



CHAPTER 2

Installing and Configuring Licenses

This chapter describes how to install and configure licenses and includes the following sections:

- [Information About Licenses, page 2-1](#)
- [Guidelines and Limitations, page 2-1](#)
- [Default Settings, page 2-2](#)
- [Obtaining and Installing a License, page 2-2](#)
- [Transferring Licenses, page 2-6](#)
- [Uninstalling a License, page 2-10](#)
- [Configuring Volatile Licenses, page 2-12](#)
- [Verifying the License Configuration, page 2-14](#)
- [Changing the Serial Number in a License, page 2-16](#)
- [Feature History for Licenses, page 2-19](#)

Information About Licenses

For detailed information about licenses, see [Chapter 1, “Overview.”](#)

Guidelines and Limitations

Use the following guidelines and limitations when configuring permanent licenses:

- If you modify a permanent license key file, it is invalidated.
- When you purchase permanent licenses, the license key file is sent to you in an e-mail. The license key authorizes use on only the host ID device. You must obtain a separate license key file for each of your VSMs.
- A license file contains the number of licenses ordered for your VSM. One license is required for each CPU on each VEM.
- A VSM can have more than one license file depending on the number of installed VEM CPUs.
- You must have a role equivalent to that of network-admin to install, uninstall, or copy a permanent license file. For information about user accounts and roles, see the *Cisco Nexus 1000V Security Configuration Guide, Release 4.2(1)SV1(5.1)*.

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- If you are installing multiple permanent licenses for the same VSM, also called license stacking, each permanent license key filename must be unique.
- Licenses cannot be applied to a VEM unless there are sufficient licenses in the pool to cover all of its CPUs.
- If a license is in use, you cannot delete its license file. You must first transfer all licenses from the VEMs to the VSM license pool before uninstalling the license file.
- When you install a permanent license file, all default licenses are invalidated. Installing a permanent license file has no effect on evaluation licenses. For more information, see the [“Types of Licenses” section on page 2](#).

Default Settings

Table 2-1 lists the default settings in the license configuration.

Table 2-1 License Defaults

Parameter	Default
license filename	n1kv_license.lic
volatile license	disabled By default, licenses are not returned to the VSM pool when a VEM is removed from service.

Obtaining and Installing a License

This section describes how to obtain the license file that is required for each VSM and then install it.

This section includes the following topics:

- [Flow Chart: Obtaining and Installing a License, page 2-3](#)
- [Obtaining the License File, page 2-3](#)
- [Installing the License File on the VSM, page 2-4](#)
- [Verifying the License Configuration, page 2-14](#)

BEFORE YOU BEGIN

Before beginning the procedures in this section, you must know or do the following:

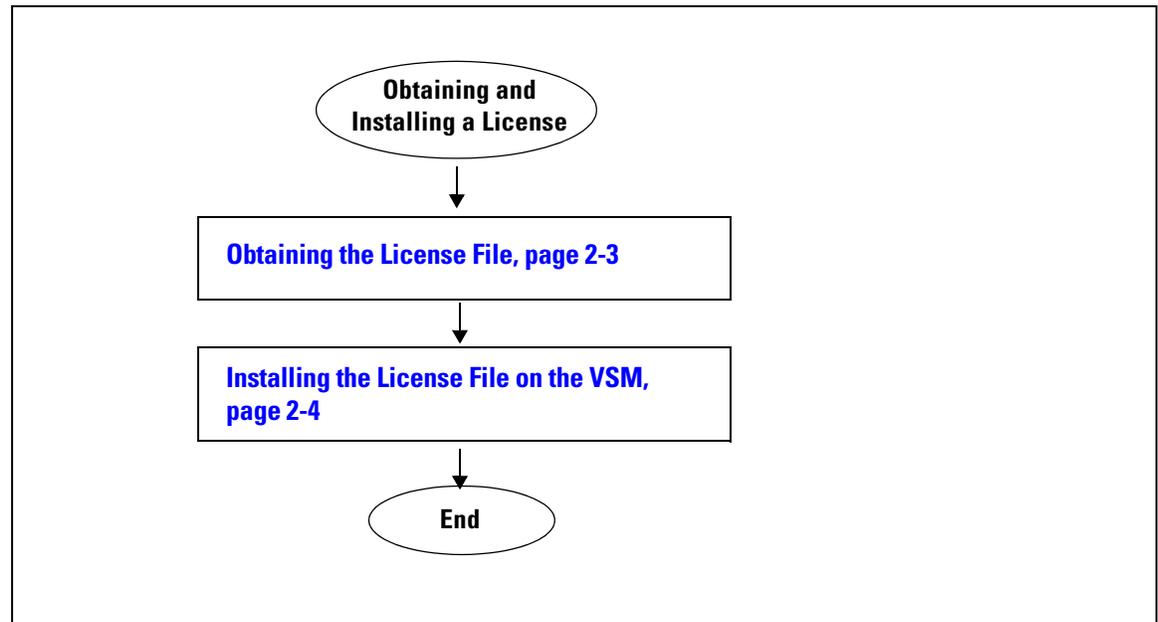
- A license file is tied to each VSM by the host ID or the serial number associated with the VSM device.
- A license file contains the number of licenses ordered for your VSM. One license is required for each CPU on each VEM.
- A VSM can have more than one license file depending on the number of installed VEM CPUs.

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Flow Chart: Obtaining and Installing a License

Use the flow chart in [Figure 1](#) to guide you through the process of installing a license on a VSM. After completing a procedure, return to the flow chart to make sure you complete all procedures in the correct sequence.

Figure 1 Flow Chart: Obtaining and Installing a License



Obtaining the License File

You can use this procedure to obtain a license file for a VSM.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- A license file is tied to each VSM by the host ID or the serial number associated with the VSM device.
- Make sure that you have your product authorization key (PAK), found in your software license claim certificate.

If you cannot locate your software license claim certificate, contact [Cisco Technical Support](#).

- You are logged in to the CLI in EXEC mode.
- In this procedure, you must copy a license file. This requires that your username have a role equivalent to that of the network-admin role which allows you to copy files. For information about user accounts and roles, see the *Cisco Nexus 1000V Security Configuration Guide, Release 4.2(1)SV1(5.1)*.

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PROCEDURE

Step 1 Obtain the serial number, also called the host ID, for your VSM:

```
n1000v# show license host-id
License hostid: VDH=1280389551234985805
```



Note The host ID includes everything that appears after the equal sign (=). In this example, the host ID is 1280389551234985805. You will need the host ID in [Step 5](#).

Step 2 From your software license claim certificate, locate the product authorization key (PAK).

You will need the PAK in [Step 5](#).

Step 3 Go to the [Software Download](#) site.

Step 4 From the Software Download site, go to the [Product License Registration](#) site.

Step 5 From the Product License Registration website, follow the instructions for registering your VSM license.

The license key file is sent to you in an e-mail. The license key authorizes use on only the host ID device. You must obtain separate license key file(s) for each of your VSMs.



Caution The license key file is invalidated if you modify it.

Step 6 Save your license to a TFTP server.

Step 7 Copy your license to bootflash on the VSM.

```
n1000v@ copy scp://user@linux-box.cisco.com/home/user/nlkv_license.lic bootflash:
Enter vrf (If no input, current vrf 'default' is considered):
user@linux-box.cisco.com's password:
nlkv_license.lic                               100% 252      0.3KB/s   00:00

n1000v@
```

Installing the License File on the VSM

You can use this procedure to install the license file(s) on a VSM. Installing multiple licenses is called stacking.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- Default licenses are invalidated when a permanent license file is installed. Make sure that the license file you are installing contains the number of licenses needed to cover all VEMs. For more information, see the [“Default Licenses” section on page 3](#).
- This procedure installs the license file using the name, license_file.lic. You can specify a different name if needed.
- If you are installing multiple licenses for the same VSM, also called license stacking, make sure that each license key filename is unique.

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- Repeat this procedure for each additional license file you are installing, or stacking, on the VSM.
- You are logged in to the CLI in EXEC mode.
- You must have a role with privileges equivalent to that of the network-admin role to install a license. For information about user accounts and roles, see the *Cisco Nexus 1000V Security Configuration Guide, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

1. **install license bootflash:** *filename*
2. **show license file** *filename*
3. **show license usage** *package_name*
4. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	install license bootflash: <i>filename</i> Example: n1000v# install license bootflash:license_file.lic Installing license ..done n1000v#	Installs the license from the active VSM console. Note If you specify a license filename, the file is installed with the specified name. Otherwise, the default filename is used. The license is installed on the VSM and each VEM automatically acquires a license for every CPU socket.
Step 2	show license file <i>filename</i> Example: n1000v# show license file license_file.lic	Verifies the license installation by displaying the license configured for the VSM.
Step 3	show license usage <i>package_name</i> Example: n1000v#show license usage NEXUS1000V_LAN_SERVICES_PKG	Verifies the license installation by displaying it in the license usage table. Note If you already have VEMs installed, the output of this command shows installed VEMs and sockets.
Step 4	copy running-config startup-config Example: n1000v(config)# copy running-config startup-config	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

Example Configuration

This example shows how to install a license file and then display its contents and usage:

```
n1000v# install license bootflash:license_file.lic
Installing license ..done
n1000v# show license file license_file.lic
SERVER this_host ANY
VENDOR cisco
INCREMENT NEXUS1000V_LAN_SERVICES_PKG cisco 1.0 permanent 10 \
          HOSTID=VDH=1575337335122974806 \
```

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```

NOTICE="<LicFileID>license_file.lic</LicFileID><LicLineID>0</LicLineID> \
<PAK>PAK12345678</PAK>" SIGN=3AF5C2D26E1A
n1000v# show license usage NEXUS1000V_LAN_SERVICES_PKG
-----
Feature Usage Info
-----
    Installed Licenses : 10
    Default Eval Licenses : 0
    Max Overdraft Licenses : 16
    Installed Licenses in Use : 4
    Overdraft Licenses in Use : 0
    Default Eval Lic in Use : 0
    Default Eval days left : 0
    Licenses Available : 22
    Shortest Expiry : Never
-----
Application
-----
VEM 3 - Socket 1
VEM 4 - Socket 1
VEM 4 - Socket 2
VEM 5 - Socket 1
-----

```

Transferring Licenses

You can use the following procedures in this section to transfer licenses between VEMs and uninstall a license by transferring it from a VEM to the VSM license pool.

- [Transferring Licenses Between VEMs, page 2-6](#)
- [Transferring Licenses to the License Pool, page 2-8](#)
- [Transferring Licenses from the License Pool to VEMs, page 2-9](#)

Transferring Licenses Between VEMs

You can use this procedure to transfer licenses from one VEM to another, for example, after moving a VM from one host to another.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.
- You know the VEM that you want to transfer licenses from and the number of licenses it has.
- You know the VEM that you are transferring licenses to and the number of licenses required.
- You know the number of CPUs installed on the destination VEM.
- Licenses cannot be transferred to a VEM unless there are sufficient licenses in the pool to cover all of its CPUs.
- When licenses are successfully transferred from one VEM to another, then the virtual Ethernet interfaces on the source VEM are removed from service, and the virtual Ethernet interfaces on the destination VEM are brought into service. The licenses on the source VEM are checked in regardless of any failure that might occur while the destination module is being licensed.

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- For detailed information about the fields in the output of these commands, see the *Cisco Nexus 1000V Command Reference, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

- svs license transfer src-vem** *vem_no* **dst-vem** *vem_no*
- show license usage** *package_name*

DETAILED STEPS

	Command	Purpose
Step 1	svs license transfer src-vem <i>vem_no</i> dst-vem <i>vem_no</i> Example: n1000v# svs license transfer src-vem 3 dst-vem 5 n1000v(config)#	Transfers the licenses from one VEM to another.
Step 2	show license usage <i>package_name</i> Example: n1000v#show license usage	Verifies the transfer by displaying the licenses in use on each VEM.

EXAMPLES

This example shows how to transfer a license from VEM 3 to VEM 5 and verify the transfer in the license usage:

```
n1000v# svs license transfer src-vem 3 dst-vem 5
n1000v(config)#
n1000v# show license usage NEXUS1000V_LAN_SERVICES_PKG
-----
Feature Usage Info
-----
      Installed Licenses : 29
      Default Eval Licenses : 0
      Max Overdraft Licenses : 16
      Installed Licenses in Use : 2
      Overdraft Licenses in Use : 0
      Default Eval Lic in Use : 0
      Default Eval days left : 0
      Licenses Available : 43
      Shortest Expiry : 01 Jul 2011
-----
Application
-----
VEM 5 - Socket 1
VEM 5 - Socket 2
-----
```

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Transferring Licenses to the License Pool

You can use this procedure to transfer licenses from a VEM to the VSM license pool when, for example, removing a license from a VEM.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.
- When you transfer its licenses to the VSM license pool, all virtual Ethernet interfaces on the VEM are removed from service.
- For detailed information about the fields in the output of these commands, see the *Cisco Nexus 1000V Command Reference, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

1. **svs license transfer src-vem** *vem no license_pool*
2. **show license usage** *package_name*

DETAILED STEPS

	Command	Purpose
Step 1	svs license transfer src-vem <i>vem_no license_pool</i> Example: n1000v# svs license transfer src-vem 3 license_pool n1000v(config)#	Transfers the licenses from a VEM to the license pool.
Step 2	show license usage <i>package_name</i> Example: n1000v# show license usage	Verifies the transfer by displaying the licenses in use on each VEM.

EXAMPLES

The following example shows how to display the licenses in use on each VEM. Notice that the licenses on VEM 3 are no longer in use.

```
n1000v#show license usage NEXUS1000V_LAN_SERVICES_PKG
-----
Feature Usage Info
-----
    Installed Licenses : 10
    Default Eval Licenses : 0
    Max Overdraft Licenses : 16
    Installed Licenses in Use : 3
    Overdraft Licenses in Use : 0
    Default Eval Lic in Use : 0
    Default Eval days left : 0
    Licenses Available : 23
    Shortest Expiry : Never
-----
Application
```

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```
-----
VEM 4 - Socket 1
VEM 4 - Socket 2
VEM 5 - Socket 1
-----
```

Transferring Licenses from the License Pool to VEMs

You can use this procedure to transfer licenses from a license pool to a VEM. The VEM will be licensed only if there are enough available licenses.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.
- When you transfer licenses from the license pool to the VEM, if there are enough licenses available the module will be licensed and all the Virtual Ethernet Interfaces that were powered down will be powered up.
- For detailed information about the fields in the output of these commands, see the *Cisco Nexus 1000V Command Reference, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

1. **svs license transfer license_pool dst-vem module**
2. **show module vem module license-info**

DETAILED STEPS

	Command	Purpose
Step 1	svs license transfer license_pool dst-vem module Example: n1000v# svs license transfer license license_pool dst-vem 3 n1000v(config)#	Transfers a license from the license pool to the VEM. The value of <i>module</i> can be from 3 - 66.
Step 2	show module vem module license-info Example: n1000v# show module vem 3 license-info	Verifies the transfer by displaying the licenses in use on each VEM.

EXAMPLES

The following example shows how to display the licenses in use on each VEM.

```
n1000v#show module vem 3 license-info
Licenses are Sticky
Mod      Socket Count    License Usage Count    License Version    License Status
---      -
3        1                1                      1.0                licensed
```

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Uninstalling a License

You can use this procedure to uninstall a license that is not in use.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:



Caution

Service Disruption—When you uninstall a license file from a VSM, the vEthernet interfaces on the VEMs are removed from service and the traffic flowing to them from virtual machines is dropped. This traffic flow is not resumed until you add a new license file with licenses for the VEMs. We recommend that you notify the server administrator that you are uninstalling a license, and this action will cause the vEthernet interfaces to shut down.

- You are logged in to the CLI in EXEC mode.
- If a license is in use, you cannot delete it. This procedure includes instructions for transferring all licenses from the VEMs to the VSM license pool before uninstalling the license file.
- Only users with the network-admin role can uninstall licenses. For information on user accounts and roles, see the *Cisco Nexus 1000V Security Configuration Guide, Release 4.2(1)SV1(5.1)*.
- For detailed information about the fields in the output of these commands, see the *Cisco Nexus 1000V Command Reference, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

1. **copy running-config tftp://server/path/filename**
2. **show license brief**
3. **show license usage package_name**
4. **svs license transfer src-vem vem no license_pool**
5. Repeat 4. for each VEM.
6. **clear license license_name**
7. **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	<pre>copy running-config tftp://server/path/filename</pre> <p>Example: n1000v# copy running-config tftp: n1000v(config)#</p>	Copies the VSM running configuration to a remote server.
Step 2	<pre>show license brief</pre> <p>Example: n1000v# show license brief Enterprise.lic n1000v#</p>	Identifies the name of the license file to uninstall.

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	Command	Purpose
Step 3	<p>show license usage <i>package_name</i></p> <p>Example: n1000v# show license usage NEXUS1000V_LAN_SERVICES_PKG ----- Feature Usage Info ----- Installed Licenses : 29 Default Eval Licenses : 0 Max Overdraft Licenses : 16 Installed Licenses in Use : 2 Overdraft Licenses in Use : 0 Default Eval Lic in Use : 0 Default Eval days left : 0 Licenses Available : 43 Shortest Expiry : 01 Jul 2011 ----- Application ----- VEM 5 - Socket 1 VEM 5 - Socket 2 ----- n1000v#</p>	Displays the licenses in use on each VEM so that you can transfer them back to the VSM license pool before uninstalling the license file.
Step 4	<p>svs license transfer src-vem <i>vem_no</i> license_pool</p> <p>Example: n1000v# svs license transfer src-vem 3 license_pool n1000v#</p>	Transfers the licenses from the VEM back to the VSM license pool.
Step 5	Repeat Step 4 for each VEM until all licenses in use have been transferred back to the VSM license pool.	
Step 6	<p>clear license <i>license_name</i></p> <p>Example: n1000v# clear license Enterprise.lic Clearing license Enterprise.lic: SERVER this_host ANY VENDOR cisco Do you want to continue? (y/n) y Clearing license ..done</p>	Begins the uninstall of the named license file. In this example, the Enterprise.lic file is uninstalled.
Step 7	<p>copy running-config startup-config</p> <p>Example: n1000v(config)# copy running-config startup-config</p>	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

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EXAMPLES

This example shows how to uninstall a license that is no longer in use. In this example, the file to uninstall is the Enterprise.lic file.

```
n1000v# show license brief
Enterprise.lic
n1000v#
n1000v# show license usage NEXUS1000V_LAN_SERVICES_PKG
-----
Feature Usage Info
-----
      Installed Licenses : 29
      Default Eval Licenses : 0
      Max Overdraft Licenses : 16
      Installed Licenses in Use : 2
      Overdraft Licenses in Use : 0
      Default Eval Lic in Use : 0
      Default Eval days left : 0
      Licenses Available : 43
      Shortest Expiry : 01 Jul 2011
-----
Application
-----
VEM 5 - Socket 1
VEM 5 - Socket 2
-----
n1000v# svs license transfer src-vem 3 license_pool
n1000v# clear license Enterprise.lic
Clearing license Enterprise.lic:
SERVER this_host ANY
VENDOR cisco
Do you want to continue? (y/n) y
Clearing license ..done
n1000v(config)# copy running-config startup-config
```

Configuring Volatile Licenses

This section provides information about enabling and disabling the volatile license feature and includes the following sections:

- [Enabling Volatile Licenses, page 2-12](#)
- [Disabling Volatile Licenses, page 2-13](#)

Enabling Volatile Licenses

You can use this procedure to enable volatile licenses so that whenever a VEM is taken out of service its licenses are returned to the VSM pool of available licenses.



Note

Service Disruption—Volatile licenses are removed from a VEM during a loss in connectivity and the system will try to get the required licenses when connectivity resumes. We recommend that the volatile licenses remain disabled and that you transfer unused licenses using the [“Transferring Licenses to the License Pool”](#) section on page 8.

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BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.
- A volatile license is disabled by default. That is, by default, licenses are not returned to the VSM pool when a VEM is removed from service.

SUMMARY STEPS

1. `config t`
2. `svs license volatile`
3. `copy running-config startup-config`

DETAILED STEPS

	Command	Purpose
Step 1	<code>config t</code> Example: n1000v# <code>config t</code> n1000v(config)#	Places you into global configuration mode.
Step 2	<code>svs license volatile</code> Example: n1000v(config)# <code>svs license volatile</code> n1000v(config)#	Enables volatile licenses in the running configuration.
Step 3	<code>copy running-config startup-config</code> Example: n1000v(config)# <code>copy running-config startup-config</code>	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

Disabling Volatile Licenses

You can use this procedure to disable volatile licenses so that when a VEM is taken out of service, its licenses are not returned to the VSM pool of available licenses.



Note

By default, the licenses are non-volatile (sticky) in nature. This is the recommended configuration. This will ensure that the licenses are reserved for a VEM. Even after a period of brief connectivity loss between the VEM and the VSM, the VEM is guaranteed to get the needed licenses.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- You are logged in to the CLI in EXEC mode.

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- A volatile license is disabled by default. That is, by default, licenses are not returned to the VSM pool when a VEM is removed from service.
- For detailed information about the fields in the output of these commands, see the *Cisco Nexus 1000V Command Reference, Release 4.2(1)SV1(5.1)*.

SUMMARY STEPS

1. `config t`
2. `no svcs license volatile`
3. `copy running-config startup-config`

DETAILED STEPS

	Command	Purpose
Step 1	<code>config t</code> Example: n1000v# <code>config t</code> n1000v(config)#	Places you into CLI Global Configuration mode.
Step 2	<code>no svcs license volatile</code> Example: n1000v(config)# <code>no svcs license volatile</code> n1000v(config)#	Disables volatile licenses in the running configuration.
Step 3	<code>copy running-config startup-config</code> Example: n1000v(config)# <code>copy running-config startup-config</code>	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

Verifying the License Configuration

Use the following commands to verify the license configuration.

Command	Purpose
<code>show license</code>	Displays the license filename for the VSM.
<code>show license brief</code>	Displays the license installed on the VSM.
<code>show license file <i>filename</i></code>	Displays the contents of the license file installed on the VSM, including the license filename and the expiration date for evaluation licenses. Example 2-1 on page 2-15 Example 2-2 on page 2-15

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Command	Purpose
<code>show license usage</code>	Displays the total number of licenses in use on the VEMs. Example 2-3 on page 2-15
<code>show license usage package_name</code>	Displays statistics about the number of evaluation and permanent licenses available, installed, and in use on the VSM. Example 2-4 on page 2-16
<code>show module vem [module] license-info</code>	Displays the license mode and the usage of licenses by each module. Example 2-5 on page 2-16 Example 2-6 on page 2-16

Example 2-1 Evaluation License

```
n1000v# show license file eval.lic
SERVER this_host ANY
VENDOR cisco
INCREMENT NEXUS1000V_LAN_SERVICES_PKG cisco 1.0 1-dec-2010 16 \
  HOSTID=VDH=0871396331270074457 \
  NOTICE="<LicFileID>eval.lic</LicFileID><LicLineID>0</LicLineID> \
  <PAK>dummyPak</PAK>" SIGN=E08A38544DBE
```

Example 2-2 Permanent license

```
n1000v# show license file Enterprise.lic
SERVER this_host ANY
VENDOR cisco
INCREMENT NEXUS1000V_LAN_SERVICES_PKG cisco 1.0 permanent 16 \
  HOSTID=VDH=0871396331270074457 \
  NOTICE="<LicFileID>Enterprise.lic</LicFileID><LicLineID>0</LicLineID> \
  <PAK>dummyPak</PAK>" SIGN=E08A38544DBE
```

Example 2-3 show license usage

```
n1000v# show license usage
Feature                               Ins Lic   Status   Expiry Date   Comments
                                   Count
-----
NEXUS_VSN_SERVICES_PKG                No    0   Unused   -              -
NEXUS1000V_LAN_SERVICES_PKG           No    1   In use   None          -
-----
n1000v#
```

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Example 2-4 show license usage NEXUS1000V_LAN_SERVICES_PKG

```
n1000v# show license usage NEXUS1000V_LAN_SERVICES_PKG
-----
Feature Usage Info
-----
    Installed Licenses : 29
    Default Eval Licenses : 0
    Max Overdraft Licenses : 16
    Installed Licenses in Use : 2
    Overdraft Licenses in Use : 0
    Default Eval Lic in Use : 0
    Default Eval days left : 0
    Licenses Available : 43
    Shortest Expiry : 01 Jul 2011
-----
Application
-----
VEM 5 - Socket 1
VEM 5 - Socket 2
-----
n1000v#
```

Example 2-5 show module vem license-info

```
n1000v# show module vem license-info

Licenses are Sticky
Mod  Socket Count License Usage Count License Version License Status
---  -
3    2          2          1.0          licensed
4    2          2          1.0          licensed
```

Example 2-6 show module vem 3 license-info

```
n1000v# show module vem 3 license-info

Licenses are Sticky
Mod  Socket Count License Usage Count License Version License Status
---  -
3    2          2          1.0          licensed
```

Changing the Serial Number in a License

You can use this procedure to change the serial number, or host ID, associated with a license. This process is also called rehosting and is required if you replace a VSM in your network with a new VSM.

This section includes the following topics:

- [Flow Chart: Changing the Serial Number in a License, page 2-17](#)
- [Obtaining a License File for Rehosting, page 2-18](#)

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BEFORE YOU BEGIN

Before beginning the procedures in this section, you must know or do the following:



Caution

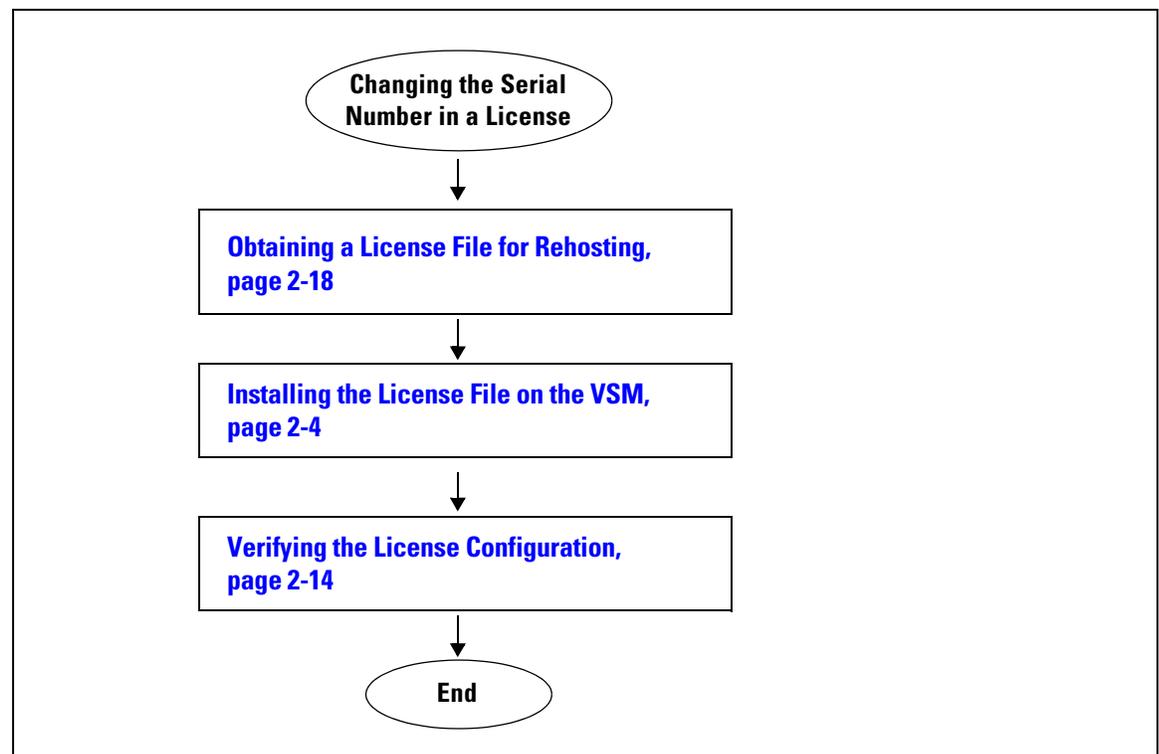
Service Disruption—When you remove a VSM from your network, the vEthernet interfaces on the VEMs are removed from service and the traffic flowing to them from virtual machines is dropped. This traffic flow is not resumed until you add a new VSM and new license file with the new host ID.

- You have a copy of your existing license file(s) with the host ID of the existing VSM.
- A license file is tied to each VSM by the host ID, or the serial number, associated with the VSM device.
- A license file contains the number of licenses ordered for your VSM. One license is required for each CPU on each VEM.
- A VSM can have more than one license file depending on the number of installed VEM CPUs.
- If you have multiple license files stacked on your VSM, repeat this process for each license file.

Flow Chart: Changing the Serial Number in a License

Use the flow chart in [Figure 2](#) to guide you through the process required to change the serial number, or host ID, in an existing license. After completing a procedure, return to the flow chart to make sure you complete all procedures in the correct sequence.

Figure 2 *Flow Chart: Changing the Serial Number in a License*



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Obtaining a License File for Rehosting

You can use this procedure to obtain a license file for a new VSM host, if the old VSM host is lost or destroyed.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

- A license file is tied to each VSM by the host ID, or the VSM serial number.
- You are logged in to the CLI in EXEC mode.
- You must copy a license file. Your username must have the network-admin role that allows you to copy files. For information about user accounts and roles, see the *Cisco Nexus 1000V Security Configuration Guide, Release 4.2(1)SVI(5.1)*.

PROCEDURE

Step 1 Obtain the serial number, also called the host ID, for your new VSM:

```
n1000v# show license host-id
License hostid: VDH=1280389551234985805
```



Note The host ID number appears after the equal sign (=). In this example, the host ID is 1280389551234985805. You will need the host ID in [Step 5](#).

Step 2 E-mail the following information to licensing@cisco.com, requesting the license file be rehosted to the new host ID:

- The new host ID
- A copy of the existing license file from the old VSM

A new license key file, with the host ID of the new VSM, is sent to you in e-mail within 48 hours.



Note Do not modify the license key file. The license key file is invalidated if you modify it.

Step 3 Save your license to a TFTP server.

Step 4 Copy your license to bootflash on the VSM.

```
n1000v@ copy scp://user@linux-box.cisco.com/home/user/n1kv_license.lic bootflash:
Enter vrf (If no input, current vrf 'default' is considered):
user@linux-box.cisco.com's password:
n1kv_license.lic                               100% 252      0.3KB/s   00:00
n1000v@
```

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Feature History for Licenses

This section provides the release history for the license feature.

Feature Name	Releases	Feature Information
Evaluation license	4.0(4)SV1(3)	16 evaluation licenses that are good for 60 days are included in the software image. More evaluation licenses of varied durations can be downloaded from Cisco.com and installed separately.
Evaluation license	4.0(4)SV1(2)	Evaluation licenses are part of the software installation or upgrade. A separate evaluation license file no longer needs to be installed.
show license usage <i>package_name</i> command	4.0(4)SV1(2)	The show license usage <i>filename</i> command output is updated to show statistics about the number of evaluation and permanent licenses available, installed, and in use on the VSM.
License	4.0(4)SV1(1)	This feature was introduced.

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