

Legacy Host Licensing with vCenter Server 5.0

VMware ESX™ 3.5, VMware ESXi™ 3.5, and VMware vCenter Server™ 5.0

When you use vCenter Server 5.0 to manage ESX 3.5/ESXi 3.5 hosts, you have several mutually exclusive choices for license server configuration:

- Use a single license server for vCenter Server 5.0 and the ESX 3.5/ESXi 3.5 hosts.
- Use one license server for vCenter Server 5.0, and use another license server for the ESX 3.5/ESXi 3.5 hosts.
- Use a license server for vCenter Server 5.0, and use host-based licensing for the ESX 3.5/ESXi 3.5 hosts.
- Do not use a license server. Upgrade all of your hosts to ESXi 5.0. This allows you to manage all of your host licenses by using the vCenter Server 5.0 license management and reporting tools.

Consider the following scenarios:

- Suppose you have an ESXi 3.5 host that is currently not managed by vCenter Server because it has a Standalone ESXi host license. You want to manage this host in vCenter Server 5.0. To do this, you must decide whether to use centralized or host-based licensing and then upgrade the ESXi host license to Standard or Enterprise. You must use the license portal to get the centralized or host-based license file. You might need to download and install a license server because vCenter Server 5.0 requires a license server to manage ESX 3.5/ESXi 3.5 hosts. Finally, you must load the host license file onto the license server. If you decide to use host-based licensing, you must load the host license file onto the host as well.
- Suppose you have an ESX 3.5 host with a host-based license file. You want to manage this host in vCenter Server 5.0. If you do not have a license server installed, you must download and install the VMware license server, use the portal to get a centralized version of the license file, and upload the license file to the license server.

NOTE If you performed an in-place upgrade to vCenter Server, the vCenter Server system will likely already be pointing to a license server. In this case, you do not need to install a new license server.

vCenter Server License Server Requirements

To manage ESX 3.5/ESXi 3.5 hosts, vCenter Server 5.0 must have a connection to a license server. The license server can be third-party, or it can be the VMware License Server. The purpose of the license server is to allow vCenter Server to check out VC Agent licenses, which allow you to add ESX 3.5/ESXi 3.5 hosts to vCenter Server. The license server also manages host features, such as VMware vMotion and VMware High Availability.

The license server requirement does not apply when vCenter Server 5.0 is running in evaluation mode or when vCenter Server is managing only ESX 4.x/ESXi 4.x or ESXi 5.0 hosts. When you upgrade your hosts to ESX 4.0/ESXi 4.0 or later, you no longer need a license server.

VMware recommends that your license server resides on the vCenter Server 5.0 host. You can download the VMware License Server at the VMware Web site.

Connect vCenter Server 5.0 to a License Server

vCenter Server requires a license server connection when it is managing ESX 3.5/ESXi 3.5 hosts.

Before you begin this procedure, make sure that vCenter Server is licensed by choosing **Home > Licensing**. If vCenter Server is in evaluation mode or is unlicensed, click **Manage VI4 Licenses** and assign a license key to vCenter Server.

To connect vCenter Server to a license server

- 1 From the vSphere Client, select **Administration > vCenter Server Settings**.
- 2 Click **Licensing** in the list on the left.
- 3 Select a vCenter Server instance from the **Current vCenter Server** menu.
- 4 Under **License Server**, enter the fully qualified domain name or the IP address of the license server and, optionally, a port.

For example, your entry might look like this:

```
27000@license.vmware.com
```

If you do not specify a port, the default port, 27000 is used.

If you do not use the fully qualified domain name or the IP address of the license server, legacy hosts cannot resolve the license server host name.

- 5 (Optional) Select **Reconfigure ESX 3 hosts using license servers to use this server** if you want each ESX 3.5/ESXi 3.5 host that you add to the inventory to use the same license server as this vCenter Server system.

If you select this option, vCenter Server alters the host settings when you add the host to the vCenter Server inventory or when you change the license server configuration in vCenter Server. If you leave this option unselected, you can either configure another license server for the hosts or configure the hosts to use host-based license files.

- 6 Click **OK**.

Select **Home > Licensing** to view the total number of licenses used and available on the license server.

For information about setting up a license server and configuring host-based licensing, see the VMware Infrastructure 3 documentation.

Connect ESX 3.5/ESXi 3.5 Hosts to a Separate License Server

Follow this procedure if you want your ESX 3.5/ESXi 3.5 hosts to connect to a different license server than the one that vCenter Server 5.0 is connected to.

To configure a license server for an ESX/ESXi host

- 1 Use the VI Client 2.5 to connect to the ESX/ESXi host.
- 2 From the VI Client 2.5, select the host in the inventory.
- 3 Click the **Configuration** tab.
- 4 Under **Software**, click **Licensed Features**.
- 5 Configure the license server connection:
 - a Click **Edit** to the right of **License Sources**.
 - b Click **Use License Server**.
This is the default configuration.
 - c Enter the port number and license server machine name in the **Address** field, as in port@host.
For example, your entry might look like this:
`27000@license-1.vmware.com`
 - d Click **OK**.
- 6 Set the ESX edition:
 - a Click **Edit** to the right of **ESX License Type**.
 - b Specify the edition for the host, or select **Unlicensed** to release this host's licenses back to the license server. The **ESX License Type** dialog box displays only those editions that are available to your ESX host.
 - c Click **OK**.
- 7 Configure add-on licenses:
 - a Click **Edit** to the right of **Add-Ons**.
 - b Select the add-on products to use and click **OK**.

The **Home > Licensing** screen summarizes the total number of licenses used and available on the license server.

For information about setting up a license server and configuring host-based licensing, see the VMware Infrastructure 3 documentation.

Host-Based License Files for Legacy ESX Hosts

If your ESX 3.5/ESXi 3.5 hosts have host-based license files, you can continue to use the license files. However, host-based license files are not a substitute for the license server that is required by vCenter Server 5.0 when vCenter Server is managing legacy hosts.

Monitor License Information

License monitoring enables you to ensure that your vSphere deployment remains in compliance. To monitor ESX 3.5/ESXi 3.5 licenses in vCenter Server 5.0, select **Home > Licensing**. For large deployments, displaying ESX 3.5/ESXi 3.5 host information might take more time because the license server must be polled.

About License Management

vCenter Server 5.0 has a Manage vSphere Licenses wizard that allows you to add, assign, unassign, and remove license keys from the centralized license inventory. This wizard does not support ESX 3.5/ESXi 3.5 or VirtualCenter 2.x licenses. Instead, you must perform these tasks in your license server.

Troubleshooting License Management for ESX 3.5/ESXi 3.5 Hosts

If vCenter Server is managing ESX 3.5/ESXi 3.5 hosts, vCenter Server must check out vCenter Server Agent licenses from the license server. If vCenter Server is having trouble communicating with your license server, do the following:

- Check that the license server Windows service is running.
- Check that the license server is listening.
- Check the license server status.

Check that the License Server Windows Service Is Running

License management fails if the license server Windows service is not running.

To check that the license server Windows service is running

- 1 On the machine on which the license server is installed, select **Start > Control Panel > Administrative Tools > Services** to display the Services control panel.
- 2 Verify that the Status column for the VMware License Server entry reads **Started**.
- 3 If the VMware License Server is not started, right-click the service and select **Start**.

Check That the License Server Is Listening

This procedure allows you to verify that the license server is installed and is started.

To check that the license server is listening

- 1 On the machine on which the license server is installed, select **Start > Command Prompt**.
- 2 Type **netstat -ab** at the command line.
- 3 Verify that the `lmgrd.exe` process is listening on port 27000 and that the `VMWARELM.exe` process is listening on port 27010.

If not, the license server might not be installed or might not be started.

Protocol	Local Address	Foreign Address	State	Process
TCP	LAPTOP27:8085	LAPTOP27:0	LISTENING	lvpxd.exe
TCP	LAPTOP27:8086	LAPTOP27:0	LISTENING	Tomcat5.exe
TCP	LAPTOP27:8087	LAPTOP27:0	LISTENING	lvpxd.exe
TCP	LAPTOP27:27000	LAPTOP27:0	LISTENING	lmgrd.exe
TCP	LAPTOP27:27010	LAPTOP27:0	LISTENING	VMWARELM.exe
TCP	LAPTOP27:32219	LAPTOP27:0	LISTENING	UStorSrv.exe
TCP	LAPTOP27:netbios-ssn	LAPTOP27:0	LISTENING	System
TCP	LAPTOP27:1036	LAPTOP27:0	LISTENING	alg.exe

Check the License Server Status

To troubleshoot licenses that are not applied, you might need to launch the VMware License Server Tools and perform a server status enquiry.

To check the license server status

- 1 On the machine on which the license server is installed, select **Start > Programs > VMware > VMware License Server > VMware License Server Tools** to launch the LMTOOLS utility.
- 2 Click the **Server Status** tab to display the Server Status page.
- 3 Click **Perform Status Inquiry**.

License server information, including the location of the license file, appears at the bottom of the page.

Check the License File

If your license server is operating properly or if your legacy hosts are using single-host licensing but you cannot use licensed features, you might have a problem with your license file. Check the following:

- Validate your license file at <http://www.vmware.com/checklicense>.
- Ensure that you are using the correct type of license file. If you are using a license server, use a centralized file. If you are using single-host licensing, make sure that you are using a single-host license file on each host.

Centralized files contain a block of header text at the top, and the string `VENDOR_STRING=licenseType=Server` appears in each license key in the file. Single-host license files have no header text, and the string `VENDOR_STRING=licenseType=Host` appears in each license key in the file.

- If you are using a centralized license file, check that the license type header information appears only once and at the top of the file.
- If you edited the license file, check that you did not mix centralized and single-host keys in a single file.
- Check that the license file contains the correct keys for the features that you want to use. [Table 1-1](#) lists the available license keys.

Table 1-1. License Keys

Feature Name	License File Key	License Type Available
ESX Foundation edition	PROD_ESX_STARTER	Centralized or single-host
ESX Standard edition ESX Enterprise edition	PROD_ESX_FULL	Centralized or single-host
Consolidated Backup	ESX_FULL_BACKUP	Centralized or single-host
vCenter Server Agent	VC_ESXHOST	Centralized
VMware Server VMotion VMware Storage VMotion	VC_VMOTION	Centralized
VMware DRS VMware DPM	VC_DRS	Centralized
VMware HA	VC_DAS	Centralized

Check License Configuration for ESX 3.5/ESX 3.5 Hosts

If your license server is working correctly, and your license file is correct, check that you correctly configured centralized or single-host licensing, as appropriate to your environment. For configuration instructions, see the *Installation Guide* or the *Setup Guide* for VMware Infrastructure 3.

If you have comments about this documentation, submit your feedback to: docfeedback@vmware.com

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