

ClearPass Policy Manager 6.3

Tech Note: Installing or Upgrading on a Virtual Machine

ClearPass 6.3 VMware software packages are distributed as zip files. Download the software image and unzip it to a folder on your server, and then unzip each file to access the VMware OVF files.

Be sure that your system meets the recommended specifications required for the Policy Manager Virtual Appliance. The ClearPass VMware ships with a 15GB hard disk volume.

Recommended VMware ESX/ESXi Server Specifications

The following are recommended requirements for the ClearPass Policy Manager 6.3 Virtual Appliance to properly operate in 64-bit VMware ESX or ESXi Server installations. These recommendations supersede earlier requirements that were published for ClearPass Policy Manager 6.x installations.

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



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. (Only one is needed if you do not use separate ports for data and management traffic.)

An evaluation version can be upgraded to a later evaluation version in a manner similar to a production upgrade. An evaluation version cannot be upgraded to a production version.

CP-VA-500

- 2 Virtual CPUs
- 500 GB disk space
- 4 GB RAM
- 2 Gigabit virtual switched ports. (Only one is needed if you do not use separate ports for data and management traffic.)
- 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. (Only one is needed if you do not use separate ports for data and management traffic.)
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 105.

CP-VA-25K

- At least 12 CPUs. (Aruba hardware appliances ship with 24 cores.)
- 1024 GB disk space
- At least 24 GB RAM. (Aruba hardware appliances ships with 64 GB of RAM.)
- 2 Gigabit virtual switched ports. (Only one is needed if you do not use separate ports for data and management traffic.)
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 350.



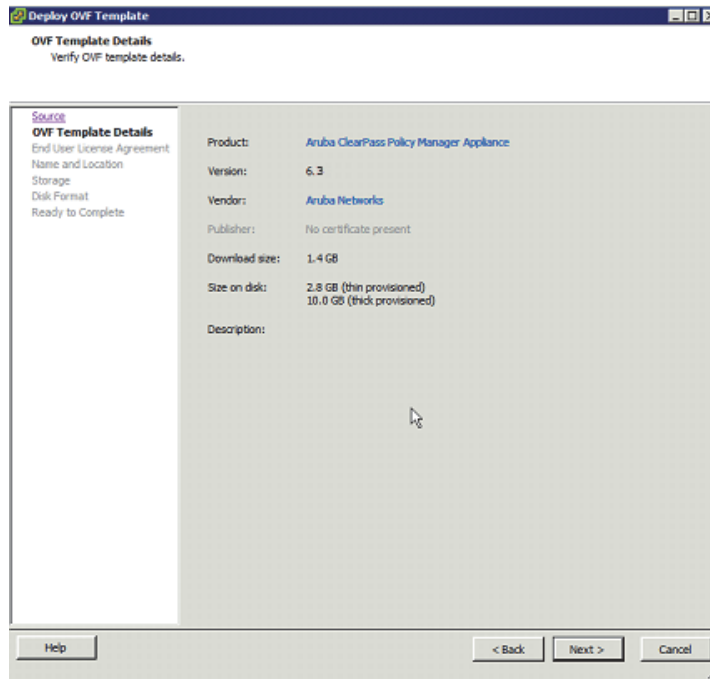
In order for a CP-VA-25K virtual appliance to properly support up to 25,000 unique authentications with full logging capability, customers should configure additional hardware to match the number of CPUs and RAM that ship in our hardware appliances. If you do not have the VA resources to support a full workload, then you should consider ordering the Policy Manager hardware appliance.

Installing ClearPass Policy Manager on a Virtual Machine

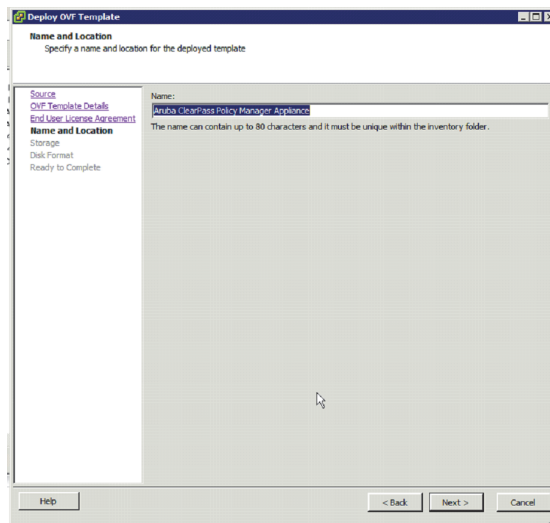
Installing ClearPass Policy Manager on a virtual machine involves deploying the ClearPass Policy Manager image onto a VMware server.

Deploy ClearPass Policy Manager image on a VMware ESX/ESXi server

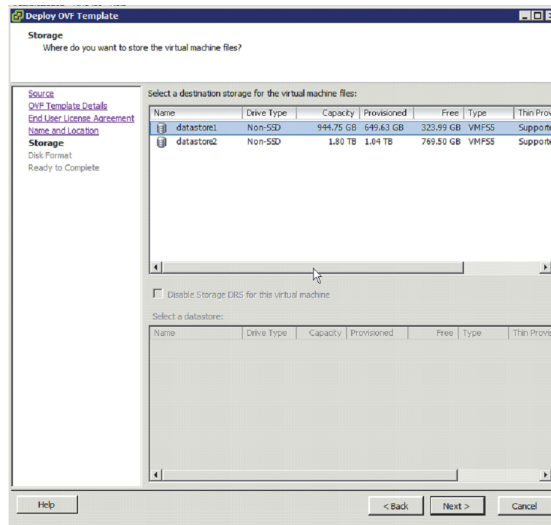
1. Start the VMware Vsphere console and connect to your ESX/ESXi server.
2. Select **File > Deploy OVF template**.
3. Select the .ovf file from the folder where the ClearPass Policy Manager zip file was unzipped. The Deploy OVF wizard appears.



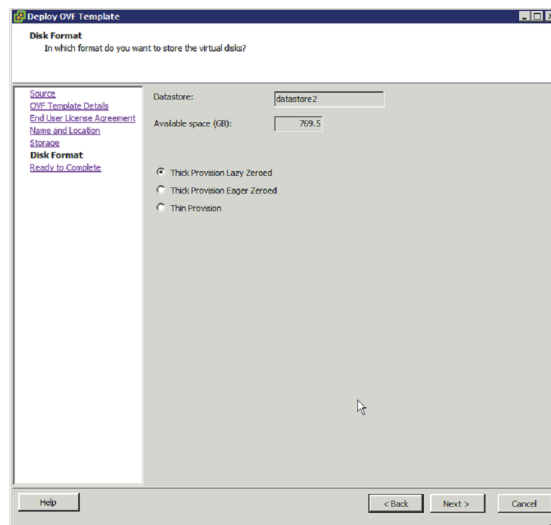
4. Click **Next**.
5. On the End User License Agreement page, click **Accept**, then click **Next**.
6. On the Name and Location page, the Name is set by default to Aruba ClearPass Policy Manager Appliance. You can change it as you wish, then click **Next**.



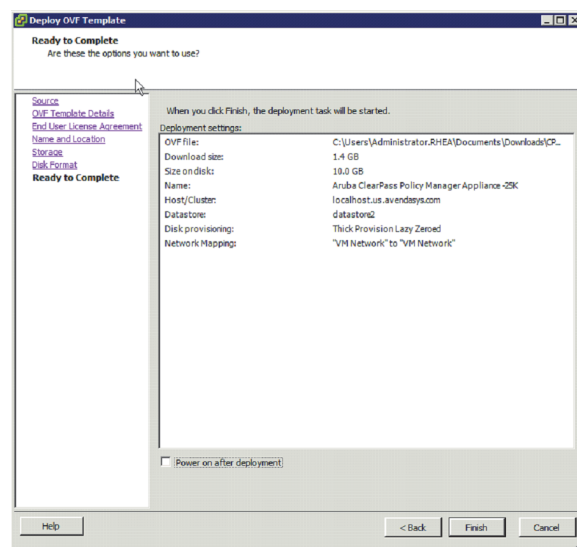
7. On the Storage page, select a location for the virtual machine files, then click **Next**.



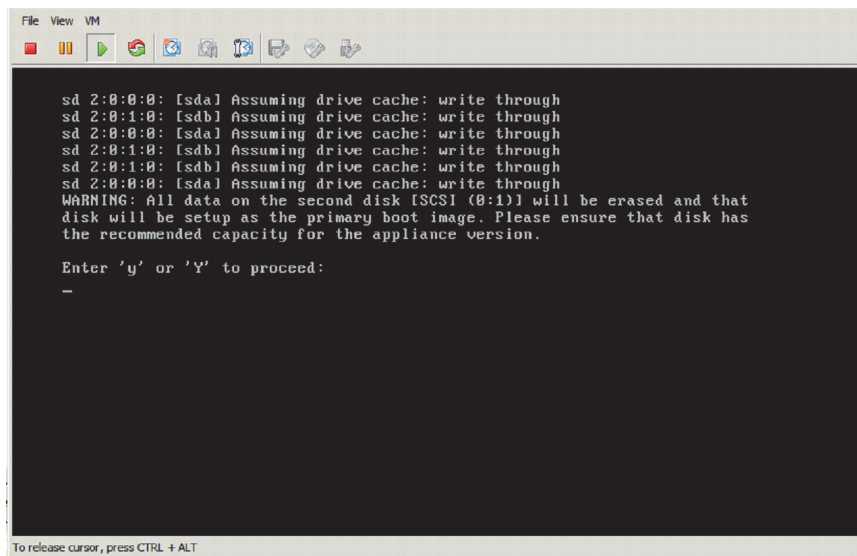
8. On the Disk Format page, leave the default option of **Thick Provision Lazy Zeroed**, then click **Next**.



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



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

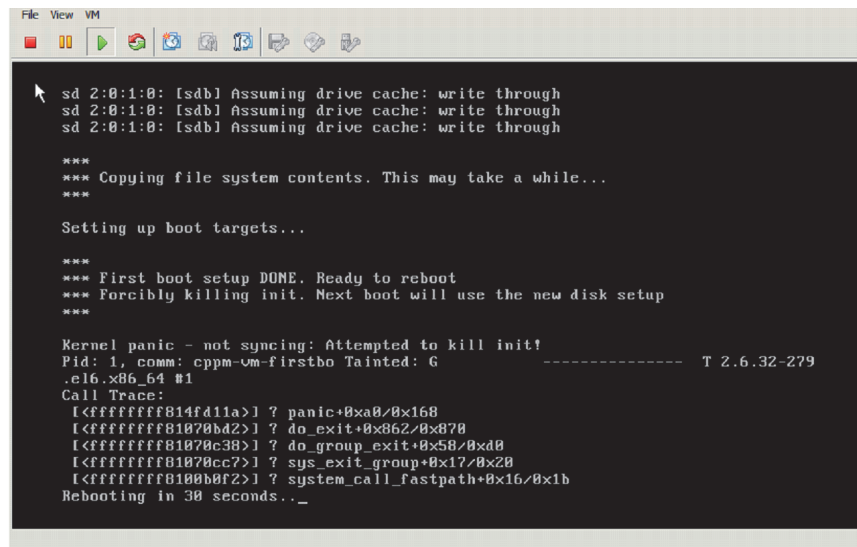


```
File View VM
sd 2:0:0:0: [sda] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:0:0: [sda] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:1:0: [sdb] Assuming drive cache: write through
sd 2:0:0:0: [sda] 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:
_

To release cursor, press CTRL + ALT
```

11. Press y. You should see the following in the console:



```
File View VM
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

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

Setting up boot targets...

***
*** First boot setup DONE. Ready to reboot
*** Forcibly killing init. Next boot will use the new disk setup
***

Kernel panic - not syncing: Attempted to kill init!
Pid: 1, comm: cppm-vm-firstbo Tainted: G          T 2.6.32-279
.el6.x86_64 #1
Call Trace:
[<ffffffff814fd11a>] ? panic+0xa0/0x168
[<ffffffff81070bd2>] ? do_exit+0x862/0x870
[<ffffffff81070c38>] ? do_group_exit+0x58/0xd0
[<ffffffff81070cc7>] ? sys_exit_group+0x17/0x20
[<ffffffff8100b0f2>] ? system_call_fastpath+0x16/0x1b
Rebooting in 30 seconds..._
```

During the first boot process you will see a Kernel Panic message. This is normal and part of the boot up process. After the Kernel Panic message, the VM will reboot itself one more time within 30 seconds.

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

After the ClearPass VM launches correctly, you should see a banner similar to the following on the VM console.

```
*****
* Policy Manager CLI v6.3(0), Copyright © 2014, Aruba Networks, Inc. *
* Software Version : 6.3.0.59014 *
*****

Logged in as group Local Administrator

[lappadmin@eighty85]# _
```

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

Upgrading ClearPass Policy Manager on a Virtual Machine

As of ClearPass 6.3, an additional hard disk is no longer required in order to upgrade. During the upgrade process, a second partition equal to the size of the original is automatically created.

If you have two disks already loaded with previous ClearPass versions—6.1 on SCSI 0:1 and 6.2 on SCSI 0:2—you should drop the SCSI 0:1 before upgrading. You must then add a newer disk, which will automatically get the SCSI 0:1 slot with a larger capacity for 6.3.



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

Disk Space Requirements

CP-SW-EVAL (Evaluation Version)

- 2 Virtual CPUs
- 80 GB disk space
- 4 GB RAM
- 2 Gigabit virtual switched ports. (Only one is needed if you do not use separate ports for data and management traffic.)

An evaluation version can be upgraded to a later evaluation version in a manner similar to a production upgrade. An evaluation version cannot be upgraded to a production version.

CP-VA-500

- 2 Virtual CPUs
- 500 GB disk space
- 4 GB RAM
- 2 Gigabit virtual switched ports. (Only one is needed if you do not use separate ports for data and management traffic.)
- 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. (Only one is needed if you do not use separate ports for data and management traffic.)
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 105.

CP-VA-25K

- At least 12 CPUs. (Aruba hardware appliances ship with 24 cores.)
- 1024 GB disk space
- At least 24 GB RAM. (Aruba hardware appliances ships with 64 GB of RAM.)
- 2 Gigabit virtual switched ports. (Only one is needed if you do not use separate ports for data and management traffic.)
- Functional IOP rating for a 40-60 read/write profile for 4k random read/write = 350.



In order for a CP-VA-25K virtual appliance to properly support up to 25,000 unique authentications with full logging capability, customers should configure additional hardware to match the number of CPUs and RAM that ship in our hardware appliances. If you do not have the VA resources to support a full workload, then you should consider ordering the Policy Manager hardware appliance.

Upgrade Procedure

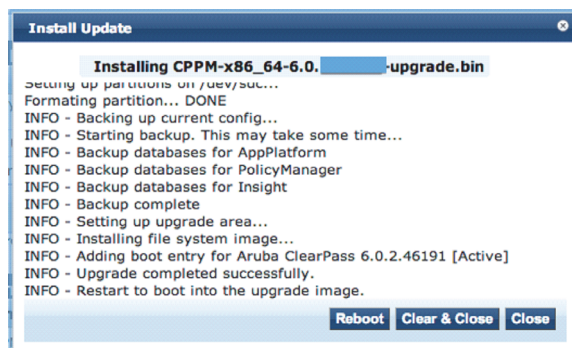
Perform the following steps when upgrading from a previous or evaluation version of ClearPass to a newer version. An evaluation version can be upgraded to a later evaluation version in a manner similar to a production upgrade. An evaluation version cannot be upgraded to a production version.

1. Power on the ClearPass Policy Manager instance.
2. Sign in to ClearPass Policy Manager and navigate to **Administration > Agents and Software Updates > Software Updates**.



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

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



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

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