on the 'Licenses' tab for the 'wirelesspnp' virtual account. The 'In Use' column for the 'AP Perpetual Networkstack Advantage' license is highlighted with a red box, showing a value of 2.

License	Billing	Purchased	In Use	Balance	Alerts	Actions
<input type="checkbox"/> Aironet DNA Advantage Term Licenses	Prepaid	10	2	+ 8		Actions
<input type="checkbox"/> AP Perpetual Networkstack Advantage	Prepaid	10	2	+ 8		Actions
<input type="checkbox"/> ASR_1000_AdvEnterprise	Prepaid	10	1	+ 9		Actions
<input type="checkbox"/> ASR_1000_AdvIpservices	Prepaid	10	0	+ 10		Actions

The interface also includes a search bar, navigation tabs (General, Licenses, Product Instances, Event Log), and a footer with various links.

The Event Log tab will point to the events generated for this registration from Cisco 9800 controller with hostname "WLC"

Virtual Account: **wirelesspnp** Hide Alerts

General Licenses Product Instances **Event Log**

Search by License or Product

Message	Time	User
The product instance "WLC" connected and was added to the Virtual Account "wirelesspnp".	2019-Mar-22 20:51:29	System
10 new "ASR_1000_AdvEnterprise" term licenses were added to the Virtual Account "wirelesspnp"	2019-Mar-22 19:48:35	Cisco Support
The shortage of 1 "ASR_1000_AdvEnterprise" license in the Virtual Account "wirelesspnp" has been .	2019-Mar-22 19:48:35	-
10 new "ASR_1000_Advpservices" term licenses were added to the Virtual Account "wirelesspnp"	2019-Mar-22 19:47:13	Cisco Support
The shortage of 2 "Aironet DNA Advantage Term Licenses" licenses in the Virtual Account "wirelesspnp"	2019-Mar-22 19:46:07	-
10 new "Aironet DNA Advantage Term Licenses" term licenses were added to the Virtual Account "wi."	2019-Mar-22 19:46:07	Cisco Support
10 new "AP Perpetual Networkstack Advantage" perpetual licenses were added to the Virtual Accou..	2019-Mar-22 19:45:34	Cisco Support
The shortage of 2 "AP Perpetual Networkstack Advantage" licenses in the Virtual Account "wirelesspnp"	2019-Mar-22 19:45:34	-
The Virtual Account "wirelesspnp" reported a shortage of 2 "Aironet DNA Advantage Term Licenses"	2019-Mar-22 19:41:52	-
The Virtual Account "wirelesspnp" reported a shortage of 1 "ASR_1000_AdvEnterprise" license.	2019-Mar-22 19:41:51	-

Showing Page 1 of 3 (27 Records)

Step 5 License Status can be viewed on the controller on the Administration > Licensing page

Cisco AIR-CT9540-K9
16.11.20190115

Welcome admin

Administration > Licensing

GENERAL INFORMATION

Smart License Status: **ENABLED**

Registration Status: **REGISTERED** Reregister

Registration Expiry Date: Mar 21 13:46:27 2020 UTC

Smart Account Name: PnP Test Account - KB

Virtual Account Name: wirelesspnp

Export-Controlled Functionality: ALLOWED

Authorization Status: **AUTHORIZED**

Communication Deadline: Jun 20 13:45:31 2019 UTC

Next Communication Attempt: Apr 21 13:51:32 2019 UTC

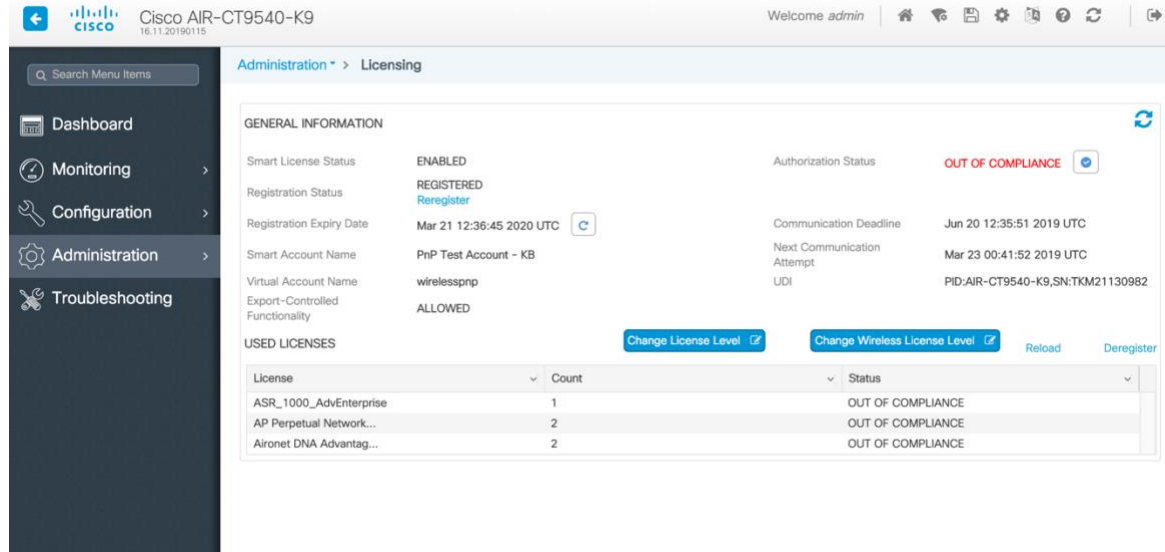
UDI: PID:AIR-CT9540-K9,SN:TKM21130982

USED LICENSES

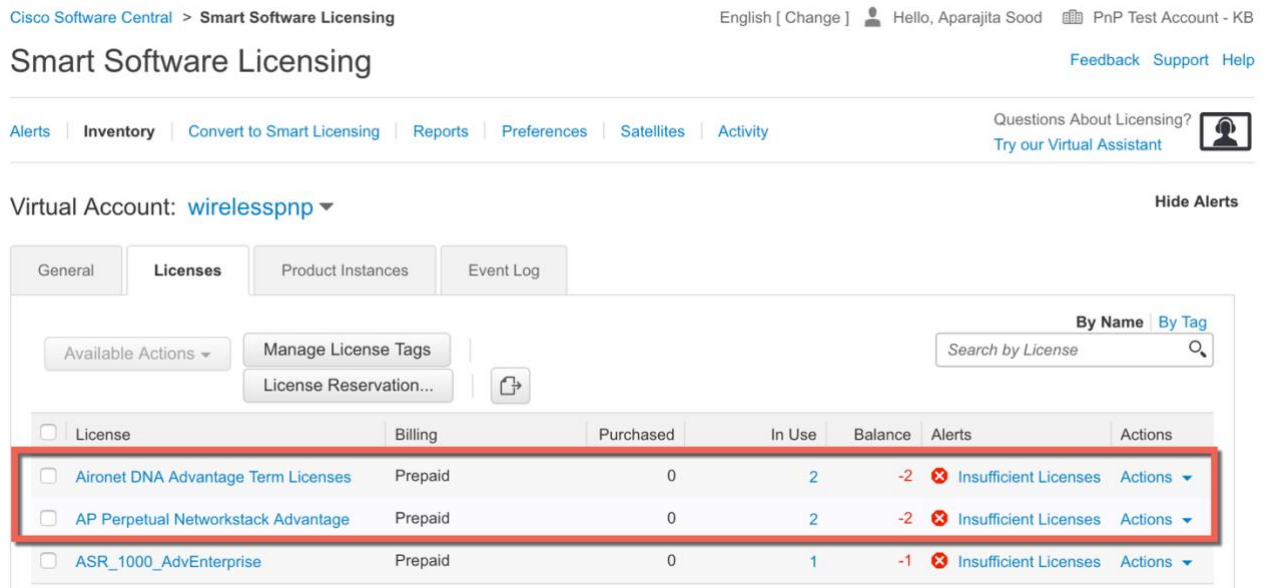
Change License Level | Change Wireless License Level | Reload | Deregister

License	Count	Status
ASR_1000_AdvEnterprise	1	AUTHORIZED
AP Perpetual Network...	2	AUTHORIZED
Aironet DNA Advantag...	2	AUTHORIZED

In case sufficient licenses are not available on the smart account, the Authorization status will show Out of Compliance



CSSM will also show a warning indicating alerts on Insufficient Licenses on the Licenses tab under the virtual account



Smart Software Satellite and Transport Gateway Mode (Optional)

Direct Cloud Access through HTTPs proxy or Transport Gateway

In this deployment mode Cisco Products send usage information over the Internet via a Proxy Server - Smart Call Home Transport Gateway (Free VM Download) or off-the-shelf Proxy (such as Apache). To download, install and setup the Transport Gateway, please refer to http://www.cisco.com/c/dam/en/us/td/docs/switches/lan/smart_call_home/user_guides/SCH_Ch4.pdf

On the C9800 setup the proxy as follows :

Registration

TRANSPORT SETTINGS GENERATE REGISTRATION TOKEN REGISTER WITH CSSM

Communication Method Direct or HTTP/HTTPS Proxy Transport Gateway/Smart Satellite
Product communicates with Cisco's licensing servers directly or via an intermediate HTTP or HTTPS proxy

Destination URL

Source Interface

Is your device behind a proxy server? No Yes

Proxy server

Port Number

DNS Server(IPv4 / IPv6)

Next

```
WLC(config)#call-home reporting anonymous http-proxy
WLC(config)#call-home reporting contact-email-addr apsood@cisco.com http-proxy
```

On the C9800 setup the Transport Gateway as follows :

The image shows a registration configuration screen for a C9800 device. At the top, there is a progress bar with three steps: 'TRANSPORT SETTINGS' (active), 'GENERATE REGISTRATION TOKEN', and 'REGISTER WITH CSSM'. Below the progress bar, the configuration options are:

- Communication Method:** Radio buttons for 'Direct or HTTP/HTTPS Proxy' (unselected) and 'Transport Gateway/Smart Satellite' (selected). A red arrow points to the selected option. Below this, a note reads: 'Proxy data via Transport Gateway or Smart Software Manager satellite'.
- Destination URL:** An empty text input field with a red arrow pointing to it.
- Source Interface:** A dropdown menu currently showing 'None'.
- DNS Server(IPv4 / IPv6):** A text input field containing the placeholder 'xxx.xxx.xxx.xxx'.

A blue 'Next' button is located at the bottom right of the configuration area.

```
WLC(config)#license smart url ?  
WORD      Set the Smart Transport URL.  
default   Use the default URL for Smart Transport.  
utility   Set the secondary URL for reporting Utility Licensing usage.
```

Mediated Access through on-premise Smart Software Satellite(connected or dis-connected mode)

Cisco Smart Software Manager satellite is a component of Cisco Smart Licensing and works in conjunction with [Cisco Smart Software Manager \(SSM\)](#) . It helps customers intelligently manage product licenses, providing near real-time visibility and reporting of Cisco licenses they purchase and consume.

For security sensitive customers who do not want to manage their install base using a direct Internet connection, the Smart Software Manager satellite is installed on the customer premises, and provides a subset of Cisco SSM functionality. Once you download and deploy the satellite application, you can perform the following functions locally and securely without sending data to Cisco SSM using the Internet:

- Activate or register a license
- Get visibility to your company's licenses
- Transfer licenses between company entities

The free installation package is available in a number of formats:

- OVA, installable on ESXi 5.0+ server
- ISO bare metal
- Hyper-V for Microsoft Server 2012 virtualized host KVM for Ubuntu and CentOS

To download, install and setup the Smart Software Satellite, please refer to <http://www.cisco.com/c/en/us/buy/smart-accounts/software-manager-satellite.html>

On the C9800 setup the satellite as follows:

Registration

TRANSPORT SETTINGS GENERATE REGISTRATION TOKEN REGISTER WITH CSSM

Communication Method Direct or HTTP/HTTPS Proxy Transport Gateway/Smart Satellite
Proxy data via Transport Gateway or Smart Software Manager satellite

Destination URL

Source Interface

DNS Server(IPv4 / IPv6)

Next

Smart License Reservation

License Reservation allows the customer to reserve licenses from their virtual account, tie them to a devices UDI and use their device with these reserved licenses in a disconnected mode. It allows customers to maintain and manage software entitlement, and use Smart License as a standalone feature. It is a secure method of handling license subscription and benefits of DNA without communication with cisco

There are two methods the customer can use if their account is authorized to do so:

1. Specific license reservation (SLR) where the customer will reserve specific licenses and counts for a UDI from their virtual account.
2. Permanent License Reservation (PLR) where the license will allow the customer to use any entitlement for unlimited count on the device.

Steps to enable this feature:

1. Enable SLR on device and generate a request code
2. Login to CSSM portal and enter the request code\
3. Reserve the quantity of License for the associated Controller and generate Authorization Code
4. Install the authorization code in the controller CLI

Step 1: Enable SLR mode on the Catalyst Controller

Enter SLR mode by using the appropriate command to enable Specific License Reservation.

```
Catalyst Controller > license smart reservation
```

```
cancel    Cancel a Smart License reservation request before the
          authorization code is installed
install   Install a Smart License reservation authorization code
request   Request a license reservation
return   Return a Smart License reservation authorization code that was
         installed
```

Step 2:

From the Administration > Licensing page generate a token

The screenshot shows the Catalyst Controller Administration > Licensing page. The left sidebar contains navigation options: Dashboard, Monitoring, Configuration, Administration (selected), and Troubleshooting. The main content area is divided into sections:

- GENERAL INFORMATION**: License Reservation is enabled (with a [Disable Reservation](#) link). Smart License Status is ENABLED. Authorization Status is EVAL EXPIRED. Registration Status is RESERVATION IN PROGRESS (with a [Cancel](#) link). Registration Expiry Date is NA. Smart Account Name is NA. Virtual Account Name is NA. Export-Controlled Functionality is NOT ALLOWED. Buttons for [Change License Level](#) and [Change Wireless License Level](#) are present, along with a [Reload](#) button.
- USED LICENSES**: A table with columns License, Count, and Status. One license is listed: (ASR_1000_AdvEnterprise) with a count of 1 and status EVAL EXPIRED.
- License Reservation**: A progress bar with three steps: GENERATE RESERVATION REQUEST CODE (active), GENERATE RESERVATION AUTHORIZATION CODE, and INSTALL AUTHORIZATION CODE. Below the progress bar, instructions are provided: "Click Generate to generate reservation request code. Select Local radio if you want to reserve licenses only for the active system. Choose all if you want to reserve for all the systems." and "Click Copy to copy the reservation request code to clipboard." There are radio buttons for Local and All, a [Generate](#) button, and a [Copy](#) button. The generated token is displayed in a text box: CB-ZAIR-CT9540-K9-TKM21130960-Ah6VBisEx-0D.

Using the CLI the same can be done as follows:

Generate request code for the Catalyst controller. This command is to request a code to reserve licenses on the controller

```
Catalyst Controller > license smart reservation request
```

```
all           Reservation request for all the systems
local        Reservation request for the active system
universal    Request a universal license reservation (this option has
been deprecated and will be removed in the future)
```

Select the following command to request reservation for all the systems including HA, etc

```
Catalyst Controller > license smart reservation request all
```

Enter this request code in the Cisco Smart Software Manager portal:
CE-ZL-AIR-9500C-K9:9T7T9RJU81X-BjSeUVwmn-8A

Step 3:

1. Click on Product Instances – It should display the list of Products in the system
2. Click on License Reservation which shows purchased Licenses and what is in use

The screenshot shows the Cisco Smart Software Manager (SSM) interface for license management. The page title is "Smart Software Licensing" and the virtual account is "vEWLC". The "Licenses" tab is selected, showing a table of license details. The table has columns for License, Billing, Purchased, In Use, Balance, Alerts, and Actions. The data is as follows:

License	Billing	Purchased	In Use	Balance	Alerts	Actions
Aironet DNA Advantage Term Licenses	Prepaid	1000	16 (16 Reserved)	+ 984	Licenses Expiring	Actions
Aironet DNA Essentials Term Licenses	Prepaid	1000	13 (13 Reserved)	+ 987	Licenses Expiring	Actions
AP Perpetual Networkstack Advantage	Prepaid	1010	5 (5 Reserved)	+ 1005		Actions
AP Perpetual Networkstack Essentials	Prepaid	1010	5 (5 Reserved)	+ 1005		Actions

3. Enter the reservation request code that was previously generated through CLI command

Smart License Reservation

x

STEP 1 Enter Request Code | STEP 2 Select Licenses | STEP 3 Review and confirm | STEP 4 Authorization Code

You can reserve licenses for product instances that cannot connect to the Internet for security reasons. You will begin by generating a Reservation Request Code from the product instance. To learn how to generate this code, see the configuration guide for the product being licensed.

Once you have generated the code:

- 1) Enter the Reservation Request Code below
- 2) Select the licenses to be reserved
- 3) Generate a Reservation Authorization Code
- 4) Enter the Reservation Authorization Code on the product instance to activate the features

Reservation Request Code:

To learn how to enter this code, see the configuration guide for the product being licensed

4. License reservation opens up for the particular Product ID and serial number. License reservation is node locked
Based on the license level purchased, Select the quantity of licenses to be reserved.

Smart License Reservation

x

STEP 1 ✓ Enter Request Code | STEP 2 Select Licenses | STEP 3 Review and confirm | STEP 4 Authorization Code

Product Instance Details

Product Type: AIRCTC5
UDI PID: L-AIR-9500C-K9
UDI Serial Number: 9T7T9RJU81X

Licenses to Reserve

In order to continue, ensure that you have a surplus of the licenses you want to reserve in the Virtual Account.

- Reserve a specific license

License	Description	Expires	Available	Quantity To Reserve
AP Perpetual Networkstack Essentials	AP Perpetual Network Stack entitled with DNA-E	multiple terms	1005	<input type="text"/>
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	multiple terms	984	<input type="text"/>

Based on the license level purchased, select the quantity of licenses to be reserved. Select DNA-A and Network Advantage of the same quantity if DNA-A is purchased. Similarly select DNA-E and Network Essentials of the same quantity of DNA –E is purchased

Smart License Reservation

×

STEP 1 ✓ Enter Request Code

STEP 2 Select Licenses

STEP 3 Review and confirm

STEP 4 Authorization Code

Order to reserve licenses. Ensure that you have a sufficient number of licenses you want to reserve in the Smart License Reservation.

Reserve a specific license

License	Description	Expires	Available	Quantity To Reserve
AP Perpetual Networkstack Essentials	AP Perpetual Network Stack entitled with DNA-E	multiple terms	1005	<input type="text" value="0"/>
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	multiple terms	984	<input type="text" value="5"/>
Aironet DNA Essentials Term Licenses	DNA Essentials for Wireless	multiple terms	987	<input type="text" value="0"/>
AP Perpetual Networkstack Advantage	AP Perpetual Network Stack entitled with DNA-A	multiple terms	1005	<input type="text" value="5"/>

Cancel Back **Next**

Use this Auth Code generated on the Catalyst Controller to install the licenses.

Smart License Reservation

×

STEP 1 ✓ Enter Request Code

STEP 2 ✓ Select Licenses

STEP 3 ✓ Review and confirm

STEP 4 Authorization Code

The Reservation Authorization Code below has been generated for this product instance. Enter this code into the Smart Licensing settings for the product, to enable the licensed features.

Product Instance Details

Product Type: AIRCTC5
UDI PID: L-AIR-9500C-K9
UDI Serial Number: 9T7T9RJU81X

Authorization Code:

```
UTC</endDate></licenseType>TERM</licenseType></displayName>Aironet DNA Advantage Term Licenses</displayName>DNA Advantage for Wireless</tagDescription>
</subscriptionID></subscriptionID></entitlement></entitlement></tag>regid.2018-06.com.cisco.DNA_NWStack.1.0_e7244e71-3ad5-4608-8b10-d12f67c80896</tag></count>5</count>
</startDate>2018-SEP-26 UTC</startDate></endDate>2019-MAR-25 UTC</endDate></licenseType>TERM</licenseType></displayName>AP Perpetual Networkstack Advantage</displayName>
</tagDescription>AP Perpetual Network Stack entitled with DNA-A</tagDescription></subscriptionID></subscriptionID></entitlement></entitlements></authorizationCode>
</signature>MEYCIQCNDIGEvbnL1GyixQQDJeZu6MXdy7y8JRNvUir7soGBAlhAM3+KyW466clZuK1ivSkM/DJD5dtbJm2OIVA3Iz7m4</signature></udi>P-L-AIR-9500C-K9,S:9T7T9RJU81X</udi>
</specificPLR>
```

To learn how to enter this code, see the configuration guide for the product being licensed

Download as File Copy to Clipboard **Close**

The same can be done via CLI:

Copy the data generated from the portal and create a file Auth.txt on bootflash to install the licenses on the Catalyst Controller

```
Catalyst Controller > license smart reservation install
```

```
WORD The authorization key from the CSSM
file Install a Smart License reservation authorization code from file
```

Please input the following command to create a file on bootflash with the code generated in the portal.

```
Catalyst controller> license smart reservation install file  
bootflash:Auth.txt
```

Following Output is obtained and confirmation code is displayed:
Reservation install file successful
Last Confirmation code UDI: PID:L-AIR-9500CK9,SN:9T7T9RJU81X 79971726

Deleting SLR Licenses

The license count is now node locked for the particular controller. If you need to modify the quantity of reserved license. The license has to be deregistered and re-reserved.

Step 1: Return the existing license reservation for the Catalyst Controller. This command is

```
Catalyst Controller > license smart reservation  
  
cancel    Cancel a Smart License reservation request before the authorization  
code is installed  
install   Install a Smart License reservation authorization code  
request   Request a license reservation  
return    Return a Smart License reservation authorization code that was  
installed  
Select the following command to return reservation  
Catalyst Controller > license smart reservation return  
Following Output is obtained and request code is generated:  
all           Reservation return for all the systems in stack  
authorization Generate return code for authorization code that has not been  
              installed  
local        Reservation return for the active system  
Select all so that all reservations are returned.  
Catalyst Controller > license smart reservation return all
```

Once you type the command return all, the following message is displayed

This command will remove the license reservation authorization code and the device will transition back to the unregistered state. Some features may not function properly.


Do you want to continue? [yes/no]: yes

Enter this return code in Cisco Smart Software Manager portal:

UDI: PID:L-AIR-9500C-K9,SN:9T7T9RJU81XCasBvE-sunVMq-YHDJvM-DJGPeC-Eszfya-mvDCPX-TW7h3N-GhVE4D-bV2

Step 2: Click on Product instances to see the list of products.

Smart Software Licensing

[Feedback](#) [Support](#) [Help](#)[Alerts](#) | [Inventory](#) | [Convert to Smart Licensing](#) | [Reports](#) | [Preferences](#) | [Satellites](#) | [Activity](#)Questions About Licensing?
[Try our Virtual Assistant](#) Virtual Account: **VEWLC** ▾**2** Minor | **1** Informational | **Hide Alerts**

Product Instances				
Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:L-AIR-9500C-K9; UDI_SN:9SH0ZENRB5W;	AIRCTC5	2018-Oct-04 13:33:34 (Reserved Licenses)		Actions ▾
UDI_PID:L-AIR-9500C-K9; UDI_SN:9T7T9RJU81X;	AIRCTC5	2018-Oct-03 07:31:17 (Reserved Licenses)		Actions ▾
UDI_PID:L-AIR-9500C-K9; UDI_SN:9WFXGI8IXUT;	AIRCTC5	2018-Aug-28 19:28:50 (Reserved Licenses)		Actions ▾

Showing Page 2 of 2 (13 Records) | < << >> >

Step 3: Enter the return code in the text box to remove the product instance and remove the reservation of license.

Remove Product Instance ✕

To remove a Product Instance that has reserved licenses and make those licenses once again available to other Product Instances, enter in the Reservation Return Code generated by the Product Instance. If you cannot generate a Reservation Return Code, contact [Cisco Support](#)

★ **Reservation Return Code:**

CasBvE-sunVMq-YHDJvM-DJGPeC-Eszfya-
mvDCPX-TW7h3N-GhVE4D-bV2

Remove Product Instance

Cancel

Smart Licensing HA Support

Smart Licensing is supported with the SSO as well as N+1 mode of High Availability.

Installing Smart Licensing Reservation (SLR) on a C9800 SSO HA pair

Before you start

1. Let's first make sure that SSO HA is correctly working. You can use the following command to check the status of SSO:

c9800-sso#sh redundancy

Redundant System Information :

Available system uptime = 18 hours, 40 minutes

Switchovers system experienced = 0

Standby failures = 0

Last switchover reason = none

Hardware Mode = Duplex

Configured Redundancy Mode = sso

Operating Redundancy Mode = sso

Maintenance Mode = Disabled

Communications = Up

Current Processor Information :

Active Location = slot 1

Current Software state = ACTIVE

Uptime in current state = 18 hours, 40 minutes

Image Version = Cisco IOS Software [Gibraltar], C9800-CL Software (C9800-CL-K9_IOSXE), Version 16.11.1c, RELEASE SOFTWARE (fc3)

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Tue 18-Jun-19 21:18 by mcpre

BOOT = bootflash:packages.conf,12;

Configuration register = 0x2102

Peer Processor Information :

Standby Location = slot 2

Current Software state = STANDBY HOT

Uptime in current state = 18 hours, 38 minutes

Image Version = Cisco IOS Software [Gibraltar], C9800-CL Software (C9800-CL-K9_IOSXE), Version 16.11.1c, RELEASE SOFTWARE (fc3)

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Tue 18-Jun-19 21:18 by mcpre

BOOT = bootflash:packages.conf,12;

CONFIG_FILE =

Configuration register = 0x2102

2. Make sure the communication between peers is ok, use the following command:

c9800-sso#show platform software stack-mgr chassis active R0 peer-timeout

<i>Peer Chassis</i>	<i>Peer-timeout (ms)</i>	<i>50% Mark</i>	<i>75% Mark</i>
2	300	2533	0

NOTE: It's important that throughout this process there is no communication problems between Active and Standby:

3. If not done already, enable SLR on the active:

```
c9800-ss0(config)#license smart reservation
```

4. Let's also make sure there is no any active reservation on the box, so we start from scratch. If you have an active reservation, go to the "Remove SLR" section later in this document. A key command to be used is "show license tech support":

```
c9800-ss0#sh lic tech support  
Smart Licensing Tech Support info
```

```
Smart Licensing Status  
=====
```

```
Smart Licensing is ENABLED  
License Reservation is ENABLED
```

```
Registration:  
Status: UNREGISTERED  
Export-Controlled Functionality: NOT ALLOWED
```

Install SLR on a C9800 SSO HA pair

All the commands mentioned in this procedure are always executed from the Active, there is no reason to go to the standby console or to break the HA pair

1. Get the active and standby UDI so you know which serial number correspond to Active and Standby. From the active exec prompt, issue the following command:

```
c9800-ss0#sh license udi
UDI: PID:C9800-CL-K9,SN:9HP3YNWPC73
```

HA UDI List:

Active: PID: C9800-CL-K9, SN: **9HP3YNWPC73**
Standby: PID: C9800-CL-K9, SN: **9SO0PESS0A5**

2. Generate the Request code for both as follows. The request code is what you need to reserve the license on the CSSM portal. Execute: "license smart reservation request all"

```
c9800-ss0#license smart reservation request all
Enter this request code in the Cisco Smart Software Manager portal:
CC-ZC9800-CL-K9:9HP3YNWPC73-BjSeUVwmn-2D <<<< request code for Active
CC-ZC9800-CL-K9:9SO0PESS0A5-BjSeUVwmn-C4 <<<< request code for Standby
```

To know which code corresponds to which box, Active or Standby, you can look at the UDI list above as the code includes the SN. You can also verify it by using "show inventory" on the active, this will confirm the Active serial number (SN):


```
c9800-ss0#sh inventory
NAME: "Chassis", DESCR: "Cisco C9800-CL Chassis"
PID: C9800-CL-K9 , VID: V00 , SN: 9HP3YNWPC73
```

3. Now login to Cisco Smart Software Manager (CSSM) to generate the license reservations. Use two request codes as generated in step (2) above.
 - a. CC-ZC9800-CL-K9:9HP3YNWPC73-BjSeUVwmn-2D for active
 - b. CC-ZC9800-CL-K9:9SO0PESS0A5-BjSeUVwmn-C4 for standby

Select your Virtual account and click on License Reservation

Virtual Account: vEWLC ▾

General Licenses Product Instances Event Log Click on "License Reservation"

Available Actions ▾ Manage License Tags License Reservation  Show License Transactions

<input type="checkbox"/>	License	Billing	Purchased	In Use
<input checked="" type="checkbox"/>	Aironet DNA Advantage Term Licenses	Prepaid	2000	111 (49 Reserved)
<input checked="" type="checkbox"/>	Aironet DNA Essentials Term Licenses	Prepaid	200	20 (20 Reserved)
<input checked="" type="checkbox"/>	AP Perpetual Networkstack Advantage	Prepaid	470	86 (34 Reserved)
<input checked="" type="checkbox"/>	AP Perpetual Networkstack Essentials	Prepaid	470	26 (20 Reserved)

This brings a pop-up page (Please make sure pop-up is allowed to this portal) where you need to enter the reservation request codes. Let's first do the procedure for Active C9800:

Smart License Reservation

STEP 1 Enter Request Code STEP 2 Select Licenses STEP 3 Review and confirm STEP 4 Authorization Code

You can reserve licenses for product instances that cannot connect to the Internet for security reasons. You will begin by generating a Reservation Request Code from the product instance. To learn how to generate this code, see the configuration guide for the product being licensed.

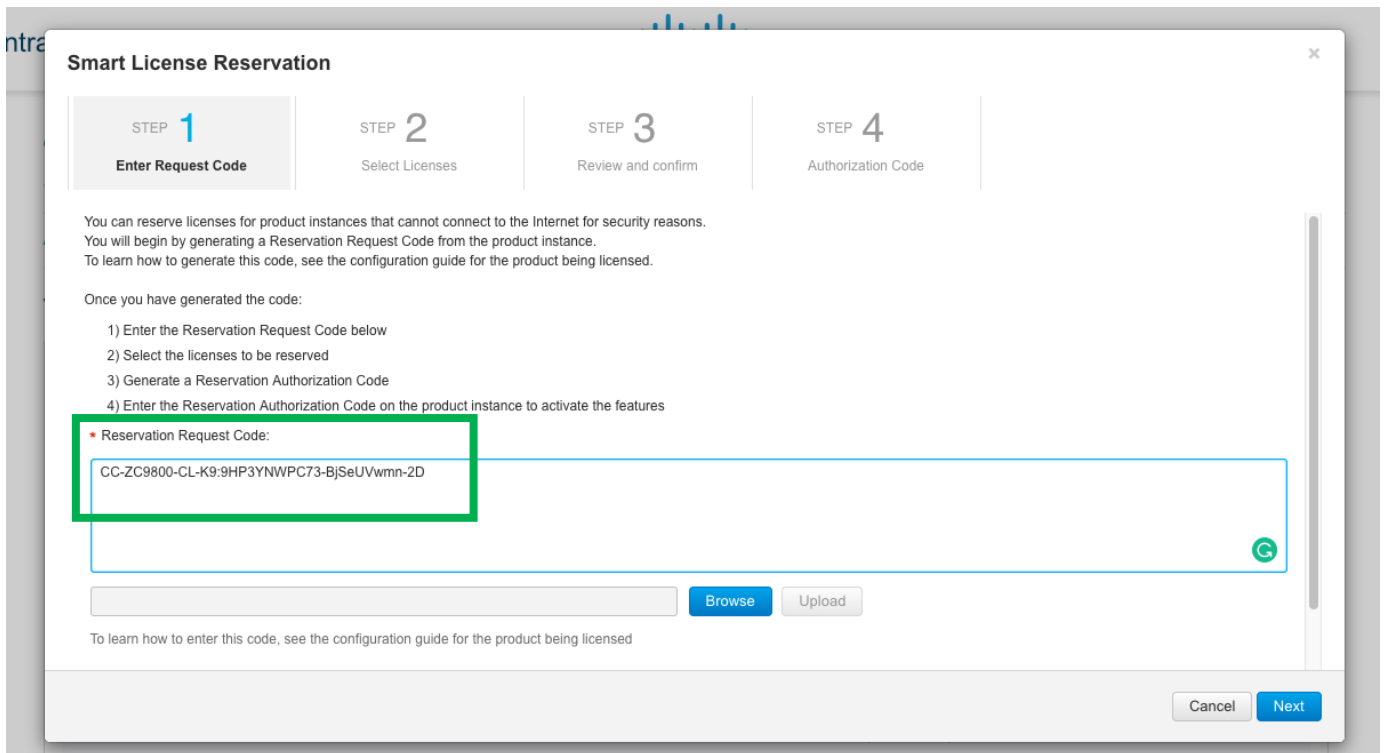
Once you have generated the code:

- 1) Enter the Reservation Request Code below
- 2) Select the licenses to be reserved
- 3) Generate a Reservation Authorization Code
- 4) Enter the Reservation Authorization Code on the product instance to activate the features

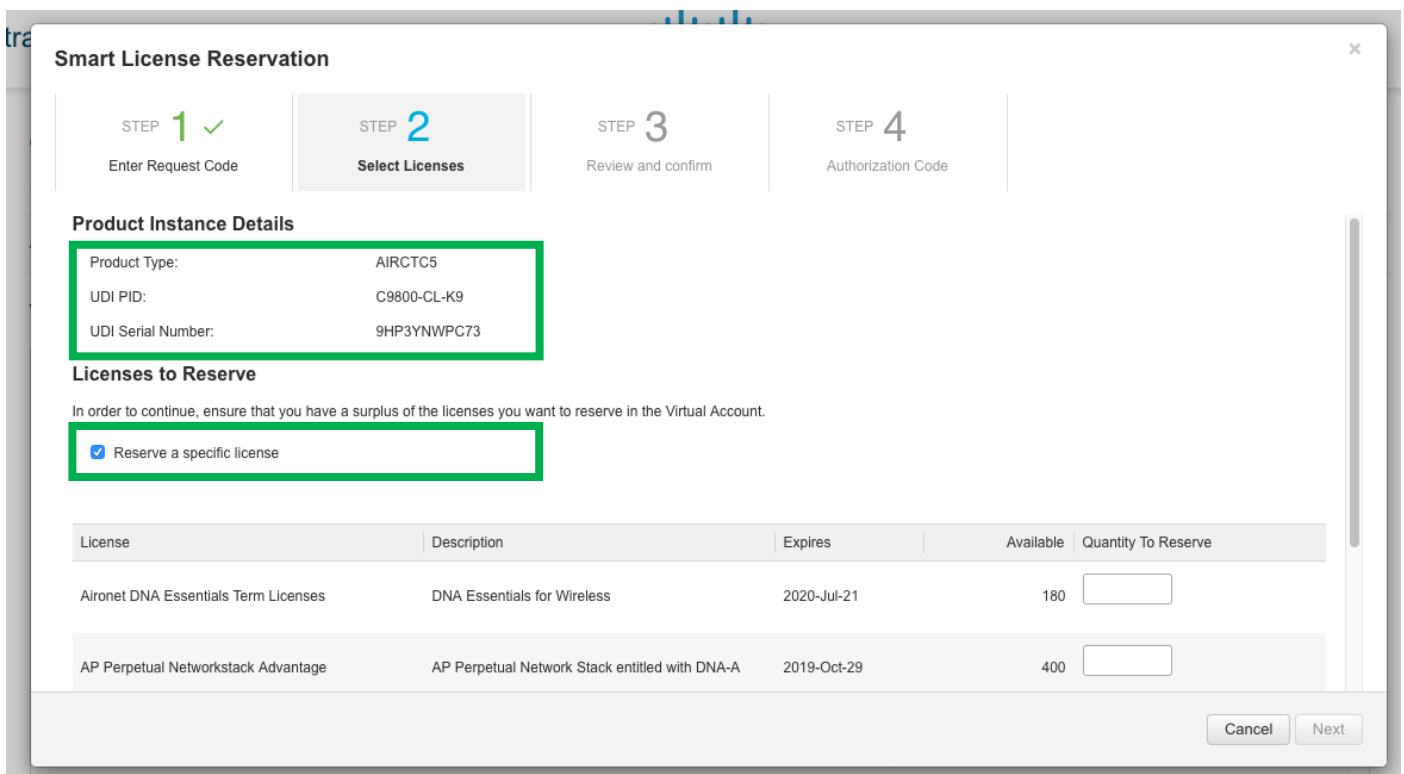
* Reservation Request Code:

To learn how to enter this code, see the configuration guide for the product being licensed

Now copy the Request code of the ACTIVE and paste it in the [* Reservation Request Code:] text box and click Next:



The following screen appears. Verify the SN is correct and tick the “Reserve a specific license”, the available license entitlement will appear:



In this example, the intent is to add 10 APs to the HA pair, so the selection is 5 per C9800 box. As C9800 uses DNA advantage licenses, we need to select two advantage license entitlements per box with equal quantities of “AP Perpetual **Networkstack Advantage**” and “Aironet **DNA Advantage** Term Licenses” as shown below. Click Next

Smart License Reservation x

STEP 1 ✓
Enter Request Code

STEP 2
Select Licenses

STEP 3
Review and confirm

STEP 4
Authorization Code

In order to continue, ensure that you have a surplus of the licenses you want to reserve in the Fusion account.

Reserve a specific license

License	Description	Expires	Available	Quantity To Reserve
Aironet DNA Essentials Term Licenses	DNA Essentials for Wireless	2020-Jul-21	180	<input type="text"/>
AP Perpetual Networkstack Advantage	AP Perpetual Network Stack entitled with DNA-A	2019-Oct-29	400	<input type="text" value="5"/>
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	multiple terms	2004	<input type="text" value="5"/>
AP Perpetual Networkstack Essentials	AP Perpetual Network Stack entitled with DNA-E	2019-Oct-29	450	<input type="text"/>

Note: if you choose a different number of Network and Advantage licenses, once you install it and AP joins the box will be out of compliance because each AP consumes one Network and one Advantage license.

In the following screen click “Generate Authorization Code”

Smart License Reservation

STEP 1 ✓ Enter Request Code

STEP 2 ✓ Select Licenses

STEP 3 **Review and confirm**

STEP 4 Authorization Code

Product Instance Details

Product Type: AIRCTC5
UDI PID: C9800-CL-K9
UDI Serial Number: 9HP3YNWPC73

Licenses to Reserve

License	Description	Expires	Quantity To Reserve
AP Perpetual Networkstack Advantage	AP Perpetual Network Stack entitled with DNA-A	2019-Oct-29	5
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	multiple terms	5

Cancel Back **Generate Authorization Code**

The Authorization code will be displayed in the next page. Choose to download this file to your PC (you can also copy the code and paste it to a file, but to avoid formatting mistakes, it's recommended to download the file directly)

Smart License Reservation

STEP 1 ✓ Enter Request Code

STEP 2 ✓ Select Licenses

STEP 3 ✓ Review and confirm

STEP 4 **Authorization Code**

✓ The Reservation Authorization Code below has been generated for this product instance. Enter this code into the Smart Licensing settings for the product, to enable the licensed features.

Product Instance Details

Product Type: AIRCTC5
UDI PID: C9800-CL-K9
UDI Serial Number: 9HP3YNWPC73

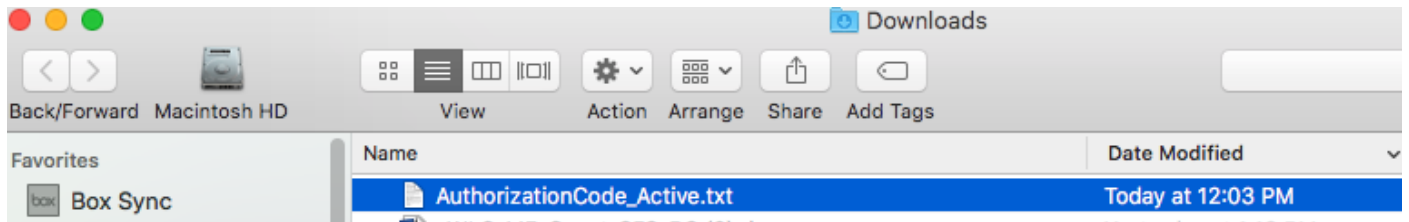
Authorization Code:

```
<endDate>2019-Oct-29 UTC</endDate><licenseType>TERM</licenseType><displayName>AP Perpetual Networkstack Advantage</displayName><tagDescription>AP Perpetual Network Stack entitled with DNA-A</tagDescription><subscriptionID></subscriptionID></entitlement><entitlement><tag>regid.2017-08.com.cisco.AIR-DNA-A,1.0_b6308627-3ab0-4a11-a3d9-586911a0d790</tag><count>5</count><startDate>2019-Jul-22 UTC</startDate><endDate>2020-Jul-21 UTC</endDate><licenseType>TERM</licenseType><displayName>Aironet DNA Advantage Term Licenses</displayName><tagDescription>DNA Advantage for Wireless</tagDescription><subscriptionID></subscriptionID></entitlement></entitlements></authorizationCode><signature>MEYCIQDcPjQlxe+OFGWz1uc9Ulfjbs5sdw5RdX8tTX0HfyKqRwIhAN12yxPwZlyaeJ5PzIqZza+sTNfDPR1y54D5qGz09I+</signature><udi>P:C9800-CL-K9,S:9HP3YNWPC73</udi></specificPLR>
```

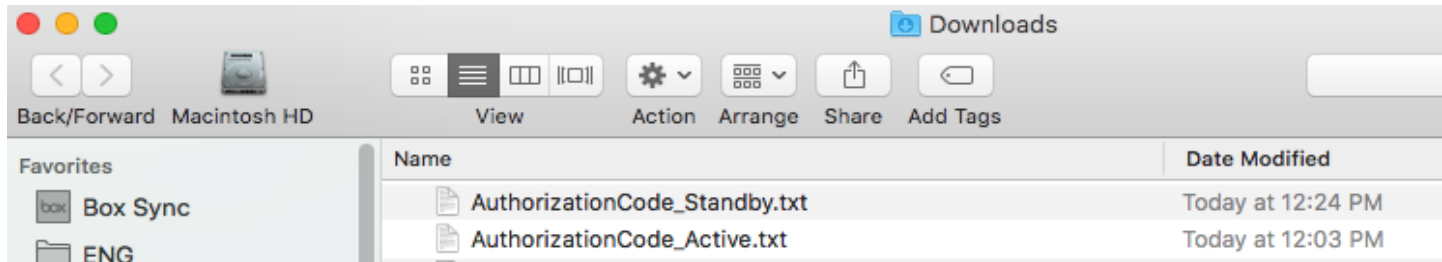
To learn how to enter this code, see the configuration guide for the product being licensed

Download as File Copy to Clipboard **Close**

Save this file on your machine as “AuthorizationCode_Active.txt”:



- Repeat the procedure described in step 3 using the other reservation code for the Standby box. This will generate the Authorization code file for the Standby and save the file “AuthorizationCode_Standby.txt”



- Copy the two files to the bootflash for example using FTP:

```
c9800-sso#copy ftp: bootflash:  
Address or name of remote host [10.58.2.82]?  
Source filename [/siarena/Auth_HA_Standby_SIMONE.txt]? /siarena/AuthorizationCode_Active.txt  
Destination filename [AuthorizationCode_Active.txt?]  
Accessing ftp://10.58.2.82//siarena/AuthorizationCode_Active.txt...!  
[OK - 1163/4096 bytes]
```

1163 bytes copied in 0.469 secs (2480 bytes/sec)

And the other file:

```
c9800-sso#copy ftp: bootflash:  
Address or name of remote host [10.58.2.82]?  
Source filename [/siarena/AuthorizationCode_Active.txt]? /siarena/AuthorizationCode_Standby.txt  
Destination filename [AuthorizationCode_Standby.txt?]  
Accessing ftp://10.58.2.82//siarena/AuthorizationCode_Standby.txt...!  
[OK - 1163/4096 bytes]
```

Verify the files are in bootflash:

```
c9800-sso#dir | i AuthorizationCode
```

```
40 -rw-      1163 Aug 2 2019 10:32:32 +00:00 AuthorizationCode_Active.txt
41 -rw-      1163 Aug 2 2019 10:33:00 +00:00 AuthorizationCode_Standby.txt
```

- Let's now install the reserved licenses. Before let's check the status using "show license tech support". The status is now "reservation in progress" because we have requested the reservation codes but not yet installed the derived Authorization codes:

```
c9800-sso#sh lic tech support
Smart Licensing Tech Support info
Smart Licensing Status
=====
Smart Licensing is ENABLED
License Reservation is ENABLED
Registration:
  Status: RESERVATION IN PROGRESS
```

```
[snip]
Reservation Info
=====
License reservation: ENABLED
```

Overall status:

```
Active: PID:C9800-CL-K9,SN:9HP3YNWPC73
  Reservation status: RESERVATION IN PROGRESS on Aug 02 09:50:29 2019 CET
  Export-Controlled Functionality: NOT ALLOWED
  Request code: CC-ZC9800-CL-K9:9HP3YNWPC73-BjSeUVwmn-2D
  Last return code: Ca1b6t-fTNvxj-cXttmw-CHtXuK-cH5pw2-na8SYr-pUAJ6f-sUREWk-fkr
  Last Confirmation code: <none>
  Reservation authorization code: <none>
Standby: PID:C9800-CL-K9,SN:9SO0PESS0A5
  Reservation status: RESERVATION IN PROGRESS on Aug 02 09:50:29 2019 CET
  Export-Controlled Functionality: NOT ALLOWED
  Request code: CC-ZC9800-CL-K9:9SO0PESS0A5-BjSeUVwmn-C4
  Last return code: ChyLHf-VzyHAY-cH38ji-avPiCD-DZhUDH-5QfnkP-X9Jma4-1QeGdB-QsF
  Last Confirmation code: <none>
  Reservation authorization code: <none>
```

- Let's install the individual Authorization codes by execute the following command "license smart reservation install file bootflash: <filename>". Since we have to install it for both boxes, we need to apply the command twice for the two files names.
As the command is executed we should see the installation successful and a confirmation code.

```
c9800-sso#license smart reservation install file AuthorizationCode_Active.txt
Reservation install file successful
Last Confirmation code UDI: PID:C9800-CL-K9,SN:9HP3YNWPC73
363a952b
```

Repeat for the standby box:

```
c9800-sso#license smart reservation install file AuthorizationCode_Standby.txt
Reservation install file successful
Last Confirmation code UDI: PID:C9800-CL-K9,SN:9S00PESS0A5
a7be5059
```

8. Now verify the status of the license reservation using the same command “show license tech support”

```
c9800-sso#sh lic tech support
Smart Licensing Tech Support info
```

```
Smart Licensing Status
=====
```

```
Smart Licensing is ENABLED
License Reservation is ENABLED
```

```
Registration:
Status: REGISTERED - SPECIFIC LICENSE RESERVATION
Export-Controlled Functionality: ALLOWED
Initial Registration: SUCCEEDED on Aug 02 10:45:44 2019 CET
```

```
License Authorization:
Status: AUTHORIZED - RESERVED on Aug 02 10:45:44 2019 CET
```

[snip]

```
Reservation Info
=====
License reservation: ENABLED
```

```
Overall status:
Active: PID:C9800-CL-K9,SN:9HP3YNWPC73
Reservation status: SPECIFIC INSTALLED on Aug 02 10:45:44 2019 CET
Export-Controlled Functionality: ALLOWED
Request code: <none>
Last return code: <none>
Last Confirmation code: 363a952b
Reservation authorization code:
<specificPLR><authorizationCode><flag>A</flag><version>C</version><piid>2c63fb67-1847-
4f3e-919c-
07abe91026bf</piid><timestamp>1564740209939</timestamp><entitlements><entitlement><tag>r
egid.2018-06.com.cisco.DNA_NWStack,1.0_e7244e71-3ad5-4608-8bf0-
```

d12f67c80896</tag><count>5</count><startDate>2019-May-02 UTC</startDate><endDate>2019-Oct-29 UTC</endDate><licenseType>TERM</licenseType><displayName>AP Perpetual Networkstack Advantage</displayName><tagDescription>AP Perpetual Network Stack entitled with DNA-A</tagDescription><subscriptionID></subscriptionID></entitlement><entitlement><tag>regid.2017-08.com.cisco.AIR-DNA-A,1.0_b6308627-3ab0-4a11-a3d9-586911a0d790</tag><count>5</count><startDate>2019-Jul-22 UTC</startDate><endDate>2020-Jul-21 UTC</endDate><licenseType>TERM</licenseType><displayName>Aironet DNA Advantage Term Licenses</displayName><tagDescription>DNA Advantage for Wireless</tagDescription><subscriptionID></subscriptionID></entitlements></authorizationCode><signature>MEYCIQDcPJqIxe+OFGWz1uc9UIfjb5sdw5RdX8hTTX0HfyKqRwIhAN12yxPw2lyaeJ5PzgtgZza+sTNfbDPR1y54D5qGz09l+</signature><udi>P:C9800-CL-K9,S:9HP3YNWPC73</udi></specificPLR>
Standby: PID:C9800-CL-K9,SN:9SO0PESS0A5
Reservation status: **SPECIFIC INSTALLED** on Aug 02 10:46:40 2019 CET
Export-Controlled Functionality: ALLOWED
Request code: <none>
Last return code: <none>
Last Confirmation code: a7be5059
Reservation authorization code:
<specificPLR><authorizationCode><flag>A</flag><version>C</version><piid>593b2e2e-bf7e-4085-92bb-2a5e7b7cc398</piid><timestamp>1564741457928</timestamp><entitlements><entitlement><tag>regid.2017-08.com.cisco.AIR-DNA-A,1.0_b6308627-3ab0-4a11-a3d9-586911a0d790</tag><count>5</count><startDate>2019-Jul-22 UTC</startDate><endDate>2020-Jul-21 UTC</endDate><licenseType>TERM</licenseType><displayName>Aironet DNA Advantage Term Licenses</displayName><tagDescription>DNA Advantage for Wireless</tagDescription><subscriptionID></subscriptionID></entitlement><entitlement><tag>regid.2018-06.com.cisco.DNA_NWStack,1.0_e7244e71-3ad5-4608-8bf0-d12f67c80896</tag><count>5</count><startDate>2019-May-02 UTC</startDate><endDate>2019-Oct-29 UTC</endDate><licenseType>TERM</licenseType><displayName>AP Perpetual Networkstack Advantage</displayName><tagDescription>AP Perpetual Network Stack entitled with DNA-A</tagDescription><subscriptionID></subscriptionID></entitlements></authorizationCode><signature>MEUCIQDP6fqtrpPZUNwR1ic2kSZK4Ly2svWbyryemi3UMIqrsAIgHoA37+lg9gWF27PIzFAPCjeTINrBhrwTTWUVSrZwOnQ=</signature><udi>P:C9800-CL-K9,S:9SO0PESS0A5</udi></specificPLR>

Specified license reservations:

AP Perpetual Networkstack Advantage (DNA_NWStack):

Description: AP Perpetual Network Stack entitled with DNA-A

Total reserved count: 10

Term information:

Active: PID:C9800-CL-K9,SN:9HP3YNWPC73

License type: TERM

Start Date: 2019-MAY-02 UTC

End Date: 2019-OCT-29 UTC

Term Count: 5

Subscription ID: <none>

Standby: PID:C9800-CL-K9,SN:9SO0PESS0A5

License type: TERM

Start Date: 2019-MAY-02 UTC

End Date: 2019-OCT-29 UTC

Term Count: 5

Subscription ID: <none>

Aironet DNA Advantage Term Licenses (AIR-DNA-A):

Description: DNA Advantage for Wireless

Total reserved count: 10

Term information:

Active: PID:C9800-CL-K9,SN:9HP3YNWPC73

License type: TERM

Start Date: 2019-JUL-22 UTC

End Date: 2020-JUL-21 UTC

Term Count: 5

Subscription ID: <none>

Standby: PID:C9800-CL-K9,SN:9SO0PESS0A5

License type: TERM

Start Date: 2019-JUL-22 UTC

End Date: 2020-JUL-21 UTC

Term Count: 5

Subscription ID: <none>

Change a SLR on a C9800 SSO HA pair

In case you want to increase/reduce the number of licenses, you can do it in these quick easy steps:

1. Go to the CSSM portal and login into your account and go to the Product Instances tab:

Virtual Account: [vEWLC](#) 14 Minor | 6 Informational | Hide Alerts

General | Licenses | **Product Instances** | Event Log

Search by Name, Product Type

Name	Product Type	Last Contact	Alerts	Actions
pra_vEWLC	AIRCTC5	2019-Jul-31 13:27:31		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TKM21050727;	AIRCTC5	2019-Jul-24 06:01:15 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22071504;	AIRCTC5	2019-Jul-31 07:03:22 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22190005;	AIRCTC5	2019-Jul-25 07:46:02 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22430FDW;	AIRCTC5	2019-Apr-19 16:23:24 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM23043TUS;	AIRCTC5	2019-Jul-26 09:11:29 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-80-K9; UDI_SN:FXS2316Q3DF;	AIRCTA5	2019-Jul-26 09:32:37 (Reserved Licenses)		Actions ▾

2. Search for your Active and Standby instances by looking at the serial number. Identify the Active and click on the Action > Update Reserved Licenses

Virtual Account: [vEWLC](#) 14 Minor | 6 Informational | Hide Alerts

General | Licenses | **Product Instances** | Event Log

Search by Name, Product Type

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:C9800-CL-K9; UDI_SN:9HP3YNWPC73;	AIRCTC5	2019-Aug-02 10:03:29 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-CL-K9; UDI_SN:9SO0PESS0A5;	AIRCTC5	2019-Aug-02 10:24:17 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-CL-K9; UDI_SN:9ZKZQSLD1VJ;	AIRCTC5	2019-Aug-02 06:50:37 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-L-F-K9; UDI_SN:FCW2305M08G;	AIRCTC5	2019-Jun-25 08:52:38 (Reserved Licenses)		Actions ▾
vWLC2	AIRCTC5	2019-Jul-15 06:31:57		Actions ▾
WLC2	AIRCTC5	2019-Jul-29 06:01:01		Actions ▾

10 ▾

Showing Page 2 of 2 (16 Records) |◀ ▶▶▶

Transfer...

Update Reserved Licenses...

Remove...

Rehost Licenses from a Failed Product...

3. In the screen that appears modify the number as needed. Please make sure you keep the number of Network Advantage an DNA advantage licenses same

Update License Reservation

STEP **1**
Select Licenses

STEP **2**
Review and confirm

STEP **3**
Authorization Code

License	Description	Expires	Available	Quantity To Reserve
Aironet DNA Essentials Term Licenses	DNA Essentials for Wireless	2020-Jul-21	180	<input type="text"/>
AP Perpetual Networkstack Advantage	AP Perpetual Network Stack entitled with DNA-A	2019-Oct-29	395	<input type="text" value="4"/>
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	2019-Jul-21	Expired	0
Aironet DNA Advantage Term Licenses	DNA Advantage for Wireless	2020-Jul-21	1999	<input type="text" value="4"/>
AP Perpetual Networkstack Essentials	AP Perpetual Network Stack entitled with DNA-E	2019-Oct-29	450	<input type="text"/>

If the quantity is reduced from the number currently reserved, the unreserved licenses will become available in the inventory, once the confirmation code is returned from the product instance.

4. After that, click Next and do the same exact procedure explained in steps 3 in the “Install SLR on a C9800 SSO HA pair” section, procedure to generate and download the Authorization
5. Repeat the same procedure for the Standby
6. Install the Authorization codes on the active box

Removing SLR from a C9800 SSO HA pair

If you want to remove the license reservation either because you don't need them anymore or because you have made a mistake and you want to start from scratch, you can follow these steps

1. Return (remove) the reserved licenses on the box. Use the command "license smart reservation return" and chose the option "all" to do it for both Active and Standby.

Note: write down the return codes that are generated and the mapping to each serial number

```
c9800-ss0#license smart reservation return all
```

This command will remove the license reservation authorization code and the device will transition back to the unregistered state. Some features may not function properly.

Do you want to continue? [yes/no]: yes

Enter this return code in Cisco Smart Software Manager portal:

UDI: PID:C9800-CL-K9,SN:9HP3YNWPC73 << this is the Active

CHaoWX-vuqFJ2-aWkdxY-sXDHoA-dLuagi-9ic9tn-LyjA7L-nq1EcA-zo4

UDI: PID:C9800-CL-K9,SN:9SO0PESS0A5 << this is the Standby

CQ5o6k-DEiCHH-ahdj9U-yxNkWq-Ft8DgP-cyWMI1-7XTL1v-UKgAES-LGn

2. Go to the CSSM portal and login into your account and go to the Product Instances tab:

Virtual Account: [vEWLC](#)

14 Minor | 6 Informational | Hide Alerts

Name	Product Type	Last Contact	Alerts	Actions
pra_vEWLC	AIRCTC5	2019-Jul-31 13:27:31		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TKM21050727;	AIRCTC5	2019-Jul-24 06:01:15 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22071504;	AIRCTC5	2019-Jul-31 07:03:22 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22190005;	AIRCTC5	2019-Jul-25 07:46:02 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM22430FDW;	AIRCTC5	2019-Apr-19 16:23:24 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-40-K9; UDI_SN:TTM23043TUS;	AIRCTC5	2019-Jul-26 09:11:29 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-80-K9; UDI_SN:FXS2316Q3DF;	AIRCTA5	2019-Jul-26 09:32:37 (Reserved Licenses)		Actions ▾

3. Search for your Active and Standby boxes by looking at the serial number. Identify the Active box and click on the Actions > Remove

Name	Product Type	Last Contact	Alerts	Actions
UDI_PID:C9800-CL-K9; UDI_SN:9HP3YNWPC73;	AIRCTC5	2019-Aug-02 10:03:29 (Reserved Licenses)		Actions ▾
UDI_PID:C9800-CL-K9; UDI_SN:9SO0PESS0A5;	AIRCTC5	2019-Aug-02 10:24:17 (Reserved Licenses)		
UDI_PID:C9800-CL-K9; UDI_SN:9ZKZQSLD1VJ;	AIRCTC5	2019-Aug-02 06:50:37 (Reserved Licenses)		
UDI_PID:C9800-L-F-K9; UDI_SN:FCW2305M08G;	AIRCTC5	2019-Jun-25 08:52:38 (Reserved Licenses)		
VWLC2	AIRCTC5	2019-Jul-15 06:31:57		
WLC2	AIRCTC5	2019-Jul-29 06:01:01		Actions ▾

Showing Page 2 of 2 (16 Records)

- In the page that pops up, copy and paste the return code for that serial number and click on Remove Product instance:

Remove Product Instance

To remove a Product Instance that has reserved licenses and make those licenses once again available to other Product Instances, enter in the Reservation Return Code generated by the Product Instance. If you cannot generate a Reservation Return Code, contact [Cisco Support](#)

* **Reservation Return Code:**

- Repeat the same procedure and enter the other return code for the Standby

N+1 HA with SL and SLR

There is no need to purchase additional licenses for N+1 HA with Smart Licensing. Prior to release 16.12, in the case of box RMA or N+1 HA where the primary controller fails, the customer is required to manually remove the faulty C9800 from the CSSM web page so that associated entitlements are released back to the pool of licenses on the Customer Smart Account. If this is not done, the licenses will stay for 180 days and there may be out of compliance messages if the AP count on the CSSM exceeds available licenses. However,

the APs continue to remain connected and no disruption occurs. With release 16.12 and higher this behavior has been modified and entitlements are re-allocated to the secondary controller when APs failover and the secondary controller requests entitlements.

N+1 HA with SLR needs additional licenses to be purchased since licenses are reserved on the controller.

License Term Expiry FAQ

What happens after expiry of DNA license?

Network continues to run. Customers can set the license level of the controller in Network Essentials/Network Advantage mode

DNA features along with TAC support, Software upgrades and updates will expire but AP connectivity to the controller and Network Essentials/Network Advantage features will be available.

What do I do after term expiry?

Renew DNA License (3/5/7-year term) or purchase smartnet on APs and controllers for TAC support/ software upgrades and updates

How do I continue receiving software upgrade beyond DNA term expiry?

To continue receiving software upgrade purchase smartnet on APs and controllers

Can I port APs from one controller to another after DNA term expiry?

Yes. For this you must have Smart accounts. Network stack licenses should be deposited into the smart account(this will be done with purchase of AIR-DNA) and the controllers must be registered to the smart account

CLI Reference

<pre>license smart register idtoken <token-id></pre>	Register C9800 with Smart Licensing
<pre>license smart deregister</pre>	De-registers the device for smart license

<pre>config license smart</pre>	<pre> custom_id Set a customer defined id privacy privacy related commands reservation Enable or disable the license reservation feature transport Select the type of message transport for Smart Agent url Set the Smart Transport Primary and the Utility URL utility Enable or disable usage reporting on the device</pre>
<pre>show license</pre>	<pre>all Show license all information eventlog Show license eventlog information reservation Show license reservation information status Show license status information suites Show license suite information summary Show license summary tech show license tech support information udi Show license udi information usage Show license usage information</pre>

<p>license air level</p>	<p>air-network-advantage AIR Network advantage License Level</p> <p>air-network-essentials AIR Network essential License Level</p>
<p>debug license</p>	<p>agent License agent information</p> <p>core License Core</p> <p>errors License warnings and errors</p> <p>events License Events</p> <p>feature License feature</p> <p>ipc License IPC communication</p>

Show commands reference

```
WLC#show license all
Smart Licensing Status
=====

Smart Licensing is ENABLED

Registration:
  Status: REGISTERED
  Smart Account: PnP Test Account - KB
  Virtual Account: wirelesspnp
  Export-Controlled Functionality: ALLOWED
  Initial Registration: SUCCEEDED on Mar 22 13:51:29 2019 UTC
  Last Renewal Attempt: None
  Next Renewal Attempt: Sep 18 13:51:29 2019 UTC
  Registration Expires: Mar 21 13:46:28 2020 UTC

License Authorization:
  Status: AUTHORIZED on Mar 22 13:51:33 2019 UTC
  Last Communication Attempt: SUCCEEDED on Mar 22 13:51:33 2019 UTC
  Next Communication Attempt: Apr 21 13:51:33 2019 UTC
  Communication Deadline: Jun 20 13:45:32 2019 UTC

Export Authorization Key:
  Features Authorized:
    <none>

Utility:
  Status: DISABLED

Data Privacy:
  Sending Hostname: yes
  Callhome hostname privacy: DISABLED
  Smart Licensing hostname privacy: DISABLED
  Version privacy: DISABLED

Transport:
  Type: Callhome

License Usage
=====

ASR_1000_AdvEnterprise (ASR_1000_AdvEnterprise):
  Description: Cisco ASR 1000 Series Advanced Enterprise Services
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED

AP Perpetual Networkstack Advantage (DNA_NWStack):
  Description: AP Perpetual Network Stack entitled with DNA-A
```

Count: 2
Version: 1.0
Status: AUTHORIZED
Export status: NOT RESTRICTED

Aironet DNA Advantage Term Licenses (AIR-DNA-A):
Description: DNA Advantage for Wireless
Count: 2
Version: 1.0
Status: AUTHORIZED
Export status: NOT RESTRICTED

Product Information
=====

UDI: PID:AIR-CT9540-K9,SN:TKM21130982

Agent Version
=====

Smart Agent for Licensing: 4.6.3_rel/58
Component Versions: SA:(1_3_dev)1.0.15, SI:(dev22)1.2.1, CH:(rel5)1.0.3,
PK:(dev18)1.0.3

Reservation Info
=====

License reservation: DISABLED

WLC#show license reservation
License reservation: DISABLED

WLC#show license status
Smart Licensing is ENABLED

Utility:
Status: DISABLED

Data Privacy:
Sending Hostname: yes
Callhome hostname privacy: DISABLED
Smart Licensing hostname privacy: DISABLED
Version privacy: DISABLED

Transport:
Type: Callhome

Registration:
Status: REGISTERED
Smart Account: PnP Test Account - KB
Virtual Account: wirelesspnp
Export-Controlled Functionality: ALLOWED
Initial Registration: SUCCEEDED on Mar 22 13:51:29 2019 UTC
Last Renewal Attempt: None
Next Renewal Attempt: Sep 18 13:51:29 2019 UTC

Registration Expires: Mar 21 13:46:28 2020 UTC

License Authorization:

Status: AUTHORIZED on Mar 22 13:51:33 2019 UTC
Last Communication Attempt: SUCCEEDED on Mar 22 13:51:33 2019 UTC
Next Communication Attempt: Apr 21 13:51:33 2019 UTC
Communication Deadline: Jun 20 13:45:32 2019 UTC

Export Authorization Key:

Features Authorized:
<none>

WLC#show license summary
Smart Licensing is ENABLED

Registration:

Status: REGISTERED
Smart Account: PnP Test Account - KB
Virtual Account: wirelesspnp
Export-Controlled Functionality: ALLOWED
Last Renewal Attempt: None
Next Renewal Attempt: Sep 18 13:51:29 2019 UTC

License Authorization:

Status: AUTHORIZED
Last Communication Attempt: SUCCEEDED
Next Communication Attempt: Apr 21 13:51:33 2019 UTC

License Usage:

License	Entitlement tag	Count	Status
ASR_1000_AdvEnterprise	(ASR_1000_AdvEnterprise)	1	AUTHORIZED
AP Perpetual Network...	(DNA_NWStack)	2	AUTHORIZED
Aironet DNA Advantag...	(AIR-DNA-A)	2	AUTHORIZED

WLC#show license tech support
Smart Licensing Tech Support info

Smart Licensing Status
=====

Smart Licensing is ENABLED

Registration:

Status: REGISTERED
Smart Account: PnP Test Account - KB
Virtual Account: wirelesspnp
Export-Controlled Functionality: ALLOWED
Initial Registration: SUCCEEDED on Mar 22 13:51:29 2019 UTC
Last Renewal Attempt: None

Next Renewal Attempt: Sep 18 13:51:28 2019 UTC
Registration Expires: Mar 21 13:46:27 2020 UTC

License Authorization:

Status: AUTHORIZED on Mar 22 13:51:33 2019 UTC
Last Communication Attempt: SUCCEEDED on Mar 22 13:51:33 2019 UTC
Next Communication Attempt: Apr 21 13:51:33 2019 UTC
Communication Deadline: Jun 20 13:45:32 2019 UTC

Export Authorization Key:

Features Authorized:
<none>

Utility:

Status: DISABLED

Data Privacy:

Sending Hostname: yes
Callhome hostname privacy: DISABLED
Smart Licensing hostname privacy: DISABLED
Version privacy: DISABLED

Transport:

Type: Callhome

Evaluation Period:

Evaluation Mode: EXPIRED
Evaluation Period Remaining: Expired on Oct 19 14:44:28 2018 UTC

License Usage

=====

Handle: 1

License: ASR_1000_AdvEnterprise
Entitlement tag: regid.2015-
06.com.cisco.ASR_1000_AdvEnterprise,1.0_855386bf-6b9a-4aae-bc41-
6d398da6b2be
Description: Cisco ASR 1000 Series Advanced Enterprise Services
Count: 1
Version: 1.0
Status: AUTHORIZED(3)
Status time: Mar 22 13:51:33 2019 UTC
Request Time: Feb 12 23:05:30 2019 UTC
Export status: NOT RESTRICTED

Handle: 2

License: AP Perpetual Networkstack Advantage
Entitlement tag: regid.2018-06.com.cisco.DNA_NWStack,1.0_e7244e71-3ad5-
4608-8bf0-d12f67c80896
Description: AP Perpetual Network Stack entitled with DNA-A
Count: 2
Version: 1.0
Status: AUTHORIZED(3)
Status time: Mar 22 13:51:33 2019 UTC
Request Time: Feb 13 00:07:25 2019 UTC

Export status: NOT RESTRICTED

Handle: 3

License: Aironet DNA Advantage Term Licenses
Entitlement tag: regid.2017-08.com.cisco.AIR-DNA-A,1.0_b6308627-3ab0-4a11-a3d9-586911a0d790
Description: DNA Advantage for Wireless
Count: 2
Version: 1.0
Status: AUTHORIZED(3)
Status time: Mar 22 13:51:33 2019 UTC
Request Time: Feb 13 00:07:25 2019 UTC
Export status: NOT RESTRICTED

Product Information

=====

UDI: PID:AIR-CT9540-K9,SN:TKM21130982

Agent Version

=====

Smart Agent for Licensing: 4.6.3_rel/58
Component Versions: SA:(1_3_dev)1.0.15, SI:(dev22)1.2.1, CH:(rel5)1.0.3,
PK:(dev18)1.0.3

Upcoming Scheduled Jobs

=====

Current time: Mar 22 14:01:35 2019 UTC
Daily: Mar 22 23:05:19 2019 UTC (9 hours, 3 minutes, 44 seconds remaining)
Certificate Renewal: Sep 18 13:51:28 2019 UTC (179 days, 23 hours, 49 minutes, 53 seconds remaining)
Certificate Expiration Check: Mar 21 13:46:27 2020 UTC (364 days, 23 hours, 44 minutes, 52 seconds remaining)
Authorization Renewal: Apr 21 13:51:33 2019 UTC (29 days, 23 hours, 49 minutes, 58 seconds remaining)
Authorization Expiration Check: Jun 20 13:45:32 2019 UTC (89 days, 23 hours, 43 minutes, 57 seconds remaining)
Init Flag Check: Not Available
Register Period Expiration Check: Not Available
Ack Expiration Check: Not Available
IdCert Expiration Warning: Jan 21 13:46:27 2020 UTC (304 days, 23 hours, 44 minutes, 52 seconds remaining)
Reservation request in progress warning: Not Available
Reservation configuration mismatch between nodes in HA mode: Not Available

License Certificates

=====

Production Cert: True
PIID: d8flee0a-f0d7-43f9-b2da-b24453cfb280
Licensing Certificated:
Id certificate Info:
Start Date: Mar 22 13:46:29 2019 UTC
Expiry Date: Mar 21 13:46:29 2020 UTC
Version Number: 3
Serial Number: 2830443

Issuer Name: Smart Licensing CA
Common Name: E3FB2D6024BAC594238136737B3BFD6787110A03::1,2
Attributes:
SN: d8f1ee0a-f0d7-43f9-b2da-b24453cfb280
CN: E3FB2D6024BAC594238136737B3BFD6787110A03::1,2
O: Cisco

Signing certificate Info:
Start Date: Sep 11 12:05:34 2013 UTC
Expiry Date: Dec 31 17:00:00 1969 UTC
Version Number: 3
Serial Number: 3
Issuer Name: Cisco Licensing Root CA
Common Name: MMI Signer
Attributes:
CN: MMI Signer
O: Cisco

Sub CA Info:
Start Date: Sep 11 12:06:30 2013 UTC
Expiry Date: Dec 31 17:00:00 1969 UTC
Version Number: 3
Serial Number: 2
Issuer Name: Cisco Licensing Root CA
Common Name: Smart Licensing CA
Attributes:
CN: Smart Licensing CA
O: Cisco

Root Cert Info:
Start Date: May 30 12:48:47 2013 UTC
Expiry Date: Dec 31 17:00:00 1969 UTC
Version Number: 3
Serial Number: 1
Issuer Name: Cisco Licensing Root CA
Common Name: Cisco Licensing Root CA
Attributes:
CN: Cisco Licensing Root CA
O: Cisco

HA Info
=====

RP Role: Active
Chassis Role: Active
Behavior Role: Active
RMF: True
CF: True
CF State: Stateless
Message Flow Allowed: True

Reservation Info
=====

License reservation: DISABLED

Other Info

=====

Software ID: regid.2018-05.com.cisco.WLC_9540,1.0_0064c970-5966-47dd-8989-30e3bc058136
Agent State: authorized
TS enable: True
Transport: Callhome
Locale: en_US.UTF-8
Debug flags: 0x7
Privacy Send Hostname: True
Privacy Send IP: True
Build type:: Production
sizeof(char) : 1
sizeof(int) : 4
sizeof(long) : 4
sizeof(char *): 8
sizeof(time_t): 4
sizeof(size_t): 8
Endian: Big
Write Erase Occurred: False
XOS version: 0.12.0.0
Config Persist Received: True
Message Version: 1.3
connect_info.name: SSM
connect_info.version: 1.3
connect_info.additional:
connect_info.prod: True
connect_info.capabilities: DLC, AppHA, EXPORT_2
agent.capabilities: UTILITY, DLC, AppHA, MULTITIER, EXPORT_2, OK_TRY_AGAIN
SmartAgentCmRetrySend: True
SmartAgentCmClient: True
SmartAgentClientName: UnifiedClient
builtInEncryption: True
enableOnInit: True
routingReadyByEvent: True
systemInitByEvent: True
SmartAgentDelayCertValidation: False
enableByDefault: False
conversionAutomatic: True
conversionAllowed: False
storageEncryptDisable: False
storageLoadUnencryptedDisable: False
TSPluginDisable: False
bypassUDICheck: False
loggingAddTStamp: False
loggingAddTid: True
platformOverrideEvent: UnknownPlatformEvent
WaitForHaRole: False
standbyIsHot: True
chkPtType: 2
delayCommInit: False
roleByEvent: True
maxTraceLength: 150
traceAlwaysOn: True


```
debugFlags: 0
Event log max size: 0 KB
Event log current size: 0 KB

Platform Provided Mapping Table
=====
<empty>
```

```
WLC#show license usage
License Authorization:
  Status: AUTHORIZED on Mar 22 13:51:33 2019 UTC
```

```
ASR_1000_AdvEnterprise (ASR_1000_AdvEnterprise):
  Description: Cisco ASR 1000 Series Advanced Enterprise Services
  Count: 1
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
```

```
AP Perpetual Networkstack Advantage (DNA_NWStack):
  Description: AP Perpetual Network Stack entitled with DNA-A
  Count: 2
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
```

```
Aironet DNA Advantage Term Licenses (AIR-DNA-A):
  Description: DNA Advantage for Wireless
  Count: 2
  Version: 1.0
  Status: AUTHORIZED
  Export status: NOT RESTRICTED
```

Reference

Cisco Smart Licensing

http://www.cisco.com/c/en/us/products/abt_sw.html

Cisco Smart Software Manager Satellite

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

Cisco Smart Software Manager

<http://www.cisco.com/c/en/us/buy/smart-accounts.html>

Cisco Smart Accounts

<http://www.cisco.com/c/en/us/buy/smart-accounts.html>

Cisco Privacy and Security Compliance

http://www.cisco.com/web/about/doing_business/legal/privacy_compliance/index.html

Cisco Transport Gateway

User

Guide: http://www.cisco.com/c/dam/en/us/td/docs/switches/lan/smart_call_home/user_guides/SCH_Ch4.pdf

Troubleshooting Guide: http://www.cisco.com/c/dam/en/us/td/docs/switches/lan/smart_call_home/user_guides/SCH_Ch5.pdf

Request Type	Support Provided	Contact Details
Smart Account Creation and Management	<ul style="list-style-type: none"> • SA Request Creation • Address Issues • Creator Email Address change • Adding / Removing Users • De-activating SA • Creating VA 	sa-adoption-support@external.cisco.com
Smart Account Domain Approvals	<ul style="list-style-type: none"> • Email Domain mismatch • Prefix added to Top level domain • Email has public domain • Personal SA with public domain (Co-ordinate with web-help team on CCO ID Change) • Golden Rules (For DoD, Co-ordinate with Kelsey, Tiffany) 	sa-adoption-support@external.cisco.com
PLR / SLR Feature Enablement	<ul style="list-style-type: none"> • Enable SLR • Responding to Email SLR category – Pending Customer Account 	sa-adoption-support@external.cisco.com
Export Hold Support	<ul style="list-style-type: none"> • SA ops team to co-ordinate with TA-15 system to check address for all DPL denied party status error. 	sa-adoption-support@external.cisco.com
DPL Check	<ul style="list-style-type: none"> • SA ops team co-ordinates with Trade Ops team to approve the address. • SA ops team changes the status of SA from Export Hold to Active. 	sa-adoption-support@external.cisco.com
High Touch Customer Support	<ul style="list-style-type: none"> • Provide Training to Customer • Reach out on Phone/Webex for resolving issues. • Assist with Complex Smart Account Structure set ups 	sa-adoption-support@external.cisco.com

Request Type	Support Provided	Contact Details
Basic Classic License Support	<ul style="list-style-type: none"> • Classic Licenses Troubleshooting and issues • License delivery where standard processes fail or do not exist. Examples; PAK fulfillment, license purchased but is missing from the PAK. • License management where self-serve option fails or does not exist. Examples; license rehost, resend or RMA, upgrade license. • Escalate to Business Units or SWIFT for issue resolution as needed • Temporary licenses until issue resolution (where applicable) • General Smart Account questions 	Licensing@cisco.com (GLO) [Include your Cisco.com ID in the email using the format: Cisco.com ID: #####.]
Basic Smart License Support	<ul style="list-style-type: none"> • Smart Licenses troubleshooting and issues • Device not consuming in entitlement • Missing entitlement • License hierarchy issues 	Licensing@cisco.com (GLO)
Classic to Smart License Migration	<ul style="list-style-type: none"> • Classic to smart license PAK Led conversion • Classic to smart license Device Led conversion • Classic to smart license Device conversion 	Licensing@cisco.com (GLO)
Temporary License Deposit to Smart Account	<ul style="list-style-type: none"> • Issue temporary licenses to Partner/Customer through Smart Demo Portal • Issue temporary internal licenses for BU Smart Account 	Licensing@cisco.com (GLO)
Bulk PAK Migration to Smart Account	<ul style="list-style-type: none"> • Move 100+ PAK / Devices to a Smart Account at one time 	Licensing@cisco.com (GLO)
Assets Movement between Smart Accounts	<ul style="list-style-type: none"> • Move assets between Customer Smart Accounts • Move assets from Partner Smart Account to Customer Smart Account 	Licensing@cisco.com (GLO)

