Configuring Right-To-Use Licenses

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Finding Feature Information

Your software release may not support all the features documented in this module. For the latest caveats and feature information, see Bug Search Tool and the release notes for your platform and software release. To find information about the features documented in this module, and to see a list of the releases in which each feature is supported, see the feature information table at the end of this module.

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

Restrictions for Configuring RTU Licenses

The following are the restrictions for configuring and using RTU licenses.

- To activate a license, you must reboot your switch after configuring the new license level.
- An expired evaluation license can not be reactivated after reboot.
- Stack members of a switch stack must run the same license level. If the license level is different, the switch will not join the stack until it is changed and rebooted from the active switch of the stack.
- When you downgrade the license level from an image with add-on licenses to an image without add-ons, only the base license level is retained after downgrade, and not the add-ons.

  When you upgrade back to the image with the add-ons, the base license level is retained but the add-ons are not activated.

- Licenses on mixed switch stacks are not supported.

Information About Configuring RTU Licenses

Right-To-Use Licensing

Right-to-use (RTU) licensing allows you to order and activate a specific license type and level, and then to manage license usage on your switch. The types of licenses available to order by duration are:

- Permanent licenses—For image-based licenses only. Purchased with a specific feature set with no expiration date.
- Term licenses—For add-on licenses only. Purchased with a feature set for a specific subscription period of 3, 5, or 7 years. The expiration date displays on Cisco Smart Software Manager (Cisco SSM).
- Evaluation licenses—Available with image-based and add-on licenses.Pre-installed on the switch and is valid for only a 90 day in-use period.

To activate a permanent or evaluation license, you are required to accept the End-User License Agreement (EULA).

A permanent license can be moved from one device to another. To activate a license, you must reboot your switch.

Term license expiry information is available only on Cisco SSM. To get started, create a Smart Account. Go to https://software.cisco.com → Administration → Request Smart Account. For more information, see: https://www.cisco.com/c/en/us/buy/smart-accounts/software-licensing.html

If you activate the evaluation license, it will expire in 90 days. An evaluation license is a manufacturing image on your switch and is not transferable to another switch. Once activated, this type of license cannot be deactivated until it expires. After your evaluation period expires, at the next reload your switch image will return to its default license and network operations are not impacted.

Right-To-Use Image-Based Licenses

Right-to-use image licenses support a set of features based on a specific image-based license:

- LAN Base—Layer 2 features.
- IP Base—Layer 2 and Layer 3 features.
- IP Services—Layer 2, Layer 3, and IPv6 features.

License Activation for Switch Stacks

Right-to-use licensing is supported on switch stacks. A switch is a set of up to nine stacking-capable switches connected through their StackWise-160 ports. One switch in the stack is identified as the active switch and the remaining switches are standby switches. The active switch is activated with an RTU license from its active console. The license level for the standby switches in the stack can be activated at the same time.

Note A switch stack cannot contain mixed license levels. Also, the switches must be of the same platform.

To change the license level, you do not need to disconnected the new added stack member if the stack cables are connected. Use the active switch console to set the new member's license level same as active switch and reboot the new member to join the stack.

How to Configure RTU Licenses

Activating an Image Based License

To activate image based licenses, complete the following task:

SUMMARY STEPS

1. **license right-to-use activate** {**ipbase** | **ipservices** | **lanbase**} [**all** | **evaluation** | **slot***slot-number*] [**acceptEULA**]
2. **reload** [*LINE* | **at** | **cancel** | **in** | **slot** *stack-member-number* | **standby-cpu**]
3. **show license right-to-use usage** [**slot** *slot-number*]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**license right-to-use activate** {**ipbase** | **ipservices** | **lanbase**} [**all** | **evaluation** | **slot***slot-number*] [**acceptEULA**] **Example:** `Device# license right-to-use activate ipservices all acceptEULA`	Activates the license level. Activation can happen on all switches and also include the EULA acceptance. **Note** If you do not accept EULA, the modified configuration will not take effect after reload. The default license (or a license that was not deactivated) becomes active after reload.

Step 2	**reload** [*LINE* | **at** | **cancel** | **in** | **slot** *stack-member-number* | **standby-cpu**]
	Example:
	`Device# reload slot 1`
	`Proceed with reload? [confirm] y`
		Reloads a specific stack member to complete the activation process .
		Note The reminder to accept the EULA is displayed after reload if it was not accepted earlier.
		When changing license level, you are not required to save the configuration. But, it is a good practice to ensure all the configuration is stored properly before reload. Changing from a higher license level to a lower license level on reboot will remove CLIs that are not applicable. Ensure that all features in the lower license level that are actively used are not removed.

Step 3	**show license right-to-use usage** [**slot** *slot-number*] **Example:**	Displays detailed usage information.

	Command or Action	Purpose
	Device# **show license right-to-use usage** Slot# License Name Type usage-duration(y:m:d) In-Use EULA —————————————————————————— 1 ipservices Permanent 0 :10:27 yes yes 1 ipservices Evaluation 0 :0 :0 no no 1 ipbase Permanent 0 :0 :9 no yes 1 ipbase Evaluation 0 :0 :0 no no 1 lanbase Permanent 0 :11:12 no yes —————————————————————————— Switch#	

Rehosting a License

To rehost a license, you have to deactivate the license from one device and then activate the same license on another device.

SUMMARY STEPS

1. **license right-to-use deactivate [license-level] slot** *slot-num*
2. **license right-to-use activate [license-level] slot** *slot-num* [**acceptEULA**]

DETAILED STEPS

	Command or Action	Purpose
Step 1	**license right-to-use deactivate [license-level] slot** *slot-num* **Example:** Device# **license right-to-use deactivate ipbase slot 1** OR	Deactivates the license on one device. The IP Base license level is deactivate from slot 1 in the example here.
Step 2	**license right-to-use activate [license-level] slot** *slot-num* [**acceptEULA**] **Example:** Device# **license right-to-use activate ipbase slot 2 acceptEULA**	Activates the license on another device. The IP Base license level is rehosted on slot 2 in the example here.

Monitoring and Maintaining RTU Licenses

Command	Purpose
show license right-to-use default	Displays the default license information.
show license right-to-use detail	Displays detailed information of all the licenses in the switch stack.
show license right-to-use eula {evaluation | permanent} show license right-to-use eula {evaluation | permanent}	Displays the end user license agreement.
show license right-to-use mismatch	Displays the license information that does not match.
show license right-to-use slot *slot-number*	Displays the license information for a specific slot in a switch stack.
show license right-to-use summary	Displays a summary of the license information on the entire switch stack.
show license right-to-use usage [**slot** *slot-number*]	Displays detailed information about usage for all licenses in the switch stack.
show switch	Displays detailed information of every member in a switch stack including the state of the license.

Configuration Examples for RTU Licensing

Examples: Activating RTU Image Based Licenses

This example shows how to activate an IP Services image license and accept the EULA for a specific slot:

```
Switch# license right-to-use activate ipservices slot 1 acceptEULA
% switch-1:stack-mgr:Reboot the switch to invoke the highest activated License level
```

This example shows how to activate a license for evaluation:

```
Switch# license right-to-use activate ipservices evaluation acceptEULA
% switch-1:stack-mgr:Reboot the switch to invoke the highest activated License level
```

Examples: Displaying RTU Licensing Information

This example shows the consolidated RTU licensing information from the active switch on a switch stack. All of the members in the stack have the same license level.

```
Switch# show license right-to-use summary

  License Name       Type      Period left
---------------------------------------
  ipservices  Permanent         Lifetime
---------------------------------------


License Level In Use: ipservices
License Level on Reboot: ipbase
```

Example: Displaying RTU License Details

This example shows all the detailed information for the RTU licenses on slot 1:

```
Device# show license right-to-use detail slot 1
Index 1
  License Name    : ipservices
  Period left     : Lifetime
  License Type    : Permanent
  License State   : Active, In use
  License Location: Slot 1
Index 2
  License Name    : ipservices
  Period left     : 90
  License Type    : Evaluation
  License State   : Not Activated
  License Location: Slot 1
Index 3
  License Name    : ipbase
  Period left     : Lifetime
  License Type    : Permanent
  License State   : Active, Not In use
  License Location: Slot 1
Index 4
  License Name    : ipbase
  Period left     : 90
  License Type    : Evaluation
  License State   : Not Activated
  License Location: Slot 1
Index 5
  License Name    : lanbase
  Period left     : Lifetime
  License Type    : Permanent
  License State   : Active, Not In use
  License Location: Slot 1
```

Example: Displaying RTU License Mismatch

This example shows the license information of the switches in a stack and a mismatch state of a member switch. The member must match the active.

```
Switch# show switch
```

```
Switch/Stack Mac Address : 1c1d.8625.7700 - Local Mac Address
                                                    H/W   Current
Switch#   Role        Mac Address     Priority Version  State
-----------------------------------------------------------------------------------
*1       Active   1c1d.8625.7700     15     V02     Ready
 2       Standby  bc16.f55c.ab80     7      V04     Ready
 3       Member   580a.2095.da00     1      V03     Lic-Mismatch
```

Note To resolve the license mismatch, first check the RTU license summary:

```
Switch# show license right-to-use
```

Then change the license level of the mismatched switched so that it is the same license level of the active switch. This example shows that the IP Base license was activated for the member switch to match the active switch.

```
Switch# license right-to-use activate ipbase slot 3 acceptEULA
```

Example: Displaying RTU Licensing Usage

This example shows the detailed licensing usage on your switch stack. The IP Services license in Slot 1 is permanent and usage is one day.

```
Switch# show license right-to-use usage

 Slot#  License Name     Type     usage-duration(y:m:d)  In-Use  EULA
--------------------------------------------------------------------------------
    1         ipservices    Permanent               0 :10:27      yes    yes
    1         ipservices   Evaluation               0 :0 :0        no     no
    1             ipbase    Permanent               0 :0 :9        no    yes
    1             ipbase   Evaluation               0 :0 :0        no     no
    1            lanbase    Permanent               0 :11:12       no    yes
--------------------------------------------------------------------------------

Slot#       License Name         Type  usage-duration(y:m:d)   In-Use   EULA
--------------------------------------------------------------------------------
    2         ipservices    Permanent               0 :3 :25      yes    yes
    2         ipservices   Evaluation               0 :0 :0        no     no
    2             ipbase    Permanent               0 :0 :0        no    yes
    2             ipbase   Evaluation               0 :0 :0        no     no
    2            lanbase    Permanent               0 :7 :2        no    yes
--------------------------------------------------------------------------------

Slot#       License Name         Type  usage-duration(y:m:d)   In-Use   EULA
--------------------------------------------------------------------------------
    3         ipservices    Permanent               0 :6 :15      yes    yes
    3         ipservices   Evaluation               0 :0 :0        no     no
    3             ipbase    Permanent               0 :0 :0        no    yes
    3             ipbase   Evaluation               0 :0 :0        no     no
    3            lanbase    Permanent               0 :8 :11       no    yes
--------------------------------------------------------------------------------
```

Additional References for RTU Licensing

Related Documents

Related Topic	Document Title
RTU commands	*System Management Command Reference (Catalyst 3650 Switches)*

Standards and RFCs

Standard/RFC	Title
None	—

MIBs

MIB	MIBs Link
Object ciscoLicenseMIB OID 1.3.6.1.4.1.9.9.359 MIB CISCO-LICENSE-MIB ; - View Supporting Images	To locate and download MIBs for selected platforms, Cisco IOS 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 website provides extensive online resources, including documentation and tools for troubleshooting and resolving technical issues with Cisco products and technologies. To receive security and technical information about your products, you can subscribe to various services, such as the Product Alert Tool (accessed from Field Notices), the Cisco Technical Services Newsletter, and Really Simple Syndication (RSS) Feeds. Access to most tools on the Cisco Support website requires a Cisco.com user ID and password.	http://www.cisco.com/support

Feature History and Information for RTU Licensing

Release	Feature Information
Cisco IOS XE 3.2SE	This feature was introduced.

Release	Feature Information
Cisco IOS XE Fuji 16.8.1a	Support for add-on licensing options (DNA Essentials and DNA Advantage) were introduced.