

This document describes the procedures for installing and upgrading W-ClearPass Policy Manager 6.4 on a Virtual Machine. It includes the following sections:

- “Process Overview” (page 1)
- “Recommended VMware ESX/ESXi Server Specifications” (page 1)
- “Installing W-ClearPass Policy Manager on a Virtual Machine” (page 3)
- “Upgrading W-ClearPass Policy Manager on a Virtual Machine” (page 11)

Process Overview

The process of installing CPPM on a virtual machine is done in four stages:

1. W-ClearPass 6.4 VMware software packages are distributed as zip files. Download the software image from the Support site (<http://download.dell-pcw.com>) and unzip it to a folder on your server to extract the files.
2. Follow the steps in the OVF wizard to deploy the OVF files, but do not power on yet.
3. Add a new hard disk, based on the requirements for your type of VM. See [Recommended VMware ESX/ESXi Server Specifications](#) on page 1 for more information.
4. Power on and configure the VM.

Instructions for these procedures are provided in [Installing W-ClearPass Policy Manager on a Virtual Machine](#) on page 3.



Review the release notes for the current release before you upgrade W-ClearPass Policy Manager.

Recommended VMware ESX/ESXi Server Specifications

The following are recommended requirements for the W-ClearPass Policy Manager 6.4 Virtual Appliance to properly operate in 64-bit VMware ESX or ESXi Server installations. These recommendations supersede earlier requirements that were published for W-ClearPass Policy Manager 6.x installations.

Be sure that your system meets the recommended specifications required for the Policy Manager Virtual Appliance. The W-ClearPass VMware ships with a 20GB hard disk volume. This must be supplemented with additional storage/hard disk through VMware settings by adding a new hard disk. The additional space required depends on the W-ClearPass virtual appliance version.



If you do not add a new hard disk to the VM before it is powered on, it will continue to restart with kernel panics.

Supported ESX/ESXi Versions

- 4.0 (This is the recommended minimum version of software for the CP-VA-500 and CP-VA-5K. This does not support greater than eight virtual CPUs, which is required for the CP-VA-25K.)
- 5.0
- 5.1
- 5.5



If you do not have the VA resources to support a full workload, then you should consider ordering the Policy Manager hardware appliance.



Important: Please review the functional IOP rating specified below for your VA version and verify that your system meets this requirement.



VMware Player is not supported.

CP-SW-EVAL (Evaluation Version)

- 2 Virtual CPUs
- 80 GB disk space
- 4 GB RAM
- 2 Gigabit virtual switched ports

An evaluation version can be upgraded to a later evaluation version in a manner similar to a production upgrade.

After upgrading to 6.4, an evaluation version can be morphed to a production VM by using the `morph-vm` command. For more information, see the **Command Line Interface > System Commands** section in the *W-ClearPass Policy Manager User Guide*.

CP-VA-500

- 2 Virtual CPUs
- 500 GB disk space
- 4 GB RAM
- 2 Gigabit virtual switched ports
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 75

CP-VA-5K

- 8 Virtual CPUs
- 500 GB disk space
- 8 GB RAM
- 2 Gigabit virtual switched ports
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 105

CP-VA-25K

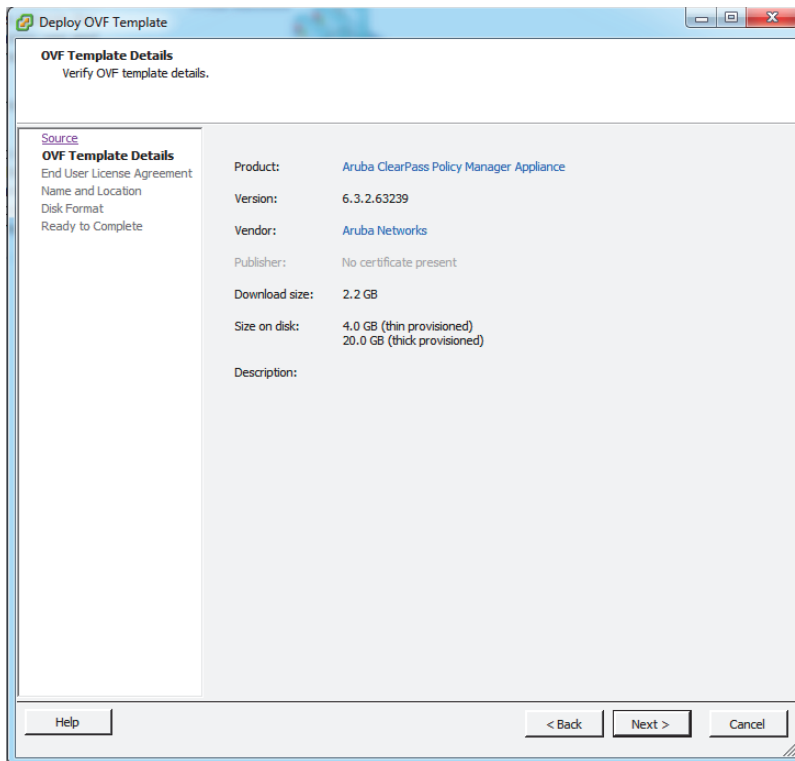
- 24 Virtual CPUs
- 1024 GB disk space
- 64 GB RAM
- 2 Gigabit virtual switched ports
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 350

Installing W-ClearPass Policy Manager on a Virtual Machine

After you download and unzip the W-ClearPass 6.4 VMware software package Zip files, follow the instructions in this section to deploy the W-ClearPass files, add a new hard disk, and power on and configure the VM.

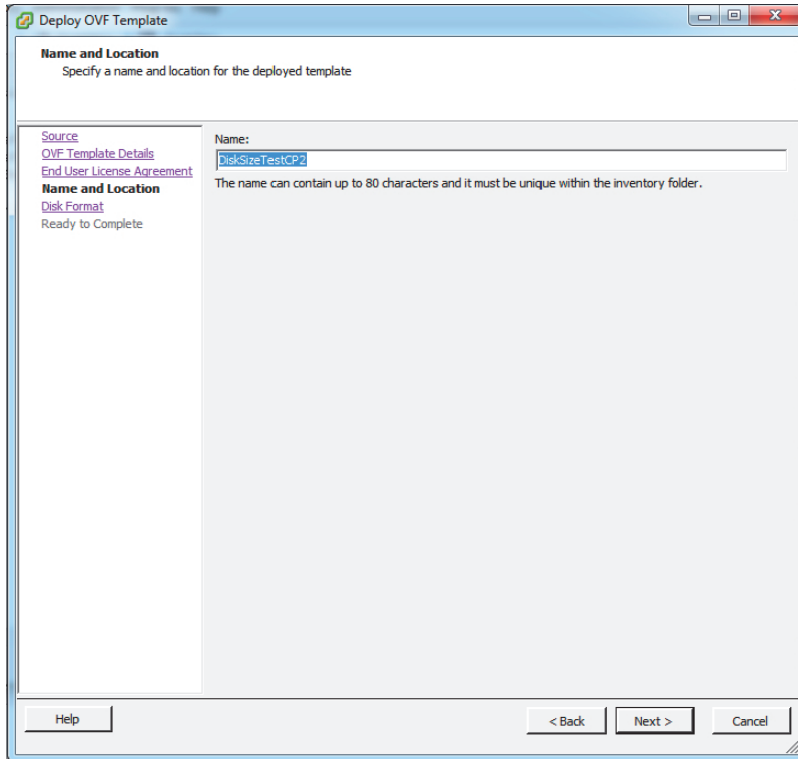
Deploy W-ClearPass Policy Manager Image on a VMware ESX/ESXi Server

1. Start the VMware vSphere console and connect to your ESX/ESXi server.
2. Select **File > Deploy OVF template**.
3. Select the .ovf file from the folder where the W-ClearPass Policy Manager zip file was extracted. The Deploy OVF wizard opens with the OVF Template Details page displayed. (OVF, or Open Virtualization Format, is a standard for distributing virtual appliances or software to virtual machines)

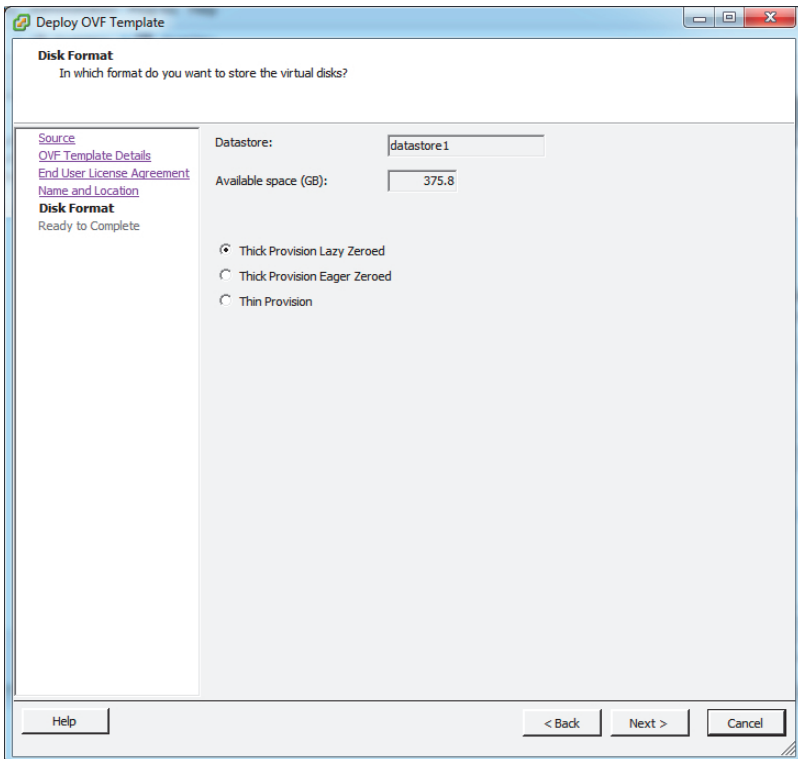


4. Click **Next**.
5. On the **End User License Agreement** page, click **Accept**, and then click **Next**.

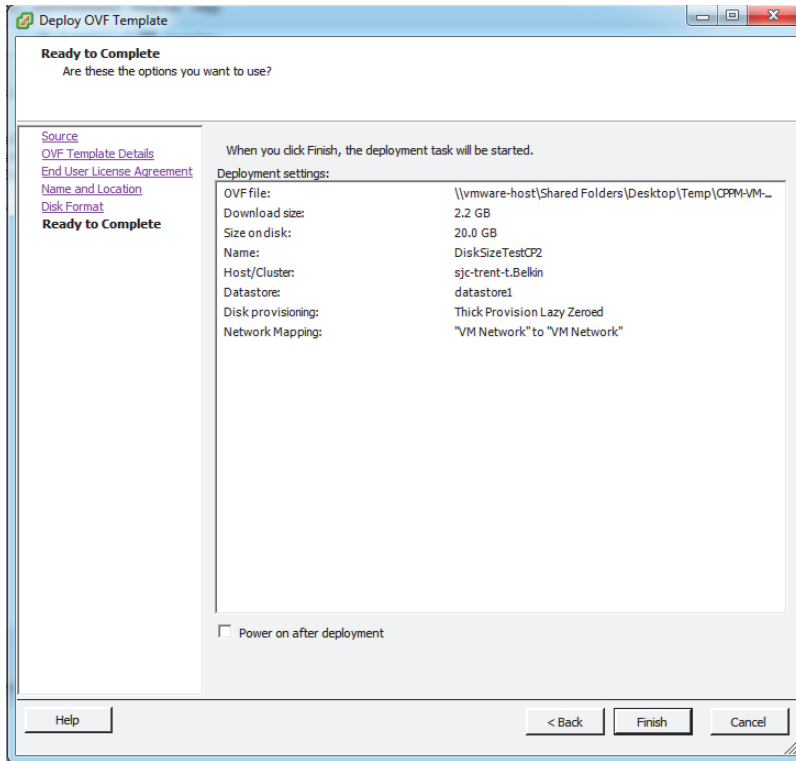
- On the **Name and Location** page, the **Name** is set by default to Aruba ClearPass Policy Manager Appliance. You can change it as you wish, and then click **Next**.



- On the **Disk Format** page, leave the default option of **Thick Provision Lazy Zeroed**, and then click **Next**.



8. On the **Ready to Complete** page, do not select the Power on after deployment check box. Just click **Finish**.



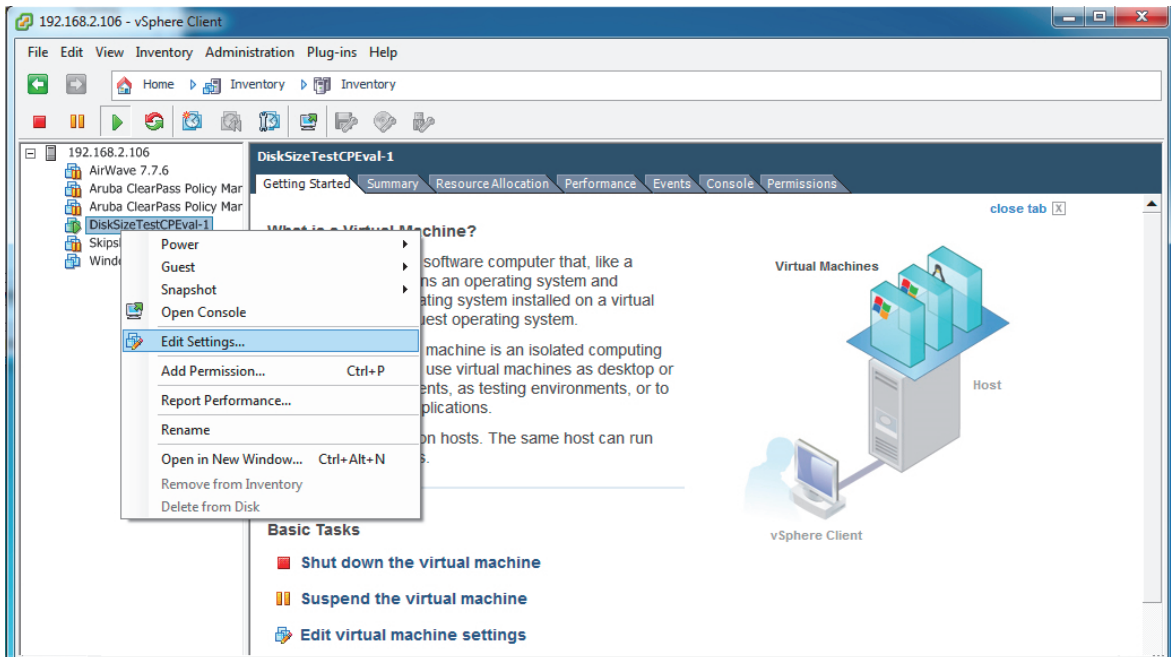
You will need to reconfigure the VM settings by adding a hard disk before you power on.

Add a Hard Disk to the Virtual Machine

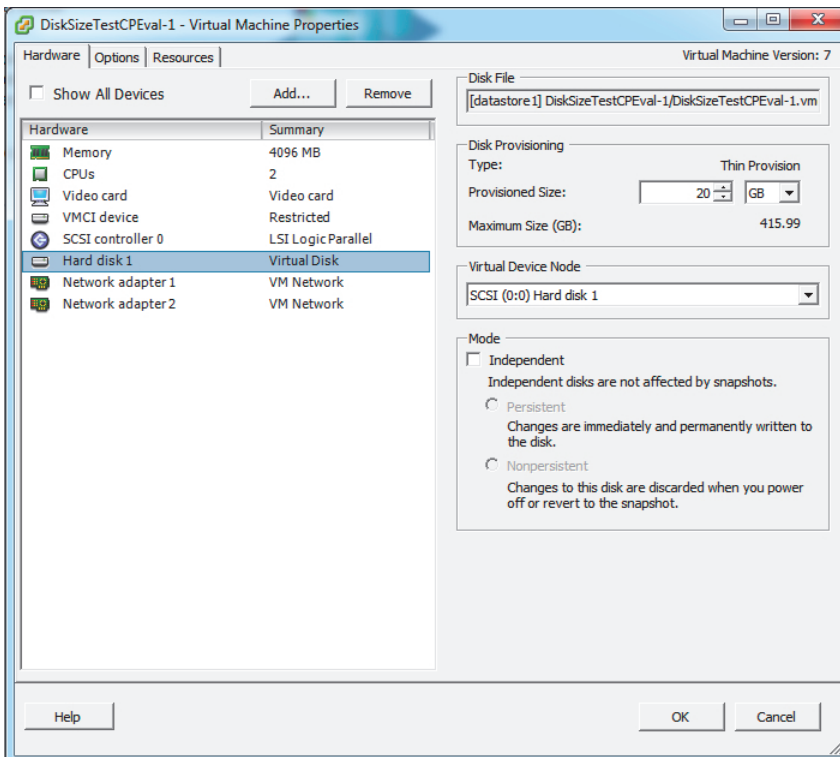


For disk size requirements for the different W-ClearPass models, see ["Recommended VMware ESX/ESXi Server Specifications"](#) (page 1).

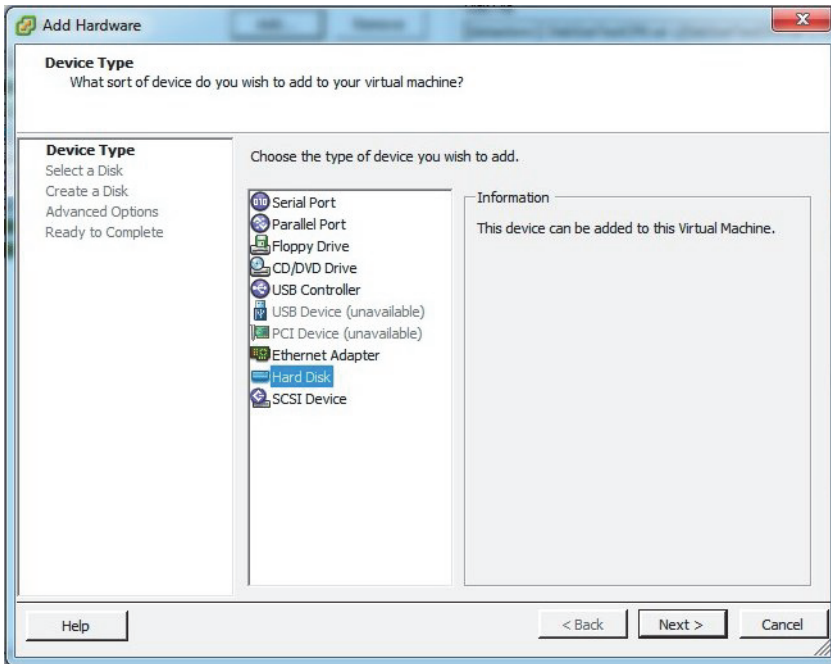
1. On the vSphere console, navigate to the deployed virtual machine, right-click on it, and select **Edit Settings**.



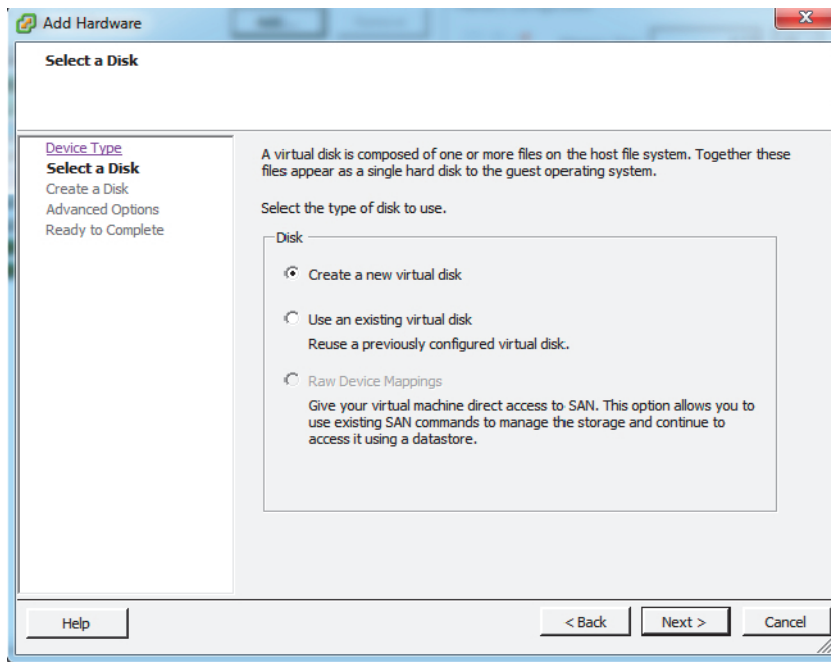
2. Click **Add** to add another hard disk.



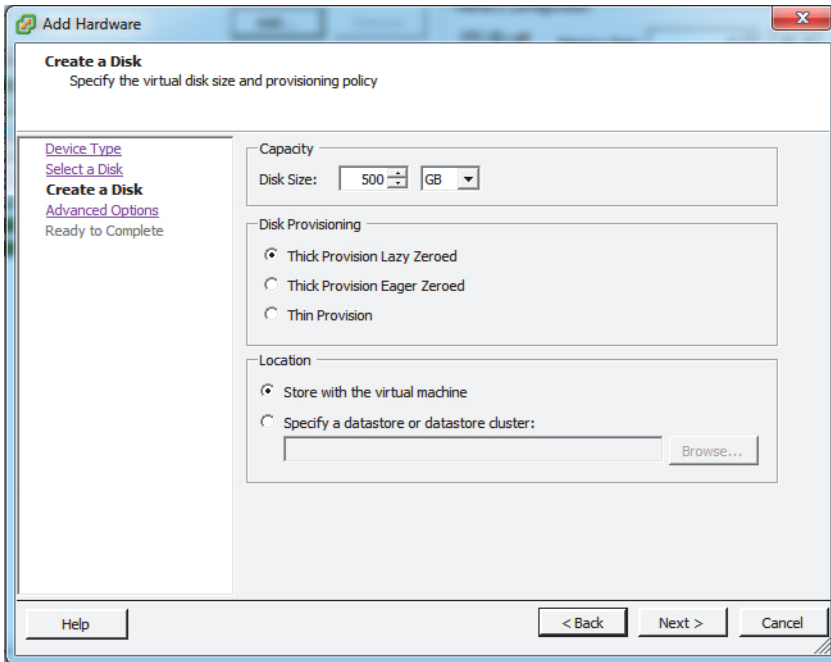
3. On the **Device Type** page of the Add Hardware wizard, select **Hard Disk**, and then click **Next**.



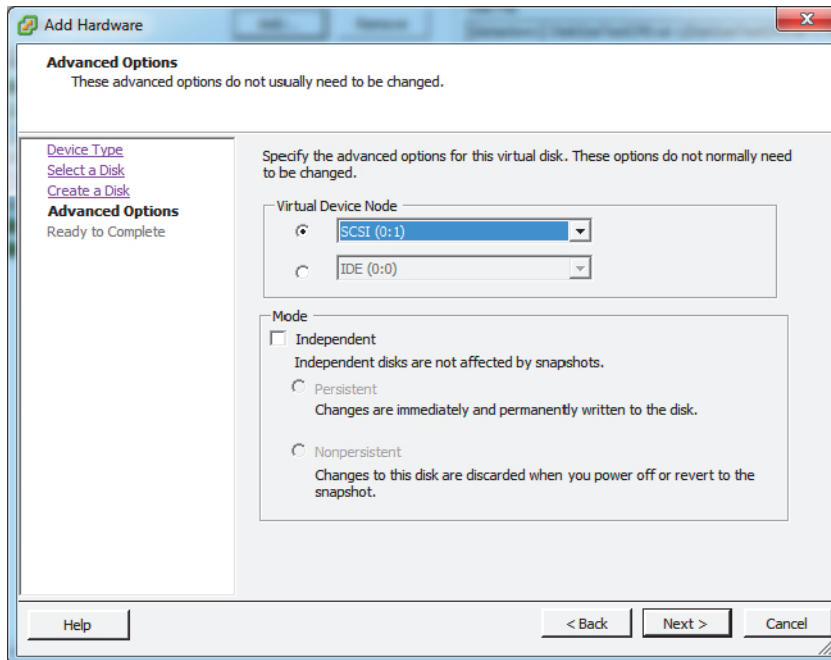
4. On the **Select a Disk** page, select **Create a new virtual disk**, and then click **Next**.



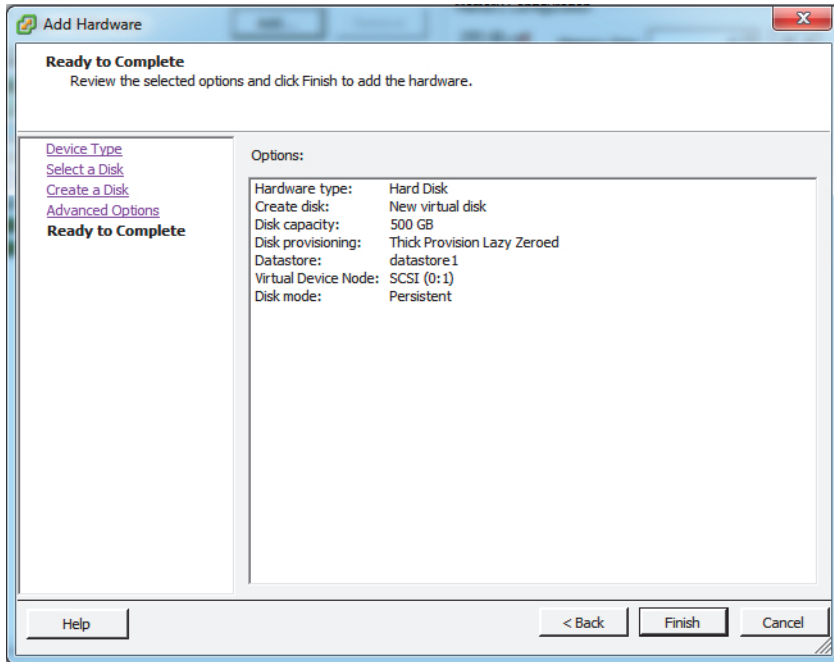
5. On the **Create a Disk** page, set the **Disk Size** to the correct requirements for your virtual appliance version. See “Recommended VMware ESX/ESXi Server Specifications” (page 1).



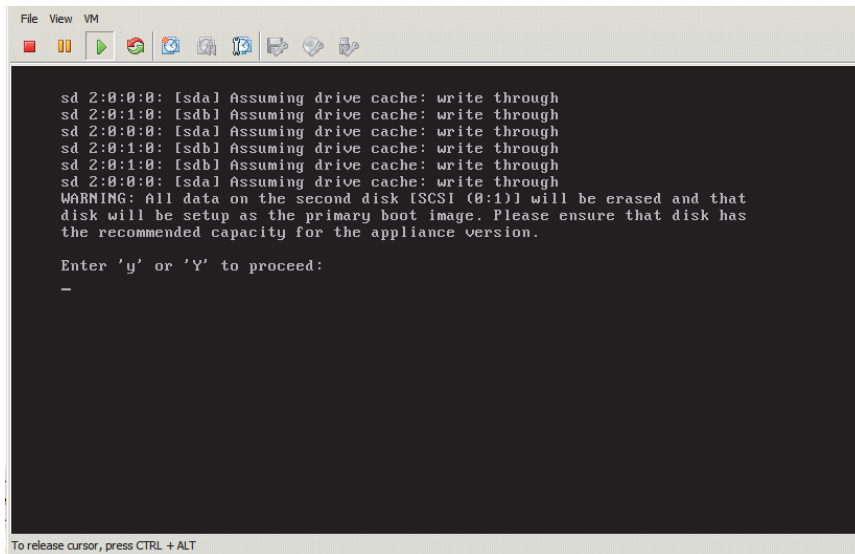
6. Leave the default settings on the **Advanced Options** page (the Virtual Device Node should be SCSI(0:1)), and then click **Next**.



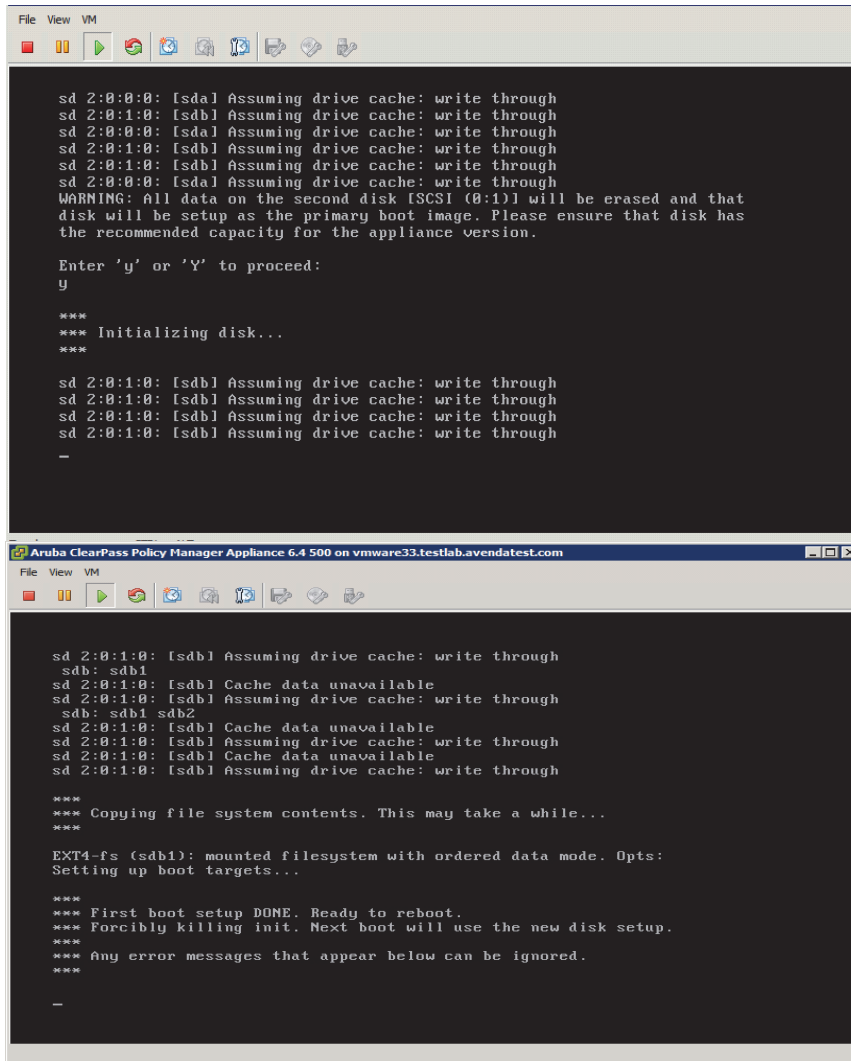
7. The **Ready to Complete** page displays the disk details for verification. If the disk size matches the requirements described in [Recommended VMware ESX/ESXi Server Specifications](#) and the disk provisioning setting is **Thick Provision Lazy Zeroed**, Click **Finish**.



8. Power on the virtual machine. You should see the following in the console:



9. Press **y**. You should see the following in the console:



```
sd 2:0:0:0: [sda] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:0:0: [sda] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:0:0: [sda] Assuming drive cache: write through
WARNING: All data on the second disk [SCSI (0:1)] will be erased and that
disk will be setup as the primary boot image. Please ensure that disk has
the recommended capacity for the appliance version.

Enter 'y' or 'Y' to proceed:
y

***
*** Initializing disk...
***

sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
-

Aruba ClearPass Policy Manager Appliance 6.4 500 on vmware33.testlab.avendatest.com
File View VM

sd 2:0:1:0: [sdb] Assuming drive cache: write through
sdb: sdb1
sd 2:0:1:0: [sdb] Cache data unavailable
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sdb: sdb1 sdb2
sd 2:0:1:0: [sdb] Cache data unavailable
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Cache data unavailable
sd 2:0:1:0: [sdb] Assuming drive cache: write through

***
*** Copying file system contents. This may take a while...
***

EXT4-fs (sdb1): mounted filesystem with ordered data mode. Opts:
Setting up boot targets...

***
*** First boot setup DONE. Ready to reboot.
*** Forcibly killing init. Next boot will use the new disk setup.
***
*** Any error messages that appear below can be ignored.
***
-
```

After that reboot, W-ClearPass VMs will power on and boot up in the next couple of minutes. The whole process from the Deploying the OVF image to the final startup screen should take between 30 and 40 minutes.

After the W-ClearPass VM launches correctly, you should see the following banner on the VM console.

```
*****
Aruba Networks PolicyManager 6.4.0.66263
Management IP Address : <not configured>
*****

*****
*
* Policy Manager is running with factory default configuration. Refer to *
* Quick Start Guide for configuration instructions.
*
*****

Policy Manager software version : 6.4.0.66263
Policy Manager model number    : CP-SW-EVAL
Management IP Address          : <not configured>

localhost login: _
```

10. When you see the banner on the virtual machine console, you can log in by following the instructions in the *W-ClearPass Policy Manager Quick Start Guide*.

Upgrading W-ClearPass Policy Manager on a Virtual Machine

An evaluation version can be upgraded to a later evaluation version in a manner similar to a production upgrade. After upgrading to 6.4, an evaluation version can be morphed to a production VM by using the `morph-vm` command. For more information, see the **Command Line Interface > System Commands** section in the *W-ClearPass Policy Manager User Guide*.

For detailed upgrade instructions, refer to the **Upgrade and Update Information** chapter of the most recent *W-ClearPass 6.4.x Release Notes*.

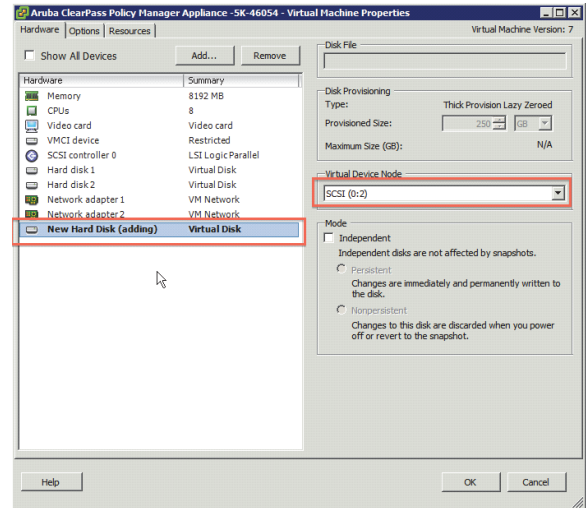
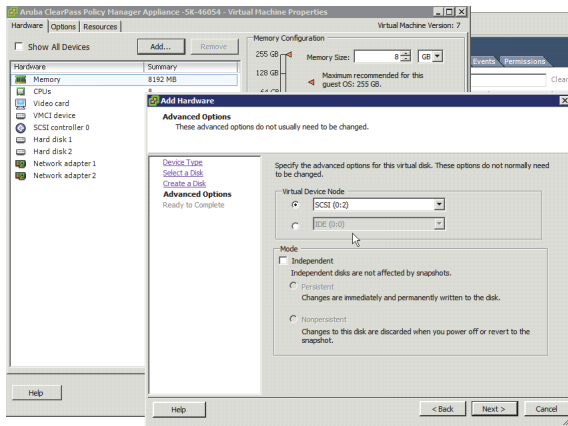
Perform the following steps when upgrading from 6.3 or older versions of W-ClearPass to a newer version.

1. Power off the W-ClearPass VMware instance.
2. In VMware, open the W-ClearPass virtual machine properties.
3. If you are upgrading from ClearPass 6.1 or 6.2, add a new hard disk to the virtual machine. The Virtual Device Node should be SCSI(0:2).

This procedure is not required if you are upgrading from ClearPass 6.3.



Never remove SCSI 0:0.



4. Power on the W-ClearPass Policy Manager instance.
5. Log in to W-ClearPass Policy Manager and navigate to **Administration > Agents and Software Updates > Software Updates**.



A valid Subscription ID is required to download the latest W-ClearPass Policy Manager updates.

6. In the **Firmware & Patch Updates** section, click **Download** next to the upgrade image name.
7. After the upgrade image has downloaded, click **Install** next to the upgrade image name.
8. Click **Yes** in the Confirm Installation dialog box. The Install Update dialog box appears and shows the progress of the update.



9. When the installation is complete, click **Reboot**.

The updated version of W-ClearPass Policy Manager starts after the reboot and the configuration from the previous version is migrated to the new version.