



Managing Licenses

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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.

C-Direct Rack Licensing Support

Each Cisco UCS fabric interconnect is shipped with a default number of port licenses that are factory licensed and that are shipped with the hardware. C-direct support is only applicable on ports that are connected to the rack servers. The C-direct feature implementation requires new license files to be installed to add the additional ports that currently use 10 Gig licenses but are enforced on ports that are only connected to the rack servers.

As part of C-Direct rack licensing support, a new license, `ETH_PORT_C_ACTIVATION_PKG` is added to the existing license package and has all the same properties as the existing licensing feature. A new property, **Subordinate Quantity** is added to the license that keeps a track of the rack servers using the `ETH_PORT_ACTIVATION_PKG` licenses.

The new license and the **Subordinate Quantity** for the license are displayed under the License Tab in Cisco UCSM GUI. In the CLI, use **show feature** and **show usage** under **scope license** to view the license feature, the vendor version type, and the grace period for each license.

You can connect the rack servers to the existing ETH_PORT_ACTIVATION_PKG if it is available or not in use. Or else an additional ETH_PORT_C_ACTIVATION_PKG needs to be purchased to avoid the feature being in grace period.

Configuration and Restrictions

- The C-Direct rack licensing feature accounts for the rack server ports that are directly connected to the FI but not to a CIMC port. The default quantity for ETH_PORT_C_ACTIVATION_PKG is always 0. The subordinate port quantity in the ETH_PORT_ACTIVATION_PKG keeps a track of the C-Direct rack units that are connected.
- If a port is enabled as a server administrator without any connection, it is considered to consume a full license and it increments the used quantity under the ETH_PORT_ACTIVATION_PKG. If a rack server is connected on the same port after a time lag, the used quantity under the ETH_PORT_ACTIVATION_PKG decreases and the used count for the rack server is incremented.
- When you enable a port, a rack is connected, and the ETH_PORT_C_ACTIVATION_PKG license files are installed, the used count is increased if the licenses are available in ETH_PORT_C_ACTIVATION_PKG. If the ports are not available in ETH_PORT_C_ACTIVATION_PKG, the system checks if the ports are available in ETH_PORT_ACTIVATION_PKG. If they are, the used count for the Ethernet port is increased. Or else the used count for C-direct is increased and the entire feature goes to a grace period.
- When you enable a port, a rack is connected, and the ETH_PORT_C_ACTIVATION_PKG license files are not installed, the subordinate used count is increased if the licenses are available in ETH_PORT_ACTIVATION_PKG. If the ports are not available in ETH_PORT_ACTIVATION_PKG, the used quantity under ETH_PORT_ACTIVATION_PKG feature is increased and the entire feature goes to a grace period.

Obtaining the Host ID for a Fabric Interconnect

The host ID is also known as the serial number.

Procedure

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- 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.
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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** Specify the protocol, and enter the required information.
- 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.
- 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.
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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

- 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.

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 details of all licenses installed on the fabric interconnect.
 - Step 4** Click a license in the table to view the details of that license in the **Contents** tab.
You may need to expand the license file to view the details of individual licenses in the file.
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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 details for that feature, including the operational state and used grace period.
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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.
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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.