Configure Specific License Reservation

Specific License Reservation (SLR) is a functionality that enables you to deploy a software license on a device without communicating usage information to Cisco. This functionality is especially used in highly secure networks, and it is supported on platforms that have Smart Licensing enabled.

SLR lets you reserve a license for your product instance from the CSSM. These reserved licenses need not be renewed or reauthorized unless there is a license usage change on the device.

To enable and use the SLR feature, you must generate a reservation request code from the router device. Use this code in CSSM and generate an authorization code. When you enter this authorization code on the router, the license reservation becomes effective. After you enable license reservation, the system displays the License Reservation section, which is used to reserve licenses for your product.

The following enforcement mechanisms are available:

- Hard enforcement: Hard enforcement is applicable only for enforced licenses (for example, Hsec or boost). When you do not authorize the required licenses by installing the auth-code, the license cannot be used, and the feature is disabled.

- Soft enforcement: When you do not authorize the required licenses by installing the auth-code, you can continue to use the license. However, the system displays an appropriate syslog message and the license status is "Not Authorized". However, you are not authorized to use these licenses without purchasing them.

- Cisco Smart Software Manager (CSSM) Managed: The licenses are managed by CSSM.

Note SLR is not enabled by default, and you must specifically request for this functionality.

Note Specific License Reservation and the license enforcements are supported in IOS XE Release 16.11.1a and later.

Read on to know how to configure SLR, in detail:

Restrictions for Specific License Reservation

- For ASR1000 Series Routers with two Route Processors (RPs), do not change the state of the licenses on switching over to a new active RP.

- The SLR authorization code file is valid only till you install the code. If there is an installation fialure, you must contact GLO to generate a new authorization code.

Register a Device Using Specific License Reservation

To register a device using Specific License Reservation, you must do the following:

Enable Specific License Reservation

To enable Specific License Reservation for your device, you must execute the following commands:

Step 1　**Enable**

Enables privileged EXEC mode.

Enter your password if prompted.

Step 2　**configure terminal**

Enters global configuration mode.

Step 3　**license smart reservation**

Enables Specific License Reservation. Use the no form of this command to disable Specific License Reservation.

Step 4　**exit**

Exits configuration mode, and returns the device to the global configuration mode.

Step 5　**license smart reservation request local**

Generates a request code for the device to be entered in the Cisco Smart Software Manager.

Note　To cancel the License Reservation request, execute the `license smart reservation cancel` command.

Example

SR-I# Enable

SR-I# configure terminal

SR-I(config)# license smart reservation

SR-I(config)# exit

SR-I# license smart reservation request local

Reserve Licenses using Cisco Smart Software Manager

Step 1 Log in to Cisco Smart Software Manager at https://software.cisco.com/#.

You must log in to the portal using the Cisco provided username and password.

Step 2 Click the **Inventory** tab. From the **Virtual Account** drop-down list, select your smart account.

Step 3 From the **Licenses** tab, click **License Reservation**.

The system displays the Smart License Reservation wizard.

Step 4 On the **Enter Request Code** page, enter or attach the reservation request code you generated from the router, and click **Next**.

Step 5 Check the **Reserve a specific License** check box.

The system displays the list of surplus licenses available in your Virtual Account. Enter the number of licenses that you want to reserve for the required license, in the **Quantity to Reserve** field. Click **Next**.

Step 6 From the **Review and Confirm** tab, click **Generate Authorization Code**.

Note   After you generate the SLR code for a specific device, the authorization code file is valid till you install the code. If the installation fails, you must contact GLO to generate a new authorization code.

The system displays the Authorization Code that is generated.

Step 7 Click the **Copy to Clipboard** option to copy the code, or download it as a file. You need to copy the code or file to your device.

If you configure SLR, you can download or install the authorization code text file. If you configure PLR, you can copy and paste the authorization code.

Register the Device Using the Authorization Code

After you get the authorization code from CSSM, execute the following commands to complete the license reservation procedure:

Step 1 **enable**

Enables privileged EXEC mode.

Enter your password, if prompted.

Step 2 **license smart reservation install file bootflash:**<*authfile.txt*>

This command registers the device. The authorization code you copied as a file is used to activate smart licensing reservation for your device. When you run the `show license tech support` command, the system displays the details of the reserved licenses.

Step 3 (Optional) **license smart reservation return local**

This command will remove the authorization code and the device transitions back to the unregistered state. A return code is generated and must be entered in Cisco Smart Software Manager to remove product instance.

Example: Enable Specific License Reservation

```
SR-I> enable
SR-I# configure terminal
SR-I(config)# 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

SR-I#license smart reservation req
SR-I#license smart reservation request loc
SR-I#license smart reservation request local
ce577e57-9aa9-403e-8e7c-e9532a810075
SR-I#license smart reservation install file bootflash:slr_sl
Reservation install file successful
Last Confirmation code UDI: PID:ASR1001-HX,SN:JAE200602WHff518c84
SR-I#show license tech support | section Reservation info
Reservation Info
================
License reservation: ENABLED
```

```
Overall status:
Active: PID:C1117-4PWA,SN:FGL214790X2
Reservation status: SPECIFIC INSTALLED on Mar 29 11:23:06 2019 PDT
Export-Controlled Functionality: ALLOWED
Request code: <none>
Last return code: <none>
Last Confirmation code: b6556195
Reservation authorization code: <authcode>
```

Update a Specific License Reservation

After you register a device successfully, if required, you can update the reservation with a new feature or license as follows:

Step 1   Log in to Cisco Smart Software Manager at https://software.cisco.com/#.

You must log in to the portal using the Cisco provided username and password.

Step 2   Click the **Inventory** tab. From the **Virtual Account** drop-down list, select your smart account.

Step 3   From the **Product Instances** tab, for the device that you want to update, click **Actions**.

Step 4   Click **Update Reserved Licenses**.

Step 5   Select the license that you want to update.

Step 6   Click **Next**.

Step 7   From the **Review and Confirm** tab, click **Generate Authorization Code**. The **Authorization Code** tab is displayed.

The system displays the Authorization Code that is generated.

Step 8   Click the **Copy to Clipboard** option to copy the code, or download it as a file. You need to copy the code or file to your device.

Step 9   Log in to the device that you want to update.

Step 10   Run the **license smart reservation install file** command.

license smart reservation install file bootflash:<authfile.txt>

This command registers the device with the new authorization code. The authorization code you copied as a file is used to activate smart licensing reservation for your device.

Example:

```
device# license smart reservation install file bootflash:auth.txt
Reservation install file successful
Last Confirmation code UDI: PID:ISR4351/K9,SN:FDO210305DQ
2029eee4
```

Step 11   Note the confirmation code from the output of the previous command.

Step 12   In CSSM, from the **Authorization Code** tab, click the **Enter Confirmation Code** button.

Step 13   Enter the confirmation code that you noted in the previous step.

Step 14   Click **OK**.

Deregister a Specific License Reservation

To deregister a Specific License Reservation for a device, you must return the license reservation in the CLI and remove the instance from CSSM.

Step 1 Log in to the device that you want to deregister.

Step 2 To remove the license reservation authorization code, run the **license smart reservation return** command

license smart reservation return local

```
Device# license smart reservation return local
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:ISR4351/K9,SN:FDO210305DQ
    CBURR4-cTgMun-arvYME-gta6ir-yqnXQm-yMKxWM-2ajywD-5kADgZ-a33
```

Step 3 Log in to Cisco Smart Software Manager at https://software.cisco.com/#.

You must log in to the portal using the Cisco provided username and password.

Step 4 Click the **Inventory** tab. From the **Virtual Account** drop-down list, select your smart account.

Step 5 From the **Product Instances** tab, for the device that you want to dergister, click **Actions**.

Step 6 Click **Remove**.

Step 7 When prompted, enter the return code.