



Managing Licenses

This chapter includes the following sections:

- [Licenses, page 1](#)
- [Obtaining the Host ID for a Fabric Interconnect, page 2](#)
- [Obtaining a License, page 3](#)
- [Downloading Licenses to the Fabric Interconnect from the Local File System, page 4](#)
- [Downloading Licenses to the Fabric Interconnect from a Remote Location, page 5](#)
- [Installing a License, page 6](#)
- [Viewing the Licenses Installed on a Fabric Interconnect, page 7](#)
- [Determining the Grace Period Available for a Port or Feature, page 9](#)
- [Determining the Expiry Date of a License, page 10](#)
- [Uninstalling a License, page 10](#)

Licenses

Each Cisco UCS fabric interconnect comes with several port licenses that are factory installed and shipped with the hardware. Fabric interconnects can be purchased fully licensed or partially licensed. Additional licenses can also be purchased after delivery.

At a minimum, each fabric interconnect ships with the following counted licenses pre-installed:

- Cisco UCS 6120XP fabric interconnect—pre-installed licenses for the first eight Ethernet ports enabled in Cisco UCS Manager and any Fibre Channel ports on expansion modules
- Cisco UCS 6140XP fabric interconnect—pre-installed licenses for the first sixteen Ethernet ports enabled in Cisco UCS Manager and any Fibre Channel ports on expansion modules
- Cisco UCS 6248 fabric interconnect—pre-installed licenses for the first twelve unified ports enabled in Cisco UCS Manager. Expansion modules come with eight licenses that can be used on the expansion module or the base module.

- Cisco UCS 6296 fabric interconnect—pre-installed licenses for the first eighteen unified ports enabled in Cisco UCS Manager. Expansion modules come with eight licenses that can be used on the expansion module or the base module.

**Note**

The eight default licenses that come with a 6200 series fabric interconnect expansion module can be used to enable ports on the base module, but will travel with the expansion module if it is removed. Upon removal of an expansion module, any default expansion module licenses being used by the base module are removed from the ports on the base module, resulting in unlicensed ports.

Port licenses are not bound to physical ports. When you disable a licensed port, that license is then retained for use with the next enabled port. If you want to use additional fixed ports, you must purchase and install licenses for those ports.

**Important**

Licenses are not portable across product generations. Licenses purchased for 6100 series fabric interconnects cannot be used to enable ports on 6200 series fabric interconnects or vice-versa.

Grace Period

If you attempt to use a port that does not have an installed license, Cisco UCS initiates a 120 day grace period. The grace period is measured from the first use of the port without a license and is paused when a valid license file is installed. The amount of time used in the grace period is retained by the system.

**Note**

Each physical port has its own grace period. Initiating the grace period on a single port does not initiate the grace period for all ports.

If a licensed port is unconfigured, that license is transferred to a port functioning within a grace period. If multiple ports are acting within grace periods, the license is moved to the port whose grace period is closest to expiring.

High Availability Configurations

To avoid inconsistencies during failover, we recommend that both fabric interconnects in the cluster have the same number of ports licensed. If symmetry is not maintained and failover occurs, Cisco UCS enables the missing licenses and initiates the grace period for each port being used on the failover node.

Obtaining the Host ID for a Fabric Interconnect

The host ID is also known as the serial number.

Procedure

- Step 1** In the **Navigation** pane, click the **Equipment** tab.
 - Step 2** On the **Equipment** tab, expand **Equipment > Fabric Interconnects**.
 - Step 3** Click the node for the fabric interconnect for which you want to obtain the host ID.
 - Step 4** In the **Work** pane, click the **General** tab.
 - Step 5** In the **Properties** area, the host ID is listed in the **Serial Number (SN)** field.
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What to Do Next

Obtain the required licenses from Cisco.

Obtaining a License



Note

This process may change after the release of this document. If one or more of these steps no longer applies, contact your Cisco representative for information on how to obtain a license file.

Before You Begin

Obtain the following:

- Host ID or serial number for the fabric interconnect
- Claim certificate or other proof of purchase document for the fabric interconnect or expansion module

Procedure

- Step 1** Obtain the product authorization key (PAK) from the claim certificate or other proof of purchase document.
 - Step 2** Locate the website URL in the claim certificate or proof of purchase document.
 - Step 3** Access the website URL for the fabric interconnect and enter the serial number and the PAK. Cisco sends you the license file by email. The license file is digitally signed to authorize use on only the requested fabric interconnect. The requested features are also enabled once Cisco UCS Manager accesses the license file.
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What to Do Next

Install the license on the fabric interconnect.

Downloading Licenses to the Fabric Interconnect from the Local File System



Note In a cluster setup, we recommend that you download and install licenses to both fabric interconnects in matching pairs. An individual license is only downloaded to the fabric interconnect that is used to initiate the download.

Before You Begin

Obtain the required licenses from Cisco.

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** On the **Admin** tab, expand **All > License Management**.
- Step 3** Click the node for the fabric interconnect to which you want to download the license.
- Step 4** In the **Work** pane, click the **Download Tasks** tab.
- Step 5** Click **Download License**.
- Step 6** In the **Download License** dialog box, click the **Local File System** radio button in the **Location of the Image File** field.
- Step 7** In the **Filename** field, type the full path and name of the license file.
If you do not know the exact path to the folder where the license file is located, click **Browse** and navigate to the file.
- Step 8** Click **OK**.
Cisco UCS Manager GUI begins downloading the license to the fabric interconnect.
- Step 9** (Optional) Monitor the status of the download on the **Download Tasks** tab.
Note If Cisco UCS Manager reports that the bootflash is out of space, delete obsolete bundles on the **Packages** tab to free up space. To view the available space in bootflash, navigate to the fabric interconnect on the **Equipment** tab and expand the **Local Storage Information** area on the **General** tab.
- Step 10** Repeat this task until all the required licenses have been downloaded to the fabric interconnect.

What to Do Next

After all of the download tasks have completed, install the licenses.

Downloading Licenses to the Fabric Interconnect from a Remote Location



Note

In a cluster setup, we recommend that you download and install licenses to both fabric interconnects in matching pairs. An individual license is only downloaded to the fabric interconnect that is used to initiate the download.

Before You Begin

Obtain the required licenses from Cisco.

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** On the **Admin** tab, expand **All > License Management**.
- Step 3** Click the node for the fabric interconnect to which you want to download the license.
- Step 4** In the **Work** pane, click the **Download Tasks** tab.
- Step 5** Click **Download License**.
- Step 6** In the **Download License** dialog box, click the **Remote File System** radio button in the **Location of the Image File** field.
- Step 7** Complete the following fields:

Name	Description
<p>Protocol field</p>	<p>The protocol to use when communicating with the remote server. This can be one of the following:</p> <ul style="list-style-type: none"> • FTP • TFTP • SCP • SFTP
<p>Server field</p>	<p>The IP address or hostname of the remote server on which the files resides.</p> <p>Note If you use a hostname rather than an IPv4 or IPv6 address, you must configure a DNS server. If the Cisco UCS domain is not registered with Cisco UCS Central or DNS management is set to local, configure a DNS server in Cisco UCS Manager. If the Cisco UCS domain is registered with Cisco UCS Central and DNS management is set to global, configure a DNS server in Cisco UCS Central.</p>
<p>Filename field</p>	<p>The name of the license file you want to download.</p>

Name	Description
Path field	The absolute path to the license file on the remote server, if required. If you use SCP, the absolute path is always required. If you use any other protocol, you may not need to specify a remote path if the file resides in the default download folder. For details about how your file server is configured, contact your system administrator.
User field	The username the system should use to log in to the remote server. This field does not apply if the protocol is TFTP.
Password field	The password for the remote server username. This field does not apply if the protocol is TFTP.

Step 8 Click **OK**.
Cisco UCS Manager GUI begins downloading the license to the fabric interconnect.

Step 9 (Optional) Monitor the status of the download on the **Download Tasks** tab.

Note If Cisco UCS Manager reports that the bootflash is out of space, delete obsolete bundles on the **Packages** tab to free up space. To view the available space in bootflash, navigate to the fabric interconnect on the **Equipment** tab and expand the **Local Storage Information** area on the **General** tab.

Step 10 Repeat this task until all the required licenses have been downloaded to the fabric interconnect.

What to Do Next

After all of the download tasks have completed, install the licenses.

Installing a License

Before You Begin

Obtain the required licenses from Cisco.

Procedure

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- Step 1** In the **Navigation** pane, click the **Admin** tab.
 - Step 2** On the **Admin** tab, expand **All > License Management**.
 - Step 3** In the **Work** pane, click the **Downloaded License Files** tab.
 - Step 4** Choose the license you want to install from the table.
 - Step 5** Click the **Install License** button.
 - Step 6** In the **Install License** dialog box, click **Yes**.
Cisco UCS Manager GUI installs the license and activates the unlicensed port or feature.
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Viewing the Licenses Installed on a Fabric Interconnect

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** On the **Admin** tab, expand **All > License Management**.
- Step 3** In the **Work** pane, click the **Installed Licenses** tab to view the following details of all licenses installed on the fabric interconnect:

Name	Description
License File ID column	The unique identifier for the license.
Operational State column	The operational state of the license.
Operational State Description column	Details about the operational state.
Scope column	The fabric on which this license is installed.
Version column	The version of the license.

Name	Description
Administrative State column	<p>The administrative state of the license. This can be one of the following:</p> <ul style="list-style-type: none"> • Delete Failed—Cisco UCS could not delete the license. If this is the first time the delete failed, resubmit the delete request. If it fails a second time, contact Cisco TAC. • Delete Pending—The user has requested that Cisco UCS delete the license file from this fabric interconnect. • Deleted—Cisco UCS has finished deleting the license file, but it has not yet been removed from the database. • Deleting—Cisco UCS is currently deleting the license. • Install Failed—Cisco UCS could not install the license. If this is the first time the installation failed, reinstall the license. If it fails a second time, contact Cisco TAC. • Install Pending—The license has been downloaded but is not yet installed. • Installed—The license file is installed on the fabric interconnect. • Installing—Cisco UCS is currently installing the license. • Stale—The license file applies to an older fabric interconnect and cannot be used on the current fabric interconnect. The license file should be deleted and, if necessary, replaced with a current license. • Unknown—The state cannot be determined. • Validated—Cisco UCS has verified that this is a valid Cisco license file.

Step 4 Click a license in the table to view the following details of that license in the **Contents** tab below:
You may need to expand the license file to view the details of individual licenses in the file.

Name	Description
Name column	A navigation tree that allows you to view a particular component and its subcomponents. You can right-click a component to view any actions available for that component.
Total Qty column	The total number of licenses available in the license package file.
Type column	The license type.
Expiry column	The date that the licenses expire.
Quantity column	The quantity of licenses of the given type in the license package file.

Name	Description
PAK column	The Product Authentication Key (PAK) associated with this license, if available.
Signature column	The signature key associated with the licenses of the given type.
Vendor column	The company that issued the license package file.
Version column	The version of the license package file.

Determining the Grace Period Available for a Port or Feature

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** On the **Admin** tab, expand **All > License Management**.
- Step 3** In the **Work** pane, click the **General** tab.
- Step 4** Click a feature in the table to view the following details, including the used grace period, of that feature in the **General** tab below:

Name	Description
Name field	The name of the feature to which the license applies.
Scope field	The fabric associated with the license.
Absolute Quantity field	The total number of licenses available. This value is the sum of the number of default licenses plus the number of purchased licenses.
Used Quantity field	The number of licenses currently being used by the system. If this value exceeds the total number of licenses available, then some ports will stop functioning after their associated grace period expires.
Default Quantity field	The default number of licenses provided for this Cisco UCS domain.
Operational State field	The operational state of the license.
Grace Period Used field	The amount of time (in seconds) used in the grace period. After the grace period ends, Cisco UCS sends alert messages until a new license is purchased.

Name	Description
Peer License Count Comparison field	<p>The number of licenses on the peer fabric interconnect compared to this fabric interconnect. This can be one of the following:</p> <ul style="list-style-type: none"> • exceeds—the peer fabric interconnect has more licenses installed than this fabric interconnect • lacks—the peer fabric interconnect has fewer licenses installed than this fabric interconnect • matching—the same number of licenses are installed on both fabric interconnects

Determining the Expiry Date of a License

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
- Step 2** On the **Admin** tab, expand **All > License Management**.
- Step 3** In the **Work** pane, click the **Installed Licenses** tab.
- Step 4** Click a license in the table to view the details of that license in the **Contents** tab below.
- Step 5** In the **Contents** tab, expand the license file to view all licenses in the file.
- Step 6** In the **Expiry** column, view the expiry date of the license.

Uninstalling a License



Note

Permanent licenses cannot be uninstalled if they are in use. You can only uninstall a permanent license that is not in use. If you try to delete a permanent license that is being used, Cisco UCS Manager rejects the request with an error message.

Before You Begin

Back up the Cisco UCS Manager configuration.

Procedure

- Step 1** In the **Navigation** pane, click the **Admin** tab.
 - Step 2** On the **Admin** tab, expand **All > License Management**.
 - Step 3** In the **Work** pane, click the **Installed Licenses** tab.
 - Step 4** Choose the license you want to uninstall from the table.
 - Step 5** Click the **Clear License** button.
 - Step 6** If the Cisco UCS Manager GUI displays a confirmation dialog box, click **Yes**.
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Cisco UCS Manager deactivates the license, removes the license from the list of licenses, and deletes the license from the fabric interconnect. The port is moved into unlicensed mode. In a cluster setup, you must uninstall the license from the other fabric interconnect.

