Configuring the Cisco IOS Software Activation Feature

This document describes the tasks used to activate software by using the Cisco IOS Software Activation feature, license keys, and Cisco EXEC commands. When you activate software from a Cisco device, you can license software without the need for additional application software.

- Restrictions for Cisco IOS Software Activation, on page 1
- Information About the Cisco IOS Software Activation, on page 1
- How to Activate Software from a Cisco IOS Device, on page 2
- Configuring Examples for Software Licensing, on page 11
- Additional References, on page 18
- Feature Information for Cisco IOS Software Activation, on page 19

Restrictions for Cisco IOS Software Activation

Not all Cisco hardware platforms can use the Cisco IOS Software Activation feature. Use the Cisco Feature Navigator at http://www.cisco.com/go/cfn and the table in the Feature Information for Cisco IOS Software Activation section to determine which platforms and images support the Cisco IOS Software Activation feature.

For the stackable switches that support the Cisco IOS Software Activation feature, one switch must act as primary and the others as secondaries. The primary switch performs management and administrative operations on itself as well as on the secondary switches.

Information About the Cisco IOS Software Activation

License Activation MIB Support

The Cisco IOS Software Activation feature introduces the CISCO-LICENSE-MGMT-MIB to allow SNMP-based license management and administrative tasks. A description of this MIB can be found by using tools at this URL: http://tools.cisco.com/ITDIT/MIBS/servlet/index

Use the MIB Locator tool and the Search for MIB selection box to select CISCO-LICENSE-MGMT-MIB .

The unique device identifier (UDI) is also associated with the Entity Name and Product Description data elements for the management information base (MIB) system. The MIB nomenclature for Entity Name is entPhysicalName and for Product Description is entPhysicalDescr.

How to Activate Software from a Cisco IOS Device

Installing and Upgrading Licenses by Using Software Activation Commands

Before you begin

Read and understand the license activation process concepts in the in the "Cisco IOS Software Activation Conceptual Overview" module.

To install or upgrade a license by using the **license install** command, you must have already received the license file from the Cisco Product License Registration portal at http://www.cisco.com/go/license (or you already backed up the license by using the **license save** command).

If you use Microsoft Entourage and receive the license file from Cisco in an e-mail attachment, the license file will contain UTF-8 marking. These extra bytes in the license file cause it to be unusable during license installation. To work around this issue, you can use a text editor to remove the extra characters and then install the license file. For more information about UTF-8 encoding, go to this URL: http://www.w3.org/International/questions/qa-utf8-bom.

Note The installation process does not install duplicate licenses. This message appears when duplicate licenses are detected:

```
Installing...Feature:xxx-xxx-xxx...Skipped:Duplicate
```

Note A standby device reboots twice when there is a mismatch of licenses.

Procedure

Step 1 Obtain the PAK.

The PAK is provided to you when you order or purchase the right to use a feature set for a particular platform.

- The PAK serves as a receipt and is used as part of the process to obtain a license.

Step 2 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 3 **show license udi**

Example:

```
Device# show license udi
```

Displays all the UDI values that can be licensed in a system.

- You need the UDI of the device as part of the process to obtain a license.

Step 4 Convert the PAK to a license by entering the PAK and the UDI into the Cisco Product License Registration portal: *http://www.cisco.com/go/license*

After entering the appropriate information, you will receive an e-mail containing the license information that you can use to install the license:

- Copy the license file received from the Cisco Product License Registration portal to the appropriate file system on the device.

or

- Click the **Install** button on the web page.

Step 5 **license install** *stored-location-url*

Example:

```
Device# license install tftp://infra-sun/<user>/license/5400/38a.lic
```

Installs the license.

- Accept the end-user license agreement if prompted.

Step 6 **configure terminal**

Example:

```
Device# configure terminal
```

Enters the global configuration mode.

Step 7 **license boot level** {**metroaggrservices**}

Example:

```
Device(config)# license boot level metroaggrservices
```

Activates the metroaggrservices license on the device upon the next reload.

Step 8 **write memory**

Example:

```
Device# write memory
```

Saves the running configuration to NVRAM.

Step 9 **reload**

Example:

```
Device# reload
```

(Optional) Restarts the device to enable the new feature set.

Note
A reload is not required when moving from an evaluation license to a permanent license of the same license level.

Managing Licenses by Using Software Activation Commands

Adding a Comment to a License File

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **license comment add** *feature-name comment* [**switch** *switch-num*]

Example:

```
Device# license comment add gsmamrnb-codec-pack "Use this permanent license"
```

Adds or deletes information about a specific license.

- (Only on Cisco Catalyst 3750-E switch platforms) If a switch number is specified, this command is executed on the specified switch.
- When the license is present in license storage and multiple license lines are stored, you are prompted to select a license line. To select the license, type the number at the Select Index to Add Comment prompt.

Step 3 **show license file** [**switch** *switch-num*]

Example:

```
Device# show license file
```

Displays comments added to a Cisco software license file.

- If the device is a switch, this command obtains statistics from the specified switch.

Saving All Licenses to a Specified Storage Area

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **license save** *file-sys://lic-location* [**switch** *switch-num*]

Example:

```
Device# license save flash:all_licenses.lic
```

Saves copies of all licenses in a device and stores them in a format required by the command in the specified storage location. Saved licenses are restored by using the **license install** command.

- *lic-location* : The license storage location can be a directory or a URL that points to a file system. Use the **?** command to see the storage locations supported by your device.
- (Optional) **switch** *switch-num*: sends this request to a specific switch in a switch stack.

Saving License Credential Information Associated with a Device to a Specified Storage Area

Before you begin

Before you can start the rehost or resend process, a device credential is required. Cisco software licensing requires that the license files generated by the Cisco back-end licensing system for its devices be secure and tamper-resistant. Security features are in place to authenticate a license by means of encrypted license credentials. If it becomes necessary to transfer a license from one device to another (which is called rehosting), a permission ticket is required. To generate the permission ticket, the Cisco back-end licensing system requires the device credential information.

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **license save credential** *file-sys://lic-location* [**switch** *switch-num*]

Example:

```
Device# license save credential flash:cred.lic
```

Saves credential information associated with a device to a specified URL.

- *lic-location* : The license storage location can be a directory or a URL that points to a file system. Use the **?** command to see the storage locations supported by your device.
- (Optional)**switch** *switch-num*: sends this request to a specific switch in a switch stack.

Displaying All Licenses in a Device

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **show license all**

Example:

```
Device# show license all
```

Displays information about all licenses in the device.

Displaying Detailed Information about Licensed Features

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **show license detail** [*feature-name*]

Example:

```
Device# show license detail
```

Displays detailed information about all licensed features or the specified licensed feature.

Displaying Licensed Feature Sets Available in an Image

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **show license feature**

Example:

```
Device# show license feature
```

Displays a list of licensed features available in an image.

Removing Licenses by Using Software Activation Commands

Removing a License Entry from a Permanent License File

Note

- The **license clear** command lists all licenses, but some licenses, such as built-in licenses, cannot be cleared.
- Only licenses that have been added by using the **license install** command are removed. Evaluation licenses are not removed.
- If a license is not in use, the **license clear** command displays all the licenses related to this feature and prompts you to make a selection. Different prompts are displayed, depending upon whether single or multiple licenses are available in the device. The selected licenses are removed from the device.
- If a license is in use, the **license clear** command might fail. However, depending on the application policy using the license, some licenses might be cleared.
- When a switch is specified, the **license clear** command is issued on that switch. When a mixed stack platform is used, the primary switch must have installed the minimum licensing features required to support the licensing operations of the secondary switches. When this command is issued from a primary switch, the switch number is required to clear a license on that switch.

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **license clear** *feature-name* [**switch** *switch-num*]

Example:

```
Device# license clear gsmamrnb-codec-pack
```

Removes a license entry from license storage once it has been verified that the license line is valid and was explicitly installed.

- The optional **switch** *switch-num* keyword and argument send this request to a specific switch in a switch stack.
- You must select the index number of the license to clear. Enter the number at the Select Index to Clear prompt.

Step 3 **show license detail**

Example:

```
Device# show license detail
```

Verifies that the license has been cleared.

Rehosting (Revoking and Transferring) a License

Before you begin

Read and understand the license transfer between devices concepts in the "Cisco IOS Software Activation Conceptual Overview" module.

Cisco software licensing requires that the license files generated by the Cisco back-end licensing system for its devices be secure and tamper-resistant. Security features are in place to authenticate a license by means of encrypted license credentials. Rehosting requires a permission ticket. To generate the permission ticket, the Cisco back-end licensing system requires the device credential information. Use the **license save credential** command to save device credential information to a specified file system.

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **license revoke revoke** *permission-file-url output-rehost-ticket-url*

Example:

```
Device# license revoke tftp://infra-sun/ramanp/pt.lic flash:rt.lic
```

Revokes and transfers a license by using the permission ticket provided by the Cisco back-end licensing system. It removes the original, permanent license from the device and provides a license for the new device.

- An end-user license agreement is displayed for all grace-period licenses in the permission ticket.
- You must read and accept the agreement. If you do not accept the agreement, the rehost operation stops.

Troubleshooting License Operations by Using Software Activation Commands

Procedure

Step 1 **enable**

Example:

```
Device> enable
```

Enables privileged EXEC mode.

- Enter your password if prompted.

Step 2 **show license file** [**switch** *switch-num*]

Example:

```
Device# show license file
```

Displays license entries and license details stored in a Cisco software license file. If the device is a switch, this command obtains statistics from the specified switch.

Step 3 **show license statistics**

Example:

```
Device# show license statistics
```

Displays license statistics information. The display includes relevant statistics for error counts and is useful for troubleshooting licensing-related problems.

Step 4 **show license status** [**switch** *switch-num*]

Example:

```
Device# show license status
```

Displays the status of licenses in the system. If the device is a switch, this command obtains status from the specified switch.

Step 5 **debug license** {**all** | **core** | **errors** | **events**}

Example:

```
Device# debug license errors
```

Enables controlled software license debugging activity on a device.

Step 6 **no debug license** {**all** | **core** | **errors** | **events**}

Example:

```
Device# no debug license errors
```

Disables license debugging activity on a device.

Configuring Examples for Software Licensing

Example: Installing and Upgrading Licenses

The following example shows how to use the **license install** command to install a license saved in TFTP on the device. The display is truncated for easier readability:

```
Device# license install tftp://infra-sun/<user>/license/5400/38a.lic
Installing licenses from "tftp://infra-sun/<user>/license/5400/38a.lic"
Loading <user>/license/5400/38a.lic from 172.19.211.47 (via GigabitEthernet0/0): !
[OK - 1192 bytes]
Extension licenses are being installed in the device with UDI "AS54XM-AC-RPS:JAE0948QXKD"
for the following features:
 Feature Name: gsmamrnb-codec-pack
PLEASE  READ THE  FOLLOWING TERMS  CAREFULLY. . .
ACCEPT? [yes/no]: yes
Issue 'license feature gsmamrnb-codec-pack' command to enable the license
Installing...Feature:gsmamrnb-codec-pack...Successful:Supported
```

Example: Adding a Comment to a License File

The following example shows how to use the **license comment** command to add or delete information about a specific license. The command checks that a license associated with the specified feature is present in license storage. If a switch number is specified, this command is executed on the specified switch.

As the example shows, when the license is present and multiple license lines are stored, you are prompted to select a license line. This action helps to distinguish licenses. Type the number at the Select Index to Add Comment prompt to select the license.

```
Device# license comment add gsmamrnb-codec-pack "Use this permanent license"
Feature: gsmamrnb-codec-pack
    1  License Type: Evaluation
 License State: Inactive
     Evaluation total period: 20 hours 0  minute
     Evaluation period left: 20 hours 0  minute
 License Addition: Additive
 Comment:
 Store Index: 0
 Store Name: Primary License Storage
    2  License Type: Permanent
 License State: Active, Not in Use
 License Addition: Exclusive
 Comment:
 Store Index: 1
 Store Name: Primary License Storage
Select Index to Add Comment [1-2]: 2
% Success: Adding comment "Use this permanent license" succeeded
Device# show license file
License Store: Primary License Storage
  Store Index: 0
```

```
    License: 11 gsmamrnb-codec-pack 1.0 LONG TRIAL DISABLED 20 DISABLED STANDA
             LONE ADD INFINITE_KEYS INFINITE_KEYS NEVER NEVER NiL SLM_CODE CL_
             ND_LCK NiL *1YCHJRBMWKZAED2400 NiL NiL NiL 5_MINS <UDI><PID>AS54X
             M-AC-RPS</PID><SN>JAE0948QXKD</SN></UDI> ,Jx8qaVf:iXWaH9PsXjkVnmz
             7gWh:cxdf9nUkzY6o8fRuQbu,7wTUz237Cz6g9VjfrCk,0a2Pdo,Ow6LWxcCRFL:x
             cTxwnffn9i,4,aUWv8rL50opDUdAsFnxLsvoFRkcAfm$<WLC>AQEBIQAB//9NA+1m
             Uwfs/lD0dmdF9kyX8wDrua1TZhnnAy6Mxs1dTboIcRaahKxJJdj4Oi1w3wscqvPiA
             mWSaEmUT56rstk6gvmj+EQKRfD9A0ime1czrdKxfILT0LaXT416nwmfp92Tya6vIQ
             4FnlBdqJ1sMzXeSq8PmVcTU9A4o9hil9vKur8N9F885D9GVF0bJHciT5M=</WLC>
    Comment: Use this permanent license.
       Hash: E1WjIQo4qsl9g8cpnpoogP/0DeY=
Device#
```

Example: Saving All Licenses to a Specified Storage Area

The following example shows how to use the **license save** command to save copies of all licenses to the flash file system:

```
Device# license save flash:all_licenses.lic
license lines saved ..... to flash:all_licenses.lic
```

Example: Removing Licenses

The following examples shows how to use the **license clear** command to remove a license entry from license storage once it has been verified that the license line is valid and was explicitly installed.

You must select the index number of the license to clear. Type the number at the Select Index to Clear prompt as shown in this example.

```
Device# license clear standard
Feature: standard
    1  License Type: Evaluation
 License State: Inactive
     Evaluation total period: 20 hours 0  minute
     Evaluation period left: 20 hours 0  minute
 License Addition: Additive
 Comment:
 Store Index: 0
 Store Name: Primary License Storage
    2  License Type: Permanent
 License State: Active, Not in Use
 License Addition: Exclusive
 Comment:
 Store Index: 1
 Store Name: Primary License Storage
Select Index to Clear [1-2]: 1
Are you sure you want to clear? (yes/[no]): yes
Device# show license detail
Feature: premium               Period left:  1 hour   0 minute
Index:  1       Feature: premium                          Version: 1.0
        License Type: Evaluation
        License State: Active, Not in Use, EULA not accepted
            Evaluation total period:  1 hour   0 minute
            Evaluation period left:  1 hour   0 minute
        License Count: Non-Counted
        License Priority: None
        Store Index: 0
        Store Name: Evaluation License Storage
```

Example: Rehosting (Revoking and Transferring) a License

The following example shows how to use the **license revoke** command to revoke a license stored in TFTP and how to transfer it to a license stored in flash memory. You might need to read and accept the terms and conditions of the license type being transferred. The following example is truncated for readability:

```
Device# license revoke tftp://infra-sun/ramanp/pt.lic flash:rt.lic
Following Permanent license(s) will be revoked from this device
 Feature Name: gsmamrnb-codec-pack
Following Extension license(s) will be installed in this device
 Feature Name: gsmamrnb-codec-pack
PLEASE  READ THE  FOLLOWING TERMS  CAREFULLY. . .
ACCEPT? [yes/no]: yes
Issue 'license feature gsmamrnb-codec-pack' command to enable the license
Rehost ticket saved ..... to flash:rt.lic
```

Example: Generic Command Enhanced with Licensing Information

The generic commands described in the following sections are enhanced with licensing information:

reload

The **reload** command shows the expired licenses, followed by expiring licenses sorted by the period left and end date:

```
Device# reload
The following license(s) are expiring or have expired.
Features with expired licenses may not work after Reload.
Feature: uc,Status: expiring, Period Left: 7  wks 5  days
Proceed with reload? [confirm]
```

Note During the reload of Cisco ASR-920-24SZ-IM, ASR-920-24SZ-M, ASR-920-24TZ-M Series Router, there could be a IDPROM Access failure for Fan. To recover from this error, the router needs to be reloaded again.

show running-config

The **show running-config** command displays the unique device identifier (UDI) of a device. If the configuration file was copied from a different device, a warning is displayed upon reload. A UDI mismatch warning is also displayed during reload if the startup-config file has a different UDI than the platform UDI.

```
Device# show running-config
Building configuration...

Current configuration : 1764 bytes
!
! Last configuration change at 15:20:26 IST Thu Aug 1 2019
! NVRAM config last updated at 15:36:45 IST Mon Jul 22 2019
!
version 16.9
no service pad
service timestamps debug datetime msec
service timestamps log datetime msec
no platform punt-keepalive disable-kernel-core
```

```
platform bfd-debug-trace 1
platform xconnect load-balance-hash-algo mac-ip-instanceid
platform tcam-parity-error enable
platform tcam-threshold alarm-frequency 1
platform shell
!
hostname ASR920
!
boot-start-marker
boot-end-marker
!
!
vrf definition Mgmt-intf
 !
 address-family ipv4
 exit-address-family
 !
 address-family ipv6
 exit-address-family
!
!
no aaa new-model
clock timezone IST 5 30
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
!
multilink bundle-name authenticated
!
!
!
license udi pid ASR-920-4SZ-D sn CAT2211U7WD
no license smart enable
file prompt quiet
!
!
spanning-tree extend system-id
sdm prefer default
diagnostic bootup level minimal
!
!
!
redundancy
```

show tech-support

The **show tech-support** command displays the output of the **show license udi**, **show license status**, **show license feature**, **show license file**, **show license detail**, and the **show license statistics** commands.

```
Device# show tech-support
```

```
------------------ show license udi ------------------

SlotID   PID      SN        UDI
-------------------------------------------------------------------------------
*0    ASR-920-4SZ-D         CAT2211U7WD     ASR-920-4SZ-D:CAT2211U7WD


------------------ show license udi standby ------------------



------------------ show license status ------------------

  License Type Supported
 permanent               Non-expiring node locked license
 extension               Expiring node locked license
 evaluation              Expiring non node locked license
 evalRightToUse          Right to use evaluation non node locked license
 rightToUse              Right to use non node locked license

  License Operation Supported
 install    Install license
 clear      Clear license
 annotate   Comment license
 save       Save license
 revoke     Revoke license

  Device status
 Device Credential type: IMAGE
 Device Credential Verification: PASS
 Rehost Type: DC_OR_IC


------------------ show license status standby ------------------



------------------ show license feature ------------------


Feature name             Enforcement  Evaluation  Subscription   Enabled  RightToUse
advancedmetroipaccess    yes          yes         no             yes      no
metroipaccess            yes          yes         no             no       no
metroaccess              no           yes         no             no       no
1588                     yes          yes         no             no       no
10GEupgradelicense       yes          no          no             no       no
2portGE-4ports10GE       yes          no          no             yes      no


------------------ show license feature standby ------------------



------------------ show license file ------------------

License Store: Primary License Storage
  Store Index: 0
    License: 11 2portGE-4ports10GE 1.0 LONG NORMAL STANDALONE EXCL INFINITE_KE
             YS INFINITE_KEYS NEVER NEVER NiL SLM_CODE CL_ND_LCK NiL *17FU47V3
             CUF3HEZ400 NiL NiL NiL 5_MINS <UDI><PID>ASR-920-4SZ-D</PID><SN>CA
             T2211U7WD</SN></UDI> VQogQJa91F3yuYf3g:aWf9qOXg0bRnKs25ZhhWXQ6vfa
             wtSiGCTcJ6UX0Wsc5SdJV:aGsY56VDTPALe9s5h7maVC7WPHrQG9hDQBB1NUiiJTL
             pyzm4CCG3xA8H6w8Ujj7GVA$<WLC>AQEBISAB///ePuFEFLa1WYTTBsUwysYIlwUT
             u4NOSAmnH54EqMR+ddrdmYvQIWIKvh/Ta02F6X3ePuFEFLa1WYTTBsUwysYIlwUTu
```

```
            4NOSAnIcMf6vWuUuI1lxR4RgKX59uDYrlsEJot7Qno/vtYl8B0vN08xyEcTl52bmL
            3dfDsAumQ+9NeEXWOHMixGAsjTr+jONlkzusU=</WLC>
    Comment:
       Hash: M6TSnLClnXd4krgImjtXxTWRmcQ=
  Store Index: 1
    License: 11 advancedmetroipaccess 1.0 LONG NORMAL STANDALONE EXCL INFINITE
            _KEYS INFINITE_KEYS NEVER NEVER NiL SLM_CODE CL_ND_LCK NiL *17FU4
            7V3CUF3HEZ400 NiL NiL NiL 5_MINS <UDI><PID>ASR-920-4SZ-D</PID><SN
            >CAT2211U7WD</SN></UDI> BfkkXOhIiIUBcTUrSQLif:aZz0Kyvtju4rD7lMmvK
            mLytEIMPkuNEY3dSawv,OHtVUP3zh,qGeYcsPmpi3tGL2V8kxRbVvJXV,wrXJ3O6o
            us3,P7EQtt,Ho,9wCO2BwDbpfz$<WLC>AQEBISAB///ePuFEFLa1WYTTBsUwysYIl
            wUTu4NOSAkSLhrKyrLBd3+nroEfw8/8Av4nEYBFF/nePuFEFLa1WYTTBsUwysYIlw
            UTu4NOSAnIcMf6vWuUuI1lxR4RgKX59uDYrlsEJot7Qno/vtYl8B0vN08xyEcTl52
            bmL3dfDsAumQ+9NeEXWOHMixGAsjTr+jONlkzusU=</WLC>
    Comment:
       Hash: cuBh2U4PcOLuo1aYMZLYQ5MeBMw=
License Store: Built-In License Storage
  Store Index: 0
    License: 11 advancedmetroipaccess 1.0 LONG TRIAL DISABLED 1440 DISABLED ST
            ANDALONE ADD INFINITE_KEYS INFINITE_KEYS NEVER NEVER NiL SLM_CODE
             DEMO NiL NiL Ni NiL NiL 5_MINS NiL q7AiZERv7M3asfmTNiBq3AIfzXaMn
            771WFbW0QLSFTf8XRd,uBSGsOh5VadJXolSVH$<WLC>AQEBIf8B//+GAlABZF9TUb
            kV9DfLeeIHyU2S2mDnooo9JUxWfflSYbGg+v4MuWI3L+D6KJGVjyyRqwInXo3s+ns
            LU7rOtdOxoIxYZAo3LYmUJ+MFzsqlhKoJVlPyEvQ8H21MNUjVbhoN0gyIWsyiJaM8
            AQIkVBQFzhr10GYolVzdzfJfEPQIx6tZ++/Vtc/q3SF/5Ko8XCY=</WLC>
    Comment:
       Hash: 5J2d3ZfjOzgP5xlaiJQSlaiGh5s=
  Store Index: 1
    License: 11 metroipaccess 1.0 LONG TRIAL DISABLED 1440 DISABLED STANDALONE
             ADD INFINITE_KEYS INFINITE_KEYS NEVER NEVER NiL SLM_CODE DEMO Ni
            L NiL Ni NiL NiL 5_MINS NiL IAWD3vd7KQItmcShIC,OfF3GzO4u8QWwFBsvd
            Sb:hJ37cc9g9tgFm5xuhx8xlkEYVn$<WLC>AQEBIf8B//9ryCDjMpbNbltG4CTDc9
            WNRCMQWn9rrxz5QrHYihBHk4fxDPzR1Gd7iVy5zb+iA/+RqwInXo3s+nsLU7rOtdO
            xoIxYZAo3LYmUJ+MFzsqlhKoJVlPyEvQ8H21MNUjVbhoN0gyIWsyiJaM8AQIkVBQF
            zhr10GYolVzdzfJfEPQIx6tZ++/Vtc/q3SF/5Ko8XCY=</WLC>
    Comment:
       Hash: CLI5/I7/N6UcLXt3j/1AejmDR6k=
  Store Index: 2
    License: 11 metroaccess 1.0 LONG TRIAL DISABLED 1440 DISABLED STANDALONE A
            DD INFINITE_KEYS INFINITE_KEYS NEVER NEVER NiL SLM_CODE DEMO NiL
            NiL Ni NiL NiL 5_MINS NiL Tc5IK2dLk8:24bhasctP3uWtPe9GRDccbeQIO7f
            aqBVjFFz3A9YK6ZNpXbSE4lknLI$<WLC>AQEBIf8B//+w2jF8oVWArFb7oStekvG+
            x8aEAlunD5s0KOQ9r9p1tUnWCR7/QRzS8kYzXtPMYKSRqwInXo3s+nsLU7rOtdOxo
            IxYZAo3LYmUJ+MFzsqlhKoJVlPyEvQ8H21MNUjVbhoN0gyIWsyiJaM8AQIkVBQFzh
            r10GYolVzdzfJfEPQIx6tZ++/Vtc/q3SF/5Ko8XCY=</WLC>
    Comment:
       Hash: kKMjObqq6eiTdHduukDWLPZub/k=


------------------ show license file standby ------------------



------------------ show license detail ------------------

Index: 1  Feature: 2portGE-4ports10GE               Version: 1.0
 License Type: Permanent
 License State: Active, In Use
 License Count: Non-Counted
 License Priority: Medium
 Store Index: 0
 Store Name: Primary License Storage
Index: 2  Feature: advancedmetroipaccess            Version: 1.0
 License Type: Permanent
```

```
 License State: Active, In Use
 License Count: Non-Counted
 License Priority: Medium
 Store Index: 1
 Store Name: Primary License Storage
Index: 3  Feature: advancedmetroipaccess             Version: 1.0
 License Type: Evaluation
 License State: Inactive
     Evaluation total period: 8  weeks 4  days
     Evaluation period left: 0  minute  0  second
     Period used: 8  weeks 4  days
 License Count: Non-Counted
 License Priority: Low
 Store Index: 0
 Store Name: Built-In License Storage
Index: 4  Feature: metroaccess                       Version: 1.0
 License Type: Evaluation
 License State: Active, Not in Use, EULA not accepted
     Evaluation total period: 8  weeks 4  days
     Evaluation period left: 8  weeks 4  days
     Period used: 0  minute  0  second
 License Count: Non-Counted
 License Priority: None
 Store Index: 2
 Store Name: Built-In License Storage
Index: 5  Feature: metroipaccess                     Version: 1.0
 License Type: Evaluation
 License State: Active, Not in Use, EULA not accepted
     Evaluation total period: 8  weeks 4  days
     Evaluation period left: 8  weeks 4  days
     Period used: 0  minute  0  second
 License Count: Non-Counted
 License Priority: None
 Store Index: 1
 Store Name: Built-In License Storage


------------------ show license detail standby ------------------

% Error: No license for standby found - License feature not found

------------------ show license statistics ------------------

  Administrative statistics
 Install success count:   0
 Install failure count:   0
 Install duplicate count: 0
 Comment add count:       0
 Comment delete count:    0
 Clear count:             0
 Save count:              0
 Save cred count:         0

  Client statistics
 Request success count:   2
 Request failure count:   0
 Release count:           0
 Global Notify count:     1


------------------ show license statistics standby ------------------
```

show license udi

The **show license udi** command displays the license UDI information:

```
Device> show license udi
SlotID   PID                   SN                      UDI
-------------------------------------------------------------------------------
0        ASR-920-4SZ-D         CAT2211U7WD     ASR-920-4SZ-D:CAT2211U7WD
```

Additional References

Related Documents

Related Topic	Document Title
Cisco License Manager application	*User Guide for Cisco License Manager*
Software activation conceptual overview	"Cisco IOS Software Activation Conceptual Overview" module
Software activation commands	*Software Activation Command Reference*
Cisco IOS commands	*Master Commands List, All Releases*
Integrated Services Routers licensing	*Software Activation on Cisco Integrated Services Routers*

MIBs

MIB	MIBs Link
CISCO-LICENSE-MGMT-MIB	To locate and download MIBs for selected platforms, Cisco software releases, and feature sets, use Cisco MIB Locator found at the following URL: http://www.cisco.com/go/mibs

Technical Assistance

Description	Link
The Cisco Support and Documentation website provides online resources to download documentation, software, and tools. Use these resources to install and configure the software and to troubleshoot and resolve technical issues with Cisco products and technologies. Access to most tools on the Cisco Support and Documentation website requires a Cisco.com user ID and password.	http://www.cisco.com/cisco/web/support/index.html

Feature Information for Cisco IOS Software Activation

The following table provides release information about the feature or features described in this module. This table lists only the software release that introduced support for a given feature in a given software release train. Unless noted otherwise, subsequent releases of that software release train also support that feature.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to www.cisco.com/go/cfn. An account on Cisco.com is not required.

Table 1: Feature Information for Cisco IOS Software Activation

Feature Name	Releases	Feature Information
Cisco IOS Software Activation	Cisco IOS XE Release 3.13.0S	This feature was introduced on the Cisco ASR 920 Series Aggregation Services Router (ASR-920-12CZ-A, ASR-920-12CZ-D, ASR-920-4SZ-A, ASR-920-4SZ-D).