# Using VMware vSphere With Your System

## Using VMware vSphere

The virtual machines for your system are deployed with VMware vSphere. Cisco WebEx Meetings Server must be installed on VMware virtual machines, subject to the following constraints

- Use VMware vSphere 5.0, 5.0 Update 1, or 5.1.

  Earlier releases of vSphere are not supported.

- Use VMware ESXi 5.0, 5.0 Update 1, or 5.1.

  Use of earlier ESXi releases results in confusing error messages about "unsupported hardware" that do not explicitly list the problem.

- Ensure that the DNS server configured with the ESXi host can resolve the hostnames of the virtual machines that are deployed on that ESXi host.

- You must use VMware vCenter to manage the ESXi hosts on which the Cisco WebEx Meetings Server system is deployed.

**Note** For complete details on supported VMware configurations, see the *Cisco WebEx Meetings Server System Requirements*.

# Configuring the ESXi Host to Use an NTP Server

The system uses the ESXi host to set the time. Configure the ESXi host to use Network Time Protocol (NTP) for clock synchronization.

**Note**  This is a high-level procedure. For detailed instructions, see your VMware ESXi documentation.

**Important**  Be sure to set up NTP configuration from the ESXi host.

### Procedure

**Step 1**  Using your vSphere client, select the ESXi host in the inventory panel.

**Step 2**  Select the **Configuration** tab and select **Time Configuration** in the Software section.

**Step 3**  Select **Properties** at the top right of the panel.

**Step 4**  Select **NTP Client Enabled**.

**Step 5**  Select **Options** to configure the NTP server settings.
Cisco recommends you select **Start and stop with host** to lessen the possibility of the ESXi host time becoming incorrect.

# Creating a Backup Using VMware vCenter

Before doing any system-altering procedure, Cisco recommends that you take a backup of each of the virtual machines. You may do so by using VMware Data Recovery (called VMware vSphere Data Protection starting with vSphere Release 5.1),or taking a virtual machine snapshot. (VMware Data Recovery/vSphere Data Protection is included with VMware vSphere, except in the vSphere Essentials Kit.)

**Note**  Virtual machine snapshots are a "picture" of your system at a specific point in time, and are not the same as backups.

**Caution**  If you take snapshots, they are stored on the physical drives containing your virtual machines. If you do not delete these snapshots in a timely manner, your end users may begin to experience degraded audio and video due to a known issue that affects virtual machine performance. Therefore, for performance reasons, be sure to keep your virtual machine backups in a storage location that is different from the physical drives that contain your virtual machines.

For more information on snapshots and this known performance issue, see .

**Procedure**

**Step 1** Place the system in maintenance mode. For complete details, see About Maintenance Mode
Be sure there are no active meetings and that you have selected a time where there will be minimal impact to your users.

**Step 2** Follow the instructions in your VMware vSphere documentation and use VMware Data Recovery (called VMware vSphere Data Protection starting with vSphere Release 5.1) to create a backup of your system and each of your virtual machines.
For complete details on this backup, see the *VMware Data Recovery Administration Guide* or the *vSphere Data Protection Administration Guide*.

**Note** Cisco recommends you delete backups after your system-altering procedure is complete, you have tested the system, and you are satisfied with the results.

# Taking a Snapshot Using VMware vCenter

Before doing most system-altering procedures, Cisco recommends that you take a backup of each of the virtual machines. You may do so by using VMware Data Recovery (VMware vSphere Data Protection starting with vSphere Release 5.1),or taking a virtual machine snapshot. (VMware Data Recovery/vSphere Data Protection is included with VMware vSphere, except in the vSphere Essentials Kit.)

For performance reasons, be sure to keep your virtual machine backups in a storage location that is different from the physical drives that contain your virtual machines.

**Note** Before doing a system-altering procedure, be sure to read the preparation section for the specific procedure. Cisco lists specific considerations for each procedure.

**Note** Virtual machine snapshots are a "picture" of your system at a specific point in time, and are not the same as backups.

**Remember** If your system comprises multiple virtual machines, select **Power** > **Shut Down Guest** and take a snapshot of each virtual machine in your system. Label the snapshot for each virtual machine with the same prefix, for example, "August 20", so you know these snapshots were done at the same time.

**Caution** Snapshots are stored on the physical drives containing your virtual machines. If you do not delete these snapshots in a timely manner, your end users may begin to experience degraded audio and video due to a known VMware issue that affects virtual machine performance.

For more information on this known issue with VMware snapshots, go to the VMware web site and read the white paper, *Best Practices for Running VMware vSphere on Network Attached Storage*. You may also search the VMware KnowledgeBase for "snapshot impact performance" for additional information.

**Note**

Cisco recommends you keep snapshots no longer than approximately 24 hours. If you want to keep them longer, then create a backup instead. For more information on VMware Data Recovery (VMware vSphere Data Protection starting with vSphere Release 5.1), see Creating a Backup Using VMware vCenter, on page 2.

**Procedure**

**Step 1**    Place the system in maintenance mode. For complete details, see About Maintenance Mode.
Be sure there are no active meetings and that you have selected a time where there will be minimal impact to your users.

**Step 2**    On VMware vCenter, select **Power** > **Shut Down Guest** for each of the virtual machines.

**Step 3**    Select **Snapshot** > **Take Snapshot** for each virtual machine.

**Step 4**    Enter a name for the snapshot and select **OK**.

**What to Do Next**

- Complete the procedure and test your system to confirm that it is successful.

- If you need to revert to a snapshot, be sure the snapshot for each virtual machine was taken at the same time. Powering on a system with mismatched snapshots may result in possible database corruption.

# Attaching an Existing VMDK File to a New Virtual Machine

This section describes how to attach VMDK files from an existing Admin virtual machine to a new Admin virtual machine, using VMware vCenter.

Although there are multiple reasons for moving a virtual disk VMDK file, this section focuses only on the procedure, for moving data from one Admin virtual machine to another Admin virtual machine. You will use this procedure when you expand or upgrade your system. (We reuse the system data stored on Hard disk 4 of the Admin virtual machine.)

**Caution**

Make a copy of the Hard disk 4 VMDK file and copy it directly into the virtual machine folder of the Admin virtual machine in the upgraded or expanded system. If you simply attach Hard disk 4, then the data is still stored in the virtual machine folder of the old Admin virtual machine. If you accidentally delete the existing Admin virtual machine in the vCenter inventory, then your current system will lose access to Hard disk 4.

**Note**    If you are using Direct-attached storage (DAS), then you must migrate the virtual machine VMDK file to a LUN where the new Admin virtual machine can access it.

**Note**    We refer to the Admin virtual machine before the system-altering procedure as the "existing" Admin virtual machine. The Admin virtual machine, following expansion or upgrade, is named the "new" Admin virtual machine.

**Procedure**

**Step 1**    Navigate the inventory in VMware vCenter and find the existing Admin virtual machine for your system.

**Step 2**    Right-click the virtual machine name and select **Edit Settings...**.
The **Virtual Machine Properties** window is displayed.

**Step 3**    Select the **Hardware** tab, then select **Hard disk 4**.

**Step 4**    For future reference, copy and paste, into another document, the **Disk File** location.
This specifies the location of that VMDK file in VMware vCenter.

The string is similar to `[EMC-LUN10-RAID5] webex-sysA-admin/webex-sysA-admin_3-000001.vmdk`. If you have previously upgraded your system, the filename does not follow the naming convention of the existing virtual machine.

**Step 5**    Note and write down the storage location for Hard disk 4 and the virtual machine folder name.
The folder name string is similar to `[EMC-LUN8-RAID5] webex-sysB-admin`.

**Step 6**    Close the **Edit Settings...** window without making any changes.

**Step 7**    Change the vCenter view into the Datastore and Datastore Cluster view. Select **View** > **Inventory** > **Datastores and Datastore Clusters**.

**Step 8**    Select the storage location where your existing Admin virtual machine is located (from Step 5) and select **Browse this datastore**.

**Step 9**    Select the storage location where your newly deployed (for the expanded or upgraded system) Admin virtual machine is located and select **Browse this datastore**.

**Step 10**    Arrange the two datastore browser windows (for the existing and new Admin virtual machine) side by side so that you can see both Admin virtual machine folders.

**Step 11**    Open both virtual machine folders and copy the VMDK file from the existing Admin virtual machine folder to the new Admin virtual machine folder.

     a) In the existing Admin virtual machine folder, locate the VMDK file that is associated with Hard disk 4. Refer to the file location you wrote down in Step 4 to confirm accuracy.

     b) Right-click on the file and select **Copy**.

     c) Right-click inside the new Admin virtual machine folder and select **Paste**.
When the paste operation is completed, close both datastore windows.

     d) Return the vCenter view to a list of hosts and clusters by selecting **View** > **Inventory** > **Hosts and Clusters**.

**Step 12**    Navigate the inventory in VMware vCenter and find the new (expanded or upgraded) Admin virtual machine for your system.

**Step 13**    Right-click the newly deployed virtual machine name and select **Edit Settings...**.

The **Virtual Machine Properties** window is displayed.

**Step 14** Select the **Hardware** tab, then select **Hard disk 4**.

**Step 15** Select **Remove**.
This action does not remove the virtual disk immediately. Instead, the existing virtual disk is scheduled for removal.

**Step 16** Select **Add**.
The **Add Hardware** wizard is displayed.

**Step 17** Select **Hard Disk**, then **Next**.

**Step 18** Select **Use an existing virtual disk**, then **Next**.

**Step 19** Select **Browse**, and navigate to the datastore where the new expanded or upgraded Admin virtual machine is located. Navigate to the new Admin virtual machine folder. Double-click this folder, then select the virtual disk you copied over in Step 11. Select **OK**.

**Step 20** In the **Virtual Device Node** drop-down list, select **SCSI (0:3)**, then select **Next**.

**Step 21** Review your changes, and if it is correct, select **Finish**. Otherwise, select **Back** and fix any errors.
Once the wizard is complete, you will see a new disk marked for addition in the Hardware tab.

**Step 22** Commit both the Add and Remove operations by selecting **OK**.

**Step 23** View this virtual machine reconfiguration task in the VMware vCenter **Recent Tasks** pane to ensure there are no errors.