Troubleshooting Licensing Issues

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About Troubleshooting Licensing Issues

Cisco NX-OS requires licenses for select features. The licenses enable those features on your system. You must purchase a license for each system on which you want to enable the licensed features.

Chassis Serial Numbers

Licenses are created using the serial number of the chassis where the license file is to be installed. Once you order a license based on a chassis serial number, you cannot use this license on any other system.

Swapping out a Chassis

If you swap out a chassis which included licenses, you must contact TAC to generate a new license. The old license was based on the chassis serial number and will not work with the new chassis.

Guidelines and Limitations for Licensing

Follow these guidelines when dealing with licenses for Cisco NX-OS:

- Carefully determine the license(s) that you require based on the features that require a license.
- Order your license accurately, as follows:
  - Enter the Product Authorization Key that appears in the Proof of Purchase document that comes with your system.
  - Enter the correct chassis serial number when ordering the license. The serial number must be for the same chassis on which you plan to install the license. Use the **show license host-id** command to obtain your chassis serial number.
  - Enter serial numbers accurately. Do not use the letter "O" instead of a zero in the serial number.

  - Order the license that is specific to your chassis.

- Back up the license file to a remote, secure place. Archiving your license files ensures that you will not lose the licenses in the case of a failure on your system.
- Install the correct licenses on each system, using the licenses that were ordered using that system's serial number. Licenses are serial-number specific and platform specific.
- Use the **show license usage** command to verify the license installation.
- Never modify a license file or attempt to use it on a system for which it was not ordered. If you return a chassis, contact your customer support representative to order a replacement license for the new chassis.

Initial Troubleshooting Checklist for Licensing

Begin troubleshooting license issues by checking the following issues first:

Checklist	Done
Verify the chassis serial number for all licenses ordered.	
Verify the platform or module type for all licenses ordered.	
Verify that the Product Authorization Key that you used to order the licenses comes from the same chassis from which you retrieved the chassis serial number.	
Verify that you have installed all licenses on all systems that require the licenses for the features you enable.	

Displaying License Information Using the CLI

SUMMARY STEPS

1. **show license** [**host-id** | **usage** [*package*]]

DETAILED STEPS

Procedure

	Command or Action	Purpose
Step 1	**show license** [**host-id**	**usage** [*package*]] **Example:** `switch# show license usage LAN_ENTERPRISE_SERVICES_PKG`	Displays license information configured on this system. Use the **host-id** keyword to display the host ID for the license. Use the **usage** keyword to display a list of all licensed features or a list of features in a specified package.

Example

This example displays all installed license key files and contents:

```
switch# show license
entp.lic:
SERVER this_host ANY
VENDOR cisco
INCREMENT LAN_ENTERPRISE_SERVICES_PKG cisco 1.0 permanent uncounted \
        VENDOR_STRING=<LIC_SOURCE>MDS_SWIFT</LIC_SOURCE><SKU>N95-LAN1K9=</SKU> \
        HOSTID=VDH=TBC10412106 \ >
        NOTICE="<LicFileID>20071025133322456</LicFileID>LicLineID>1/LicLineID>
 \
```

This example displays information about current license usage:

```
switch# show license usage
Feature                      Ins   Lic  Status   Expiry Date Comments        Count
--------------------------------------------------------------------------------

LAN_ENTERPRISE_SERVICES_PKG   No    -   In use
--------------------------------------------------------------------------------
```

This example displays a list of features in a specified package:

```
switch# show license usage LAN_ENTERPRISE_SERVICES_PKG
Application
-----------
bgp
pim
msdp
ospf
ospfv3
-----------
```

This example displays the host ID for the license:

```
switch# show license host-id
License hostid: VDH=FOX0646S017
```

Note Use the entire ID that appears after the colon (:) . The VHD is the Vendor Host ID.

Licensing Installation Issues

Serial Number Issues

Make sure that you use the correct chassis serial number when ordering your license. Use the **show license host-id** command to obtain the correct chassis serial number for your system using the CLI.

If you use a license meant for another chassis, you might see the following system message:

Error Message: LICMGR-3-LOG_LIC_INVALID_HOSTID: Invalid license hostid VDH=[chars] for feature [chars].

Explanation: The feature has a license with an invalid license Host ID. This can happen if a supervisor module with licensed features for one system is installed on another system.

Recommended Action: Reinstall the correct license for the chassis where the supervisor module is installed.

Note When entering the chassis serial number during the license ordering process, do not use the letter "O" instead of any zeros in the serial number.

RMA Chassis Errors or License Transfers Between Systems

A license is specific to the system for which it is issued and is not valid on any other system. If you need to transfer a license from one system to another, contact your technical support representative.

License Listed as Missing

After a license is installed and operating properly, it might show up as missing if you modify your system hardware or encounter a bootflash: issue.

Symptom	Possible Causes	Solutions
A license is listed as missing.	The supervisor module was replaced after the license was installed.	See Corrupted Bootflash Recovery to recover from the corrupted bootflash:. Reinstall the license.
	The supervisor bootflash: is corrupted.	