Cisco vWAAS on VMware ESXi

This chapter describes how to use Cisco vWAAS on VMware ESXi, and contains the following sections:

- About Cisco vWAAS on VMware ESXi, page 4-1
- Supported Host Platforms and Software Versions, page 4-1
- VMware ESXi Server Datastore Memory and Disk Space for Cisco vWAAS and Cisco vCM Models, page 4-3
- OVA Package Formats for Cisco vWAAS on VMware ESXI, page 4-4
- Installing Cisco vWAAS on VMware ESXi, page 4-6
- Operating Guidelines for Cisco vWAAS in WAAS Version 6.4.3 and later in VMware ESXi, page 4-25
- Upgrade and Downgrade Guidelines for Cisco vWAAS on VMware ESXi, page 4-25

About Cisco vWAAS on VMware ESXi

Cisco vWAAS for VMware ESXi provides cloud-based application delivery service over the WAN in ESX and ESXi-based environments. Cisco vWAAS on VMware ESXi is delivered as an OVA file. The Cisco Unified vWAAS OVA file helps you to deploy as an instance of a required Cisco vWAAS model.

Supported Host Platforms and Software Versions

This section contains the following tables:

- Table 4-1 shows the platforms and software versions supported for Cisco vWAAS on VMware ESXi.
- Table 4-2 shows the supported Cisco WAAS versions for VMware ESXi for a new Cisco vWAAS installation.
- Table 4-3 shows the supported Cisco WAAS versions for VMware ESXi for a Cisco vWAAS upgrade.

Table 4-1   ***Platforms and Software Versions Supported for Cisco vWAAS on VMware ESXi***

PID and Device Type	Earliest Cisco WAAS Version Supported	Host Platform	Earliest Host Version Supported	Disk Type
PID: OE-VWAAS-ESX Device Type: OE-VWAAS-ESX	6.4.3c	Cisco UCS or UCS-E Series	VMware ESXi 6.7	VMDK
	6.4.3b	Cisco UCS or UCS-E Series	VMware ESXi 6.5 or VMware ESXi 6.0 (for Web Client)	VMDK
	5.0.3g	Cisco UCS or UCS-E Series	VMware ESXi 6.0 or VMware ESXi 5.0 (for vSphere)	VMDK

Note   It is recommended to use VMware vCenter Web GUI for the deployment of Cisco vWAAS in Cisco WAAS version 6.4.3b or later.

Table 4-2   ***Supported WAAS Versions for VMware ESXi for New Cisco vWAAS Installation***

VMware ESXi Version for New vWAAS Installation	Supported Cisco WAAS Versions
ESXi 6.7	WAAS 6.4.3c and later
ESXi 6.5	WAAS 6.4.3b and later
ESXi 6.0	WAAS 6.1.x through 6.4.3a, WAAS 6.4.3b (using Web Client)
ESXi 5.5	WAAS 5.3,x through 6.4.3a
ESXi 5.1	WAAS 5.1.x through 6.4.3a
ESXi 5.0	WAAS 5.1.x through 6.4.3a
ESXi 4.1	WAAS 5.1.x through 5.2.x

Table 4-3   ***Supported Cisco WAAS Versions for VMware ESXi for Cisco vWAAS Upgrade***

VMware ESXi Version for Cisco vWAAS Upgrade	Supported Cisco WAAS Versions
ESXi 6.7	WAAS 6.4.3c and later
ESXi 6.5	WAAS 6.4.3b and later
ESXi 6.0	WAAS 6.1.x through 6.4.3b
ESXi 5.5	WAAS 5.3,x through 6.4.3b
ESXi 5.1	WAAS 5.1.x through 6.4.3a
ESXi 5.0	WAAS 5.1.x through 5.5.x
ESXi 4.1	WAAS 5.1.x through 5.5.x

Note   For Cisco vWAAS with VMware ESXi Version 5.5 on a Cisco UCS host: if the DRE latency threshold or an AO timeout alarm occurs, check for the I/O command abort in the Cisco vWAAS. To do this, use the **copy sysreport** EXEC command.

If the I/O abort is observed:
Upgrade the RAID controller's driver to Version 6.610.19.00 or later.

If the I/O abort is still observed after the RAID controller driver upgrade:
Capture and share the following logs for further analysis:
—Guest-VM sysreport
—VMware's host diagnostic report
—RAID controller's firmware log

VMware ESXi Server Datastore Memory and Disk Space for Cisco vWAAS and Cisco vCM Models

Table 4-4 shows VMware ESXi server datastore memory and disk space per Cisco vWAAS model, for Cisco WAAS v4.3.1 through v5.3.5, and for Cisco WAAS v5.4.x through v6.x.

Table 4-4   vCPUs, Server Datastore Memory, and Disk Space by Cisco vWAAS Model

Cisco vWAAS Model	For Cisco WAAS v4.3.1 through v5.3.5			For Cisco WAAS v5.4.x through v6.x		
	vCPUs	VMware ESXI Datastore Memory	Disk	vCPUs	VMware ESXi Datastore Memory	Disk
vWAAS-150 (for Cisco WAAS Version 6.x)	---	---	---	1	3 GB	160 GB
vWAAS-200	1	2 GB	160 GB	1	3 GB	260 GB
vWAAS-750	2	4 GB	250 GB	2	4 GB	500 GB
vWAAS-1300	2	6 GB	300 GB	2	6 GB	600 GB
vWAAS-2500	4	8 GB	400 GB	4	8 GB	750 GB
vWAAS-6000	4	8 GB	500 GB	4	11 GB	900 GB
vWAAS-12000	4	12 GB	750 GB	4	12 GB	750 GB
vWAAS-50000	8	48 GB	1500 GB	8	48 GB	1500 GB

Table 4-5 shows VMware ESXi server datastore memory and disk space per Cisco vCM model, for Cisco WAAS v4.3.1 through v5.3.5, and for Cisco WAAS v5.4.x through v6.x.

Table 4-5   vCPUs, Server Datastore Memory, and Disk Space by Cisco vCM Model

Cisco vCM Model	For Cisco WAAS v4.3.1 through v5.3.5			For Cisco WAAS v5.4.x through v6.x		
	vCPUs	VMware ESXi Datastore Memory	Disk	vCPUs	VMware ESXi Datastore Memory	Disk
vCM-100N	2	2 GB	250 GB	2	2 GB	250 GB
vCM-500N	---	---	---	2	2 GB	300 GB
vCM-1000N	---	---	---	2	4 GB	400 GB
vCM-2000N	4	8 GB	600 GB	4	8 GB	600 GB

Note For Cisco WAAS resized CPU and Memory values, refer to Table 1-17, "Resized vWAAS CPU and Memory Specifications for Cisco WAAS Version 6.4.1a and Later," in the chapter "Introduction to Cisco vWAAS".

OVA Package Formats for Cisco vWAAS on VMware ESXI

This section contains the following topics:

- OVA Package for Cisco vWAAS on VMware ESXi for Cisco WAAS Version 5.x to 6.2.x, page 4-4
- OVA Package for Cisco vWAAS on VMware ESXi for Cisco WAAS Version 6.4.1 and Later, page 4-5

Note For a listing of hypervisor OVA, zip, and tar.gz files for vWAAS, see the Cisco Wide Area Application Services (WAAS) Download Software page and select the WAAS software version used with your vWAAS instance.

OVA Package for Cisco vWAAS on VMware ESXi for Cisco WAAS Version 5.x to 6.2.x

For Cisco vWAAS on VMware ESXi in Cisco WAAS Version 5.x through 6.2.x, Cisco provides an OVA or NPE OVA package for each Cisco vWAAS connection profile (examples shown in Table 4-6) and for each Cisco vCM connection profile (examples shown in Table 4-7).

Table 4-6   Cisco OVA Package Format Examples for Cisco vWAAS on VMware ESXi

Package Format	File Format Example
Cisco vWAAS 150 package file	• Cisco-vWAAS-150-6.2.3d-b-68.ova
Cisco vWAAS 150 package file for NPE	• Cisco-vWAAS-150-6.2.3d-npe-b-68.ova
Cisco vWAAS 200 package file	• Cisco-vWAAS-200-6.2.3d-b-68.ova
Cisco vWAAS 200 package file for NPE	• Cisco-vWAAS-200-6.2.3d-npe-b-68.ova

Package Format	File Format Example
Cisco vWAAS 750 package file	• Cisco-vWAAS-750-6.2.3d-b-68.ova
Cisco vWAAS 750 package file for NPE	• Cisco-vWAAS-750-6.2.3d-npe-b-68.ova
Cisco vWAAS 1300 package file	• Cisco-vWAAS-1300-6.2.3d-b-68.ova
Cisco vWAAS 1300 package file for NPE	• Cisco-vWAAS-1300-6.2.3d-npe-b-68.ova
Cisco vWAAS 2500 package file	• Cisco-vWAAS-2500-6.2.3d-b-68.ova
Cisco vWAAS 2500 package file for NPE	• Cisco-vWAAS-2500-6.2.3d-npe-b-68.ova
Cisco vWAAS 6000 package file	• Cisco-vWAAS-6000-6.2.3d-b-68.ova
Cisco vWAAS 6000 package file for NPE	• Cisco-vWAAS-6000-6.2.3d-npe-b-68.ova
Cisco vWAAS 12k package file	• Cisco-vWAAS-12k-6.2.3d-b-68.ova
Cisco vWAAS 12k package file for NPE	• Cisco-vWAAS-12k-6.2.3d-npe-b-68.ova
Cisco vWAAS 50k package file	• Cisco-vWAAS-50k-6.2.3d-b-68.ova
Cisco vWAAS 50k package file for NPE	• Cisco-vWAAS-50k-6.2.3d-npe-b-68.ova

Table 4-7   Cisco OVA Package Formats for vCM for WAAS Versions earlier than Version 6.4.1

Package Format	File Format Example
Cisco vCM 100N package file	• Cisco-vCM-100N-6.2.3d-b-68.ova
Cisco vCM 100N package file for NPE	• Cisco-vCM-100N-6.2.3d-npe-b-68.ova

OVA Package for Cisco vWAAS on VMware ESXi for Cisco WAAS Version 6.4.1 and Later

For Cisco vWAAS on VMware ESXi in Cisco WAAS Version 6.4.1 and later, Cisco provides a single, unified OVA for NPE and non-NPE version of the Cisco WAAS image for all the Cisco vWAAS models for that hypervisor.

Each unified OVA package is a preconfigured VM image that is ready to run on a particular hypervisor. The launch script for each unified OVA package file provides the model and other required parameters to launch Cisco vWAAS in Cisco WAAS in the required configuration.

The following are examples of the unified OVA and NPE OVA package filenames for Cisco vWAAS in VMware ESXi:

- OVA: Cisco-WAAS-Unified-6.4.3c-b-42.ova
- NPE OVA: Cisco-vWAAS-Unified-6.4.3c-b-42-npe.ova

The unified OVA package for VMware ESXi contains the following files.

- OVF file: Contains all resource information.
- Flash disk image
- Data system disk
- Akamai disk

Use the VMware ESXi OVF template wizard to deploy these files, as described in Installing VMware ESXi for Cisco vWAAS for Cisco WAAS Version 6.4.1 through 6.4.3a, page 4-11 and Installing VMware ESXi for Cisco vWAAS for Cisco WAAS Version 6.4.3b and Later, page 4-12.

Installing Cisco vWAAS on VMware ESXi
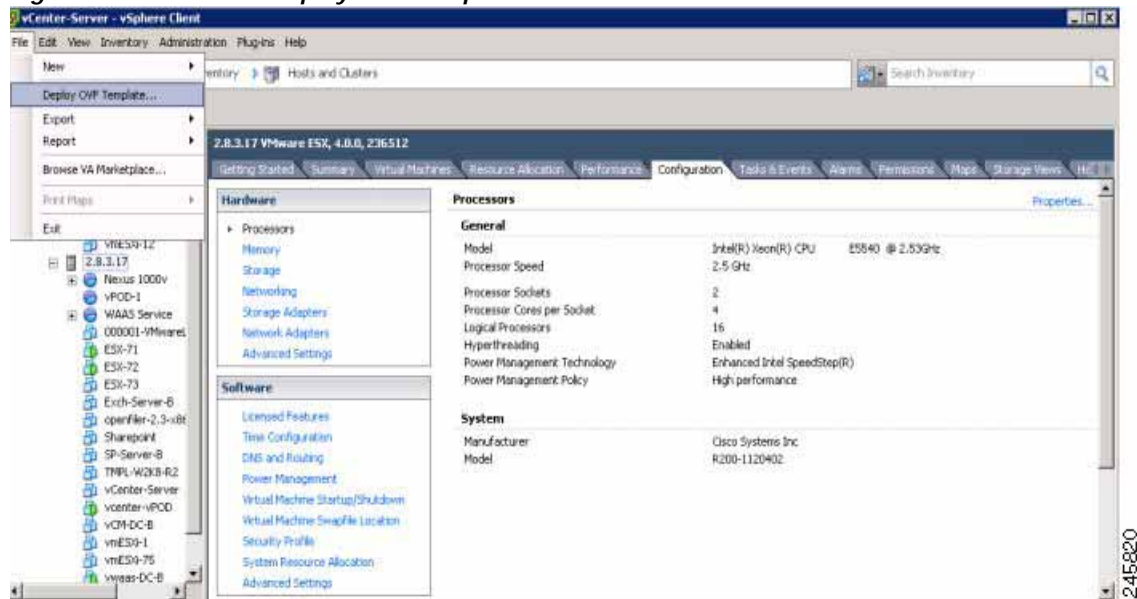
This section has the following topics:

Installing VMware ESXi for Cisco vWAAS in Cisco WAAS Versions 5.x to 6.2.x

To install the Cisco vWAAS VM with VMware vSphere ESXi, follow these steps:

Step 1   From the vSphere Client, choose **File > Deploy OVF Template**.

The **Source** window appears.

Figure 4-1   File > Deploy OVF Template

Step 2   Click **Browse**.

The **Open** window appears.

Step 3   Navigate to the location of the Cisco vWAAS OVA file and click **Open**.

- If the virtual host was created using an OVA of Cisco vWAAS in Cisco WAAS Version 5.1.x or later, proceed to Step 4.
- If the virtual host was created using an OVA file of Cisco vWAAS in Cisco WAAS Version 5.0 or earlier, and you have upgraded Cisco vWAAS from inside Cisco WAAS, you must verify that the **SCSI Controller Type** is set to **VMware Paravirtual**. Otherwise, Cisco vWAAS will boot with no disk available, and will fail to load the specified configuration.

  If needed, change the **SCSI controller Type** to **VMware Paravirtual** by following these steps:

      a. Power down the Cisco vWAAS.

      b. From the VMware vCenter, choose **vSphere Client** > **Edit Settings** > **Hardware**.

      c. Choose **SCSI controller 0**.

      d. From the **Change Type** drop-down list, verify that the SCSI Controller Type is set to **VMware Paravirtual**. If this is not the case, choose **VMware Paravirtual**.

      e. Click **OK**.

   **f.** Power up the Cisco vWAAS, in Cisco WAAS Version 6.1.x or later.

Step 4   Click **Next** to accept the selected OVA file.

The **Name and Data Center Location** window appears (Figure 4-2).

Step 5   Enter a name for the Cisco vWAAS VM, choose the appropriate data center, and then click **Next**.

The **Cluster** window appears (if a cluster is configured), or the **Resource Pool** window appears (if a resource pool is configured). Otherwise, the **Datastore** window appears (if this window appears, skip to Step 7).

Figure 4-2   *Deploy OVF Template > Name and Data Center Location*
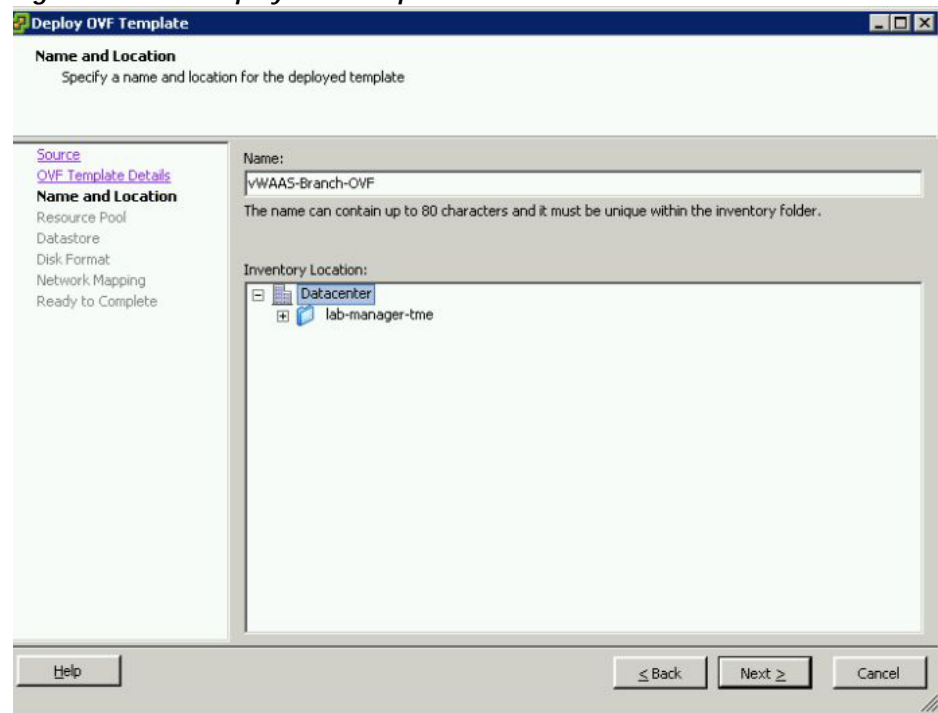
Step 6   If configured, choose a cluster for the Cisco vWAAS VM. Otherwise, select the resource pool and then click **Next**.

The **Datastore** window appears (Figure 4-3).

Step 7   Choose a datastore to host the VM and click **Next**.

Figure 4-3   *Deploy OVF Template > Datastore*
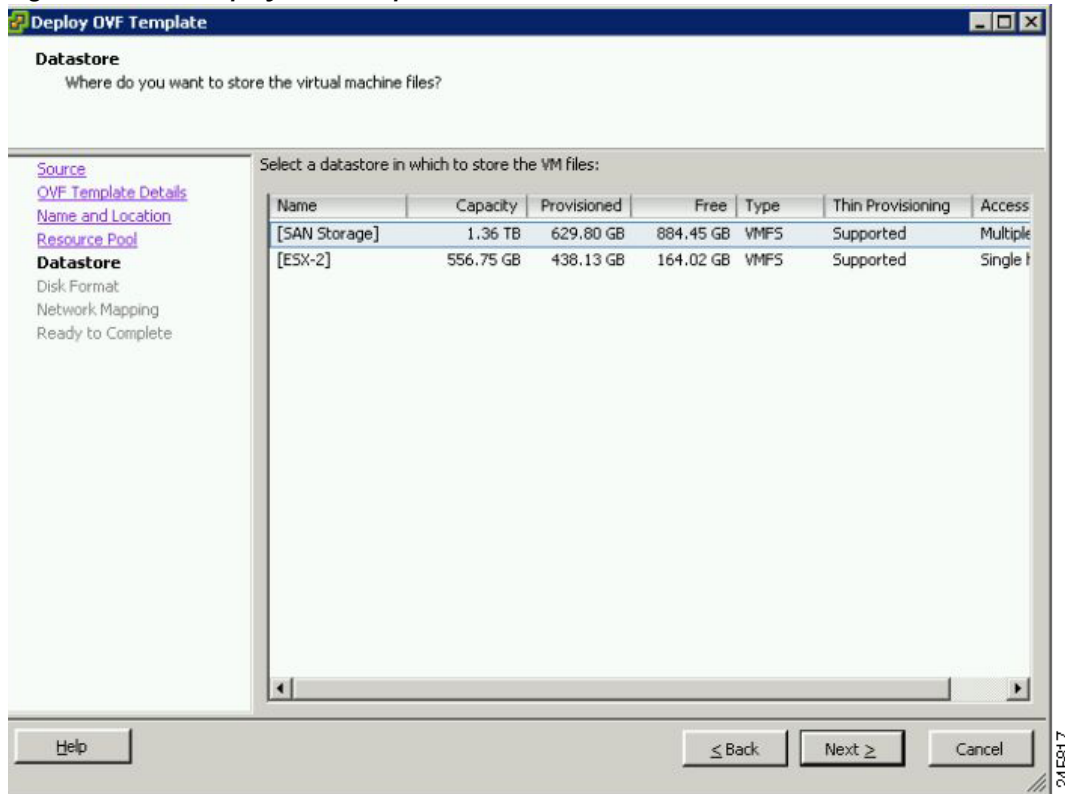
> **Note**   The datastore must be formatted with a block size greater than 1 MB to support file sizes larger than 256 GB.

The **Create a Disk** window appears.

Step 8   The Disk Provisioning section has three disk format options: **Thick Provision Lazy Zeroed**, **Thick Provision Eager Zeroed**, and **Thin Provision**. Select **Thick Provision Eager Zeroed**.

> **Note**   You must choose the **Thick Provision Eager Zeroed** disk format for Cisco vWAAS deployment; this is the format recommended with Cisco vWAAS deployment for a clean installation.

Step 9   Click **Next**.

The **Network Mapping** window appears (Figure 4-4).

Step 10   Choose the network mapping provided by VMware ESXi and click **Next**. You have the option to change this later if necessary.

The **Ready to Complete** window appears.

Figure 4-4   *Deploy OVF Template > Network Mapping*
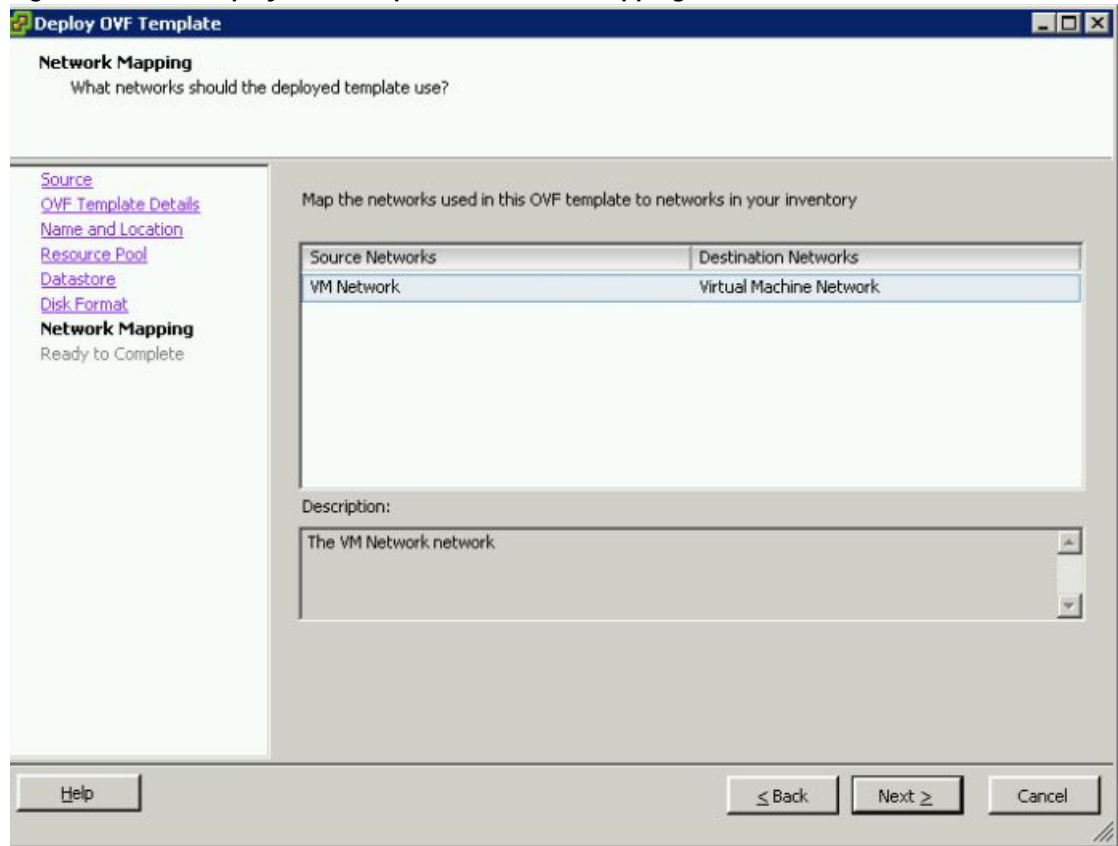
Step 11   Click **Finish** to complete the installation.

The **Status** window appears while the OVA file is being deployed.

Figure 4-5   *Cisco vWAAS: Status Window*
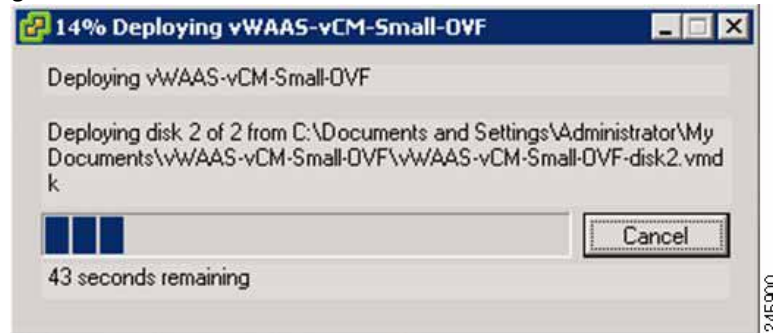
Step 12   When the deployment is finished, the **Deployment Completed Successfully** window appears.

Figure 4-6   Cisco vWAAS: Deployment Completed Successfully
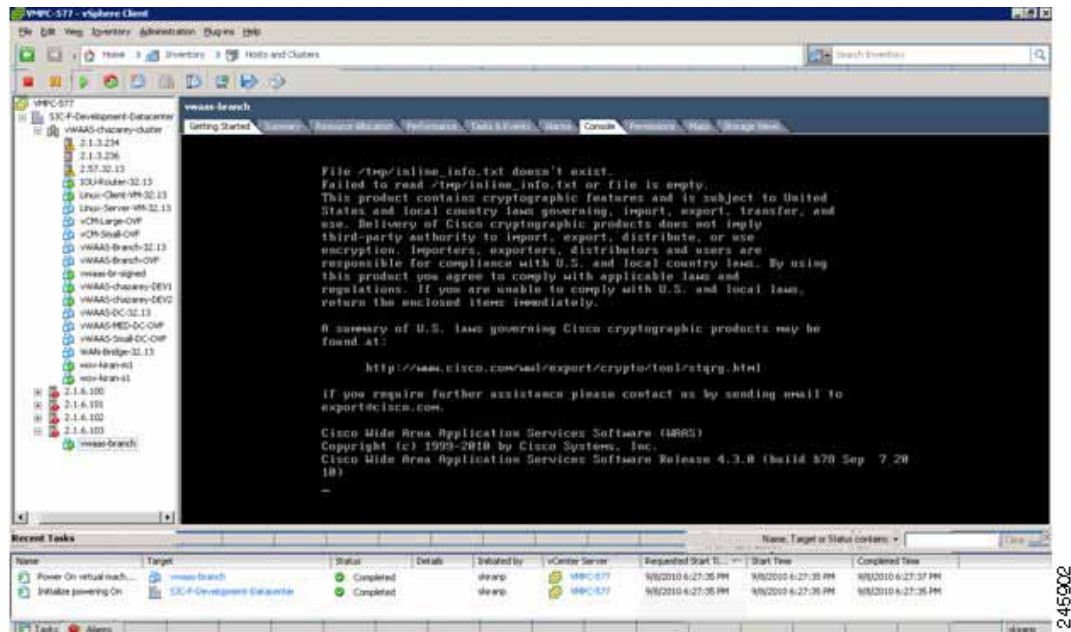

Step 13   Click **Close**.

Step 14   You are ready to start the VM. Highlight the Cisco vWAAS VM and click **Power on Virtual Machine**.

Step 15   After Cisco vWAAS finishes booting, click the **Console** tab to view boot up messages.

Figure 4-7   Cisco vWAAS: Console

![Note]
Note   Under rare conditions, the Cisco vWAAS VM may boot into diskless mode if other VMs on the host VM server do not release control of system resources or the physical disks become unresponsive. For information on how to resolve this situation, see Resolving Diskless Startup and Disk Failure in the chapter "Troubleshooting Cisco vWAAS."

For Cisco vWAAS configuration information, see the chapter "Configuring Cisco vWAAS and Viewing Cisco vWAAS Components".

Installing VMware ESXi for Cisco vWAAS for Cisco WAAS Version 6.4.1 through 6.4.3a

Before you begin:

- As a pre-requisite, ensure that the required supporting plugins like Adobe Flash and Client Interaction Plugin are installed.

- For OVA deployments, always use vSphere Web Client (Flash) or vSphere Web Client (Flex), because HTML5 mode does not have all the functionality supported.

To deploy the VMware ESXi hypervisor for Cisco vWAAS, follow these steps:

Step 1 From the vSphere Client, choose **Deploy OVF Template** > **Deployment Configuration**.

Step 2 From the **Configuration** drop-down list, choose the Cisco vWAAS model for this hypervisor.

> **Note** When you choose a Cisco vWAAS model, that model's profile is displayed. For example, if you choose vWAAS-150, the vSphere Client displays a configuration such as 1 vCPU, 3 GB RAM.

Step 3 Click **Next**.

Step 4 In the **Deploy OVF Template** window, choose **Source** to select the source location for the deployed template.

Step 5 From the **Deploy from a file or URL** drop-down list, click **Browse...** .

The **Name and Location** window is displayed.

Step 6 Enter a unique name for the deployed template, and select a location for the deployed template.

a. In the **Name** field, enter a unique name for the deployed template. The template name can contain up to 80 alphanumeric characters.

b. In the **Inventory Location** listing, select a folder location.

Step 7 Click **Next**.

Step 8 In the **Deploy OVF Template** window, select **Deployment Configuration**.

Step 9 From the **Configuration** drop-down list, choose the Cisco vWAAS model for your system.

> **Note** When you select a Cisco vWAAS model, the window displays configuration information. For example, if you select vWAAs-200, the window will display a description such as `Deploy a vWAAS-200 connection profile with 1 vCPU, 3 GB RAM`.

Step 10 Click **Next**.

Step 11 In the **Deploy OVF Template** window, select **Disk Format**.

Step 12 In the **Datastore:** field, enter the datastore name.

Step 13 For provisioning, choose one of the following virtual disk format types:

- Thick Provision Lazy Zero: The entire space specified for virtual disk files is allocated when the virtual disk is created. The old data on the physical device is not erased when the disk is created, but zeroed out on demand, as needed, from the VM.

- Thick Provision Eager Zero: The entire space specified for virtual disk files is allocated when the virtual disk is created. Old data is erased when the disk is created. The thick provision eager zero option also supports VMware fault tolerance for high availability.

> ✐
>
> **Note**   The **Thin Provision** option is not available for Cisco vWAAS with VMware ESXi.

Step 14   Click **Next**.

The VMware ESXi hypervisor is created for the specified Cisco vWAAS model.

Installing VMware ESXi for Cisco vWAAS for Cisco WAAS Version 6.4.3b and Later

This section contains the following procedures:

Installing VMware ESXi with VMware vCenter

> ✐
>
> **Note**   On VMware ESXi, the OVA deployment for Cisco WAAS Version 6.4.1 and later must be done only through VMware vCenter.

Before you begin:

- As a pre-requisite, ensure that the required supporting plugins like Adobe Flash and Client Interaction Plugin are installed.
- For OVA deployments, always use **vSphere Web Client (Flash)**, because HTML5 mode does not have all the functionality supported.

To deploy the VMware ESXi hypervisor for Cisco vWAAS in WAAS Version 6.4.3b and later, follow these steps:

Step 1   Open the VMware vSphere Web Client with your specified vCenter IP address.

   a.   For **VMware Version 6.5** for vWAAS in WAAS Version 6.4.3b and later, select the **Flash** method of login.

   b.   For **VMware Version 6.7** for vWAAS in WAAS Version 6.4.3c and later, select the **Flex** method of login.

Step 2   Log in to the VMware vCenter **Single Sign-On** window (Figure 4-8).

Figure 4-8   VMware vCenter Single Sign-On Window

Step 3   Navigate to the required datacenter host on which the deployment will be done.

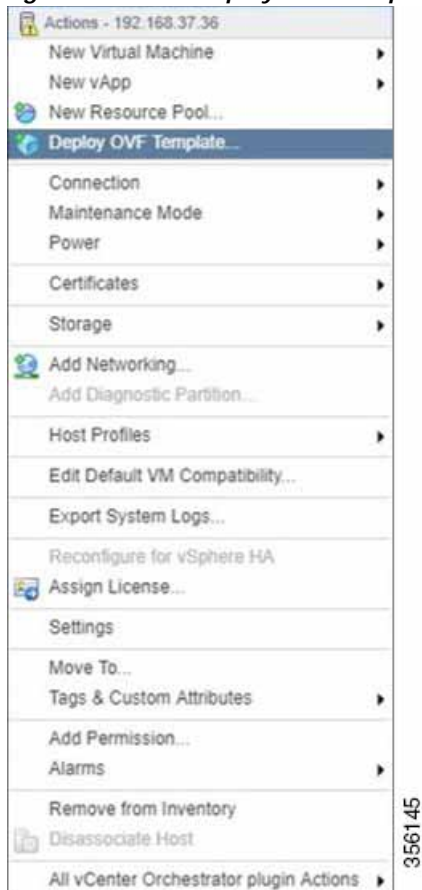**Step 4**   Click the required host to highlight it (example shown in Figure 4-9).

*Figure 4-9   Navigator > Datacenter > Host Menu Option*

Step 5   After you have highlighted the required host, right-click and select **Deploy OVF Template...**
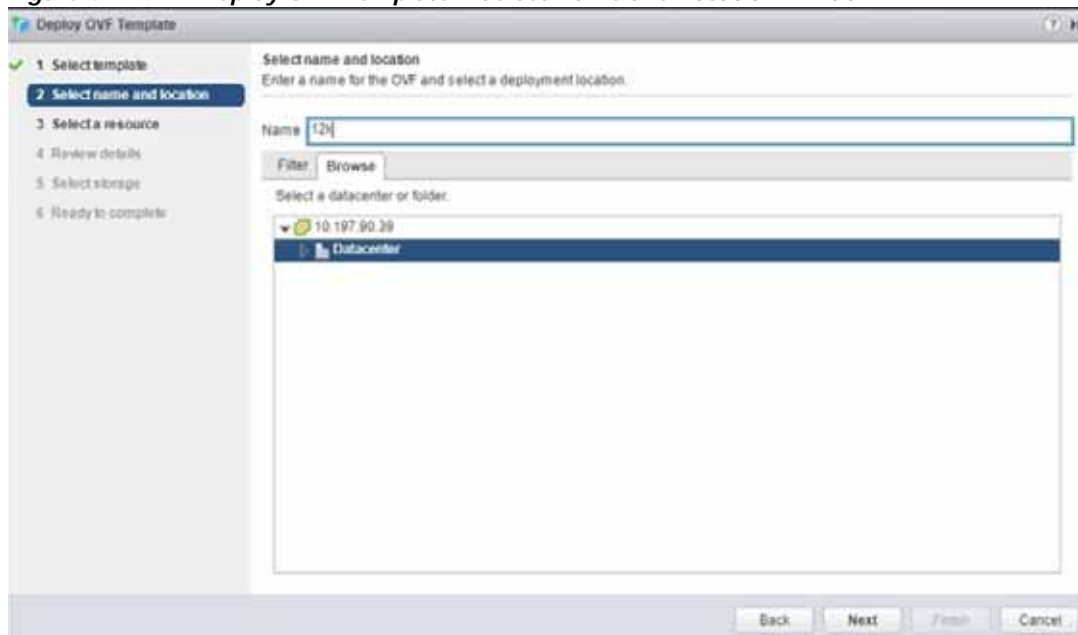(Figure 4-10).

Figure 4-10   Deploy OVF Template... Menu Option

Step 6   In the **Deploy OVF Template** > **Select Template** window (Figure 4-11):

a. Enter the URL to download the OVA package or browse for the downloaded OVA file using the **Browse** button.

b. Click **Next**.

Figure 4-11   Deploy OVF Template > Select Template Window
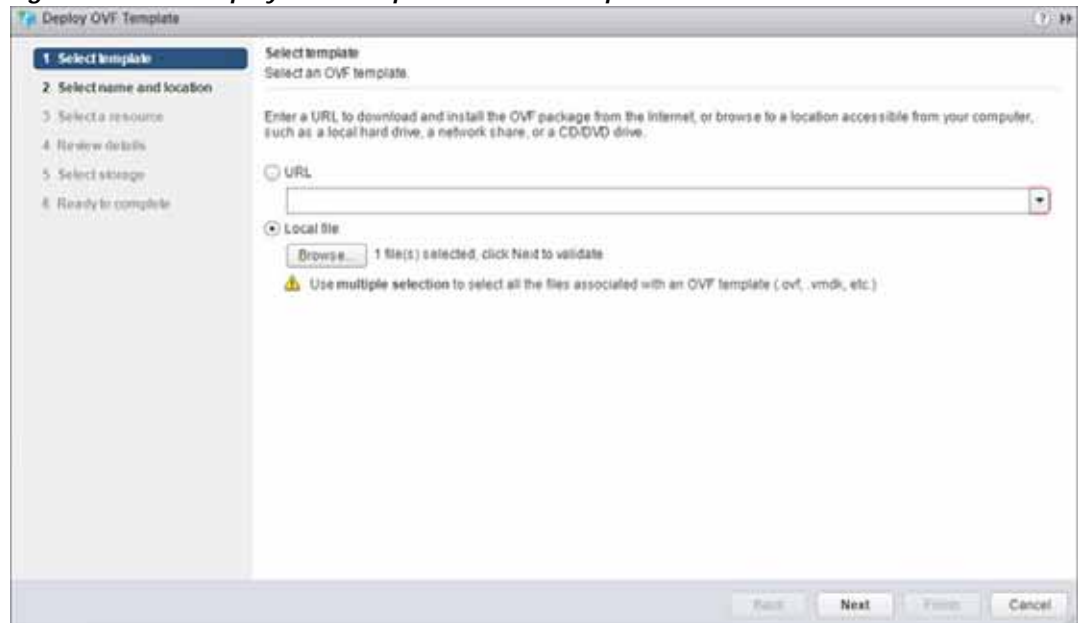
Step 7   In the **Deploy OVF Template** > **Select Name and Location** window (Figure 4-12):

a.   In the **Name** field, enter the name of the Cisco vWAAS model to be deployed.

b.   Click the **Browse** tab and select a datacenter or folder.

c.   Click **Next**.

Figure 4-12   Deploy OVF Template > Select Name and Location Window

Step 8   In the **Deploy OVF Template** > **Select a Resource** window (Figure 4-13), select the resource (the host) where the OVA will be deployed.

Figure 4-13   Deploy OVF Template > Select a Resource Window
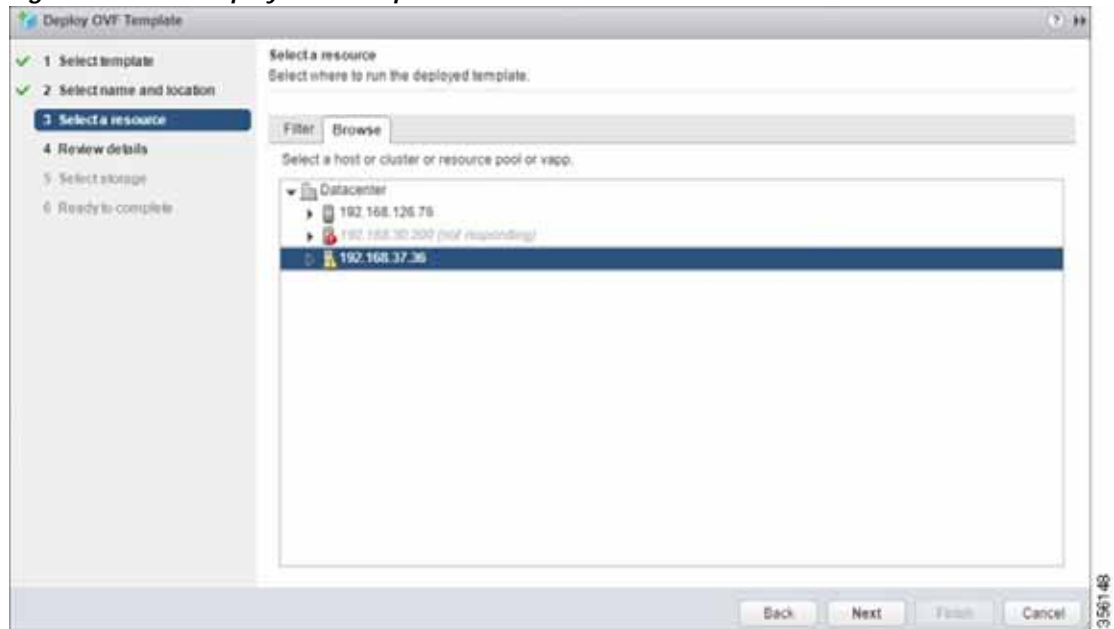
Step 9   In the **Deploy OVF Template** > **Review Details** window, verify that the template details are correct. Figure 4-14 shows a **Review Details** window with configuration notices and guidance messages.

*Figure 4-14   Deploy OVF Template > Review Details Window*
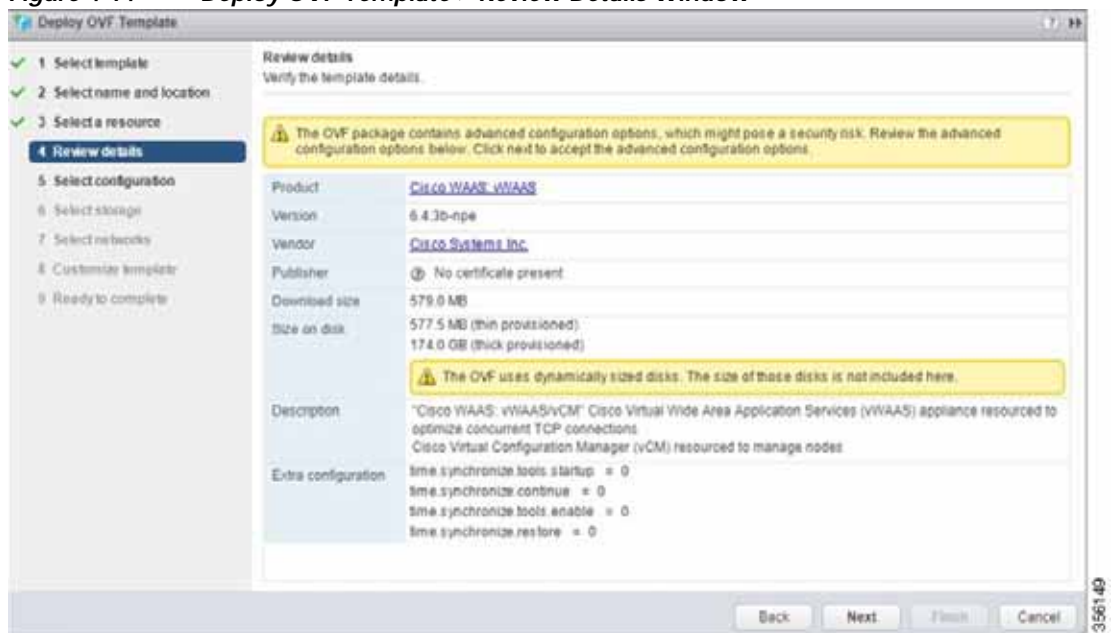
Step 10   In the **Deploy OVF Template** > **Select Configuration** window (Figure 4-15):

a.   From the **Configuration** drop-down list, choose the configuration of the deployed Cisco vWAAS model.

b.   Click **Next**.

Figure 4-15   Deploy OVF Template > Select Configuration Window
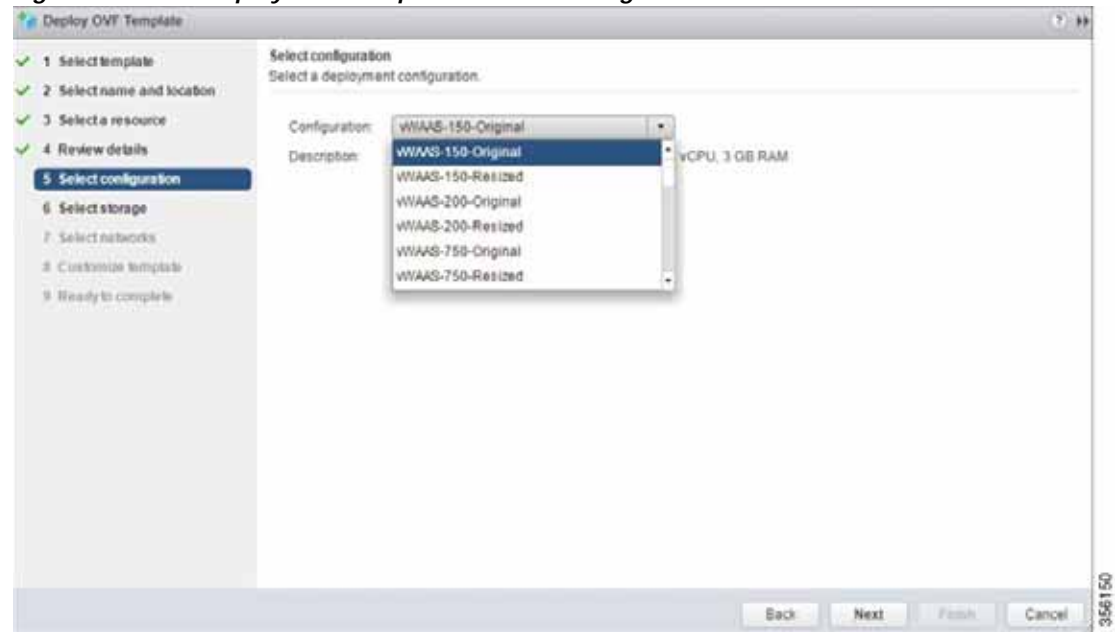
**Step 11**   In the **Display OVF Template** > **Select Storage** window (Figure 4-16):

a.   From the **Select virtual disk format** drop-down list, select the type of storage required for your system: Thick Provision Lazy Zeroed, Thin Provision, or Thick Provision Eager Zeroed.

b.   From the **VM storage policy** drop-down list, choose the VM storage policy for your system.

c.   Click **Next**.

Figure 4-16   Deploy OVF Template > Select Storage Window
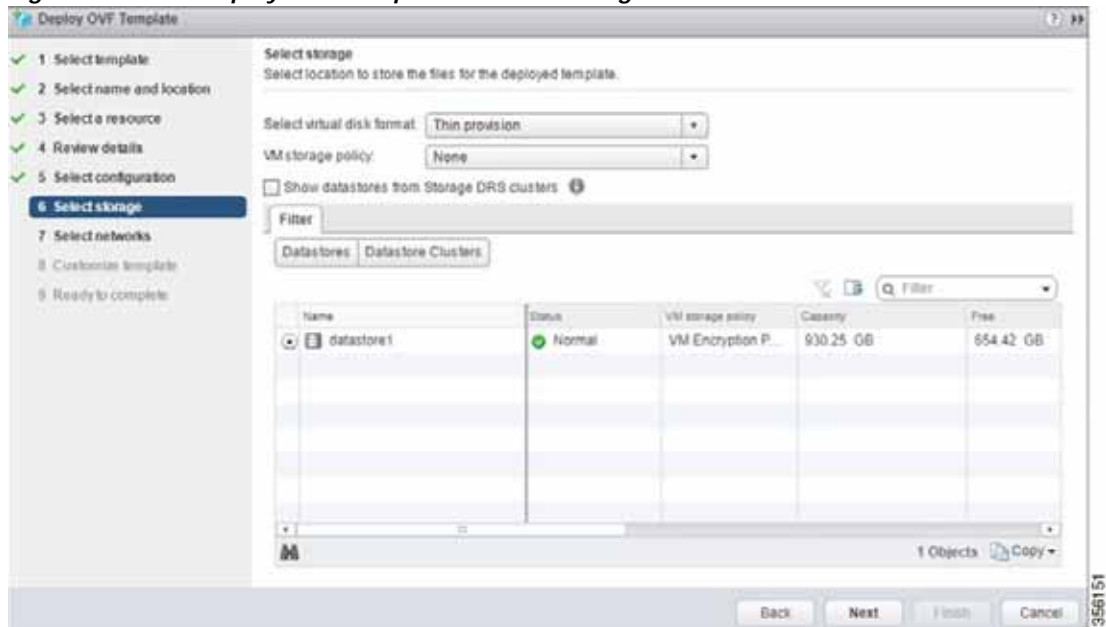
Step 12   From the **Deploy OVF Template** > **Select Networks** window (Figure 4-17):

a.   From the **Destination Network** drop-down list, choose the appropriate VM network for your system.

b.   Click **Next**.

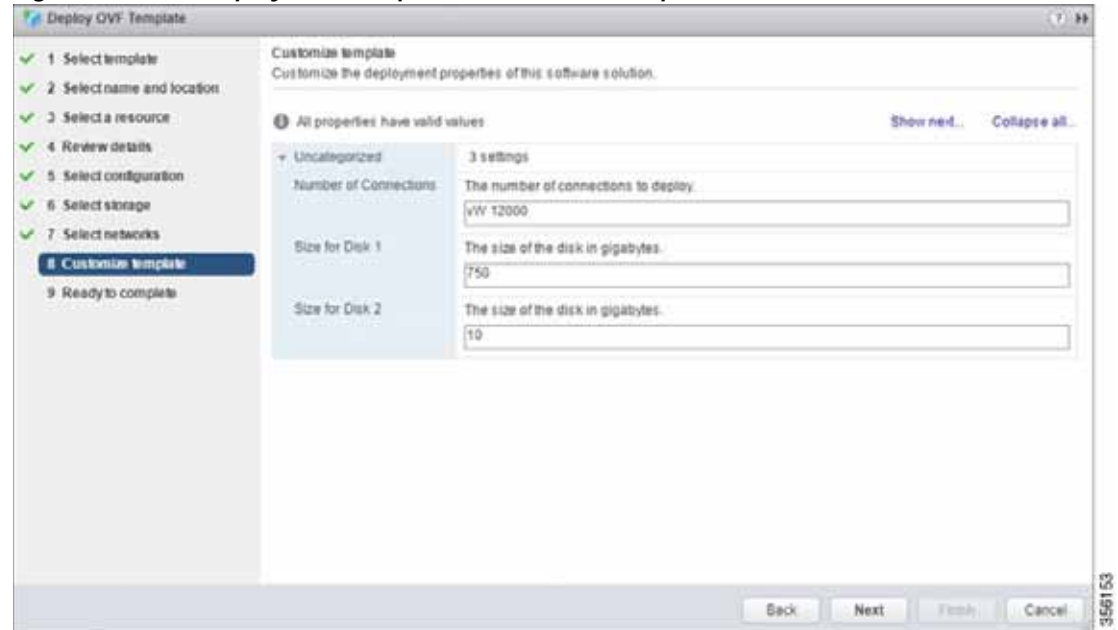*Figure 4-17   Deploy OVF Template > Select Networks Window*
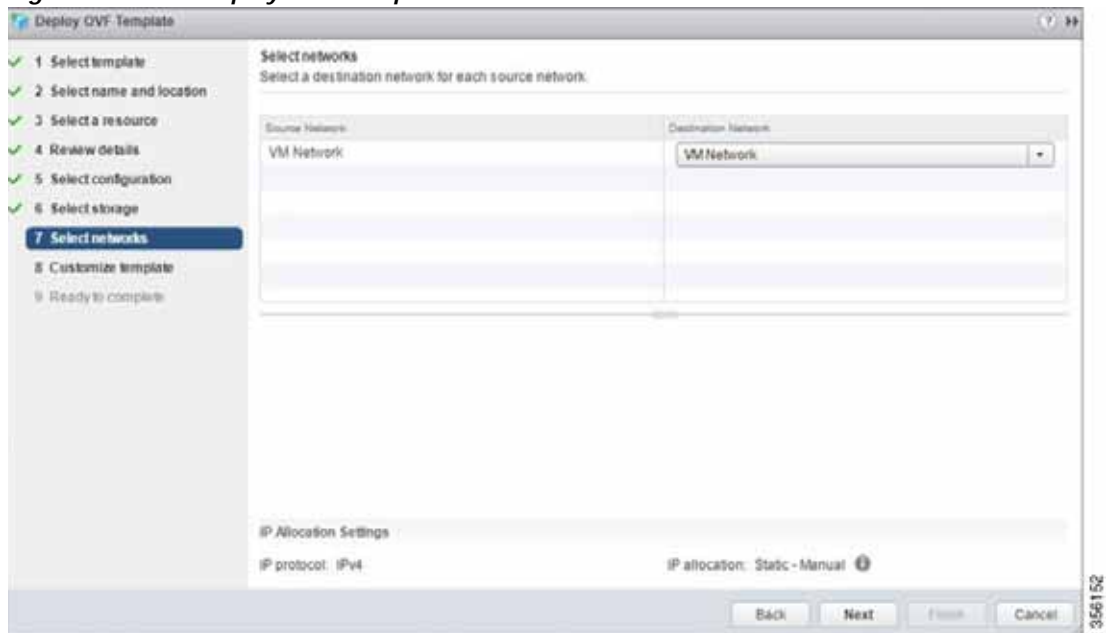
Step 13   In the **Deploy OVF Template** > **Customize Template** window (Figure 4-18), review the information and click **Next**.

⚠

Caution   Do not edit any values in the text boxes. Altering the values will lead to failure in deployment.

Figure 4-18   Deploy OVF Template > Customize Template Window


Step 14   In the **Deploy OVF Template** > **Ready to Complete** window (Figure 4-19):

a.   Review and confirm configuration data, including Cisco vWAAS model name, storage mapping, network mapping, number of connections, and disk sizes.

b.   Click **Next**.

Figure 4-19   Deploy OVF Template > Ready to Complete Window
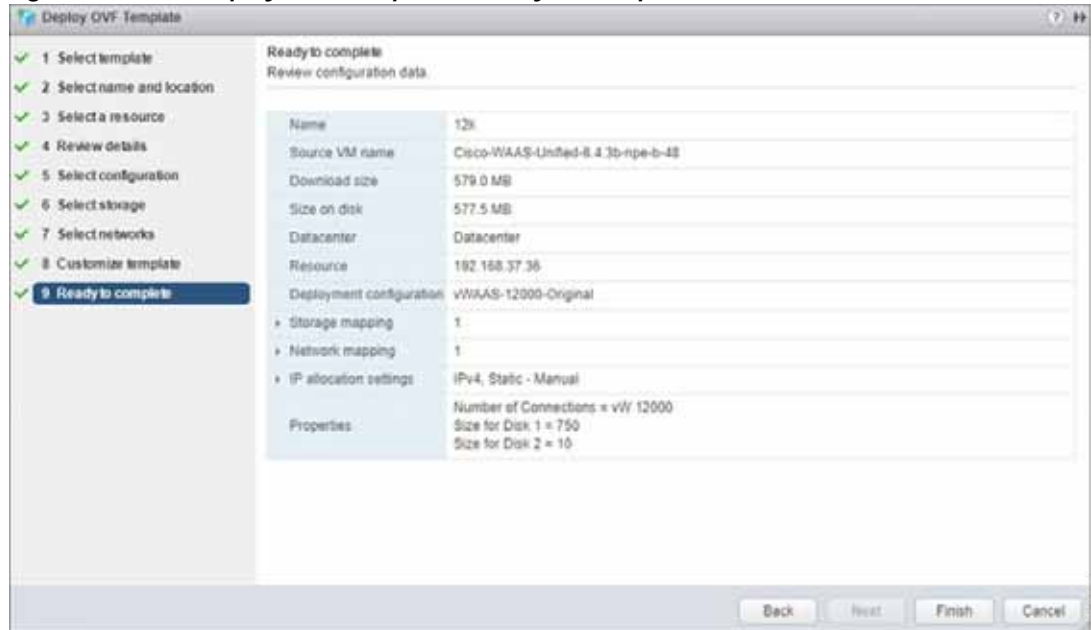

Step 15   The **Recent Tasks** pane of the VMware vSphere Web Client window (Figure 4-20) displays the status of the import and deployment of the image.

*Figure 4-20   VMware vSphere Web Client Recent Tasks Pane - In-Progress Status*
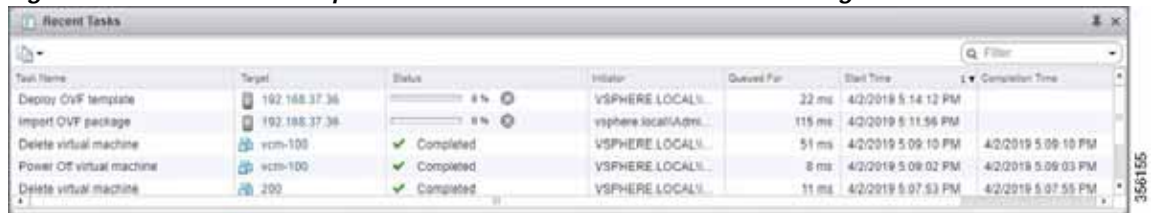
Step 16   After deployment is complete, the **Recent Tasks** pane items show **Completed** for the deployed Cisco vWAAS image (Figure 4-21).

Figure 4-21   VMware vSphere Web Client Recent Tasks Pane - Completed Status
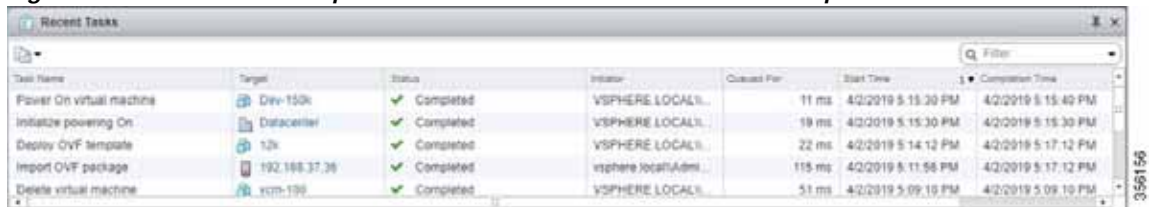
Step 17   After deployment is complete, use the **Power** > **Power On** menu option to power on the device (Figure 4-22).

Figure 4-22   VMware vSphere Web Client Power > Power On Menu Option
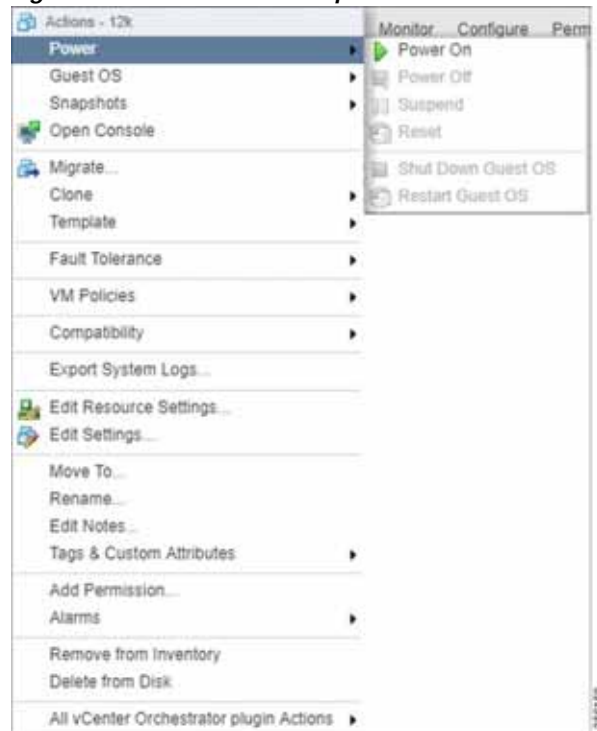
Note   Sporadically, deployment may fail due to a communication error between VMware vCenter and the VMware ESXi host. If this occurs during deployment, try the following steps and then deploy the OVA again:

Increase the timeout value as 120 or higher in the **config.vpxd.heartbeat.notrespondingtimeout** field. Or
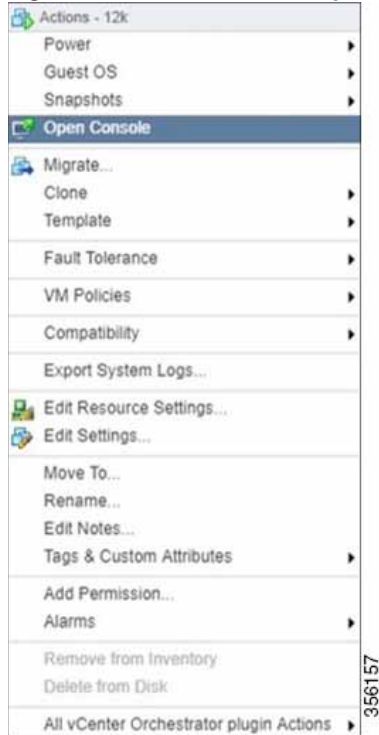
Alternatively, while deploying, choose the **Disk Type** option as **Thin Provisioning** and use the following procedure to convert the disks to **Thick Eager Zero**.

1. Wait for the deployment to complete 100%

2. Ensure the deployed VM is in **Power-Off** state. If it is not, power off the device before proceeding to the next step.

3. Navigate to the folder of the virtual disk you want to inflate.

   a. In the vSphere Web Client, browse to the virtual machine.

   b. Click the **Datastores** tab.

      The datastore that stores the virtual machine files is listed.

   c. Select the datastore and click the **Browse Files** icon.

      The datastore browser displays contents of the datastore.

4. Expand the virtual machine folder and browse through the list of files. The files with extension **.vmdk** will have the virtual disk icon.

5. Right-click the **.vmdk** virtual disk file and select the **Inflate** option.

6. Repeat the above step for all the **.vmdk** files in the deployed VM.

Step 18 Use the **Open Console** menu option to open the device console. Figure 4-23 shows the **Open Console** menu option and Figure 4-24 shows the device console.

Figure 4-23   VMware vSphere Web Client Open Console Menu Option

Figure 4-24   Device Console

Installing Cisco vWAAS VM with the VMware OVF Tool

The VMware OVF Tool is a command-line utility that allows you to deploy a required Cisco vWAAS model using Cisco vWAAS Unified OVA package file.

Note   The procedure for installing the Cisco vWAAS VM with the VMware OVF tool is available for Cisco vWAAS in VMware ESXi Version 6.5 only.

To install the Cisco vWAAS VM with the VMware OVF Tool, follow these steps:

Step 1   Identify the **-deploymentOption** of the vWAAS model you want to deploy.

- The supported original and resized Cisco vWAAS models are:
  - Original Cisco vWAAS models supported:
    vWAAS-150, 200, 750, 1300, 2500, 6000, 6000R, 12000, 50000, 150000

    To deploy an original Cisco vWAAS model: Use the designation "VW_", for example, **VW_6000**

  - Resized Cisco vWAAS models supported:
    vWAAS-150, 200, 750, 1300, 2500, 6000, 6000R, 12000, 50000.

    To deploy a resized vWAAS model: Use the designation _**Res**, for example, **VW_6000_Re**s

- The supported original Cisco vCM models are:
  - vCM-100, 500, 1000, 2000

    To deploy an original vCM model: Use the designation **VC_**, for example, **VC_500**

Step 2   Download the Cisco vWAAS Unified OVA to your host.

Step 3   To deploy the Cisco vWAAS Unified OVA, in the VMware OVF Tool, use the following CLI commands:

```
> ovftool \
--allowExtraConfig \
--diskMode=eagerZeroedThick \
--datastore=<your-datastore-to-deploy> \
--deploymentOption=<selected vWAAS-model> \
--powerOn \
--name=<name-of-the-vm> \
<path-to-downloaded/<downloaded-ova-file> \
'vi://<vCenter-login>:<vCenter-Passwd>@<vCenter-server-ip>/?ip=<ESXi-Host-IP>'
```

Example:

```
> ovftool \
--allowExtraConfig \
--diskMode=eagerZeroedThick \
--datastore=NewDatastore \
--deploymentOption=VW_150 \
--powerOn  \
--name=vWAAS \
/home/ovftool/Cisco-WAAS-Unified-6.4.3b-b-52.ova \
'vi://administrator@vsphere.local:vSpherePasswd@1.1.1.1/?ip=2.2.2.2'
Opening OVA source: /home/ovftool/Cisco-WAAS-Unified-6.4.3b-b-52.ova
The manifest validates
Opening VI target: vi://administrator%40vsphere.local@1.1.1.1:443/
Deploying to VI: vi://administrator%40vsphere.local@1.1.1.1:443/
Transfer Completed
Powering on VM: vWAAS
Task Completed
```

```
Completed successfully
```

Operating Guidelines for Cisco vWAAS in WAAS Version 6.4.3 and later in VMware ESXi

Consider the following guidelines for Cisco vWAAS in WAAS Version 6.4.3x and VMware ESXi 6.0 or later.

- To ensure that configured routers are displayed in the routing table output:
    - After deployment is completed, and the Cisco vWAAS-200 is configured with IP address and default gateway:
    a. In VMware vSphere, choose the **Virtual Hardware** tab, and from the **Adapter Type** drop-down list, choose **VMXNET3**.
    b. If the adapter type is set to any other option, such as Flexible or e1000, the configured routers will not appear in the routing table output.
    c. To verify that the configured routers appear in the routing table output, run the **show ip route** EXEC command.

- If you had already configured the Cisco vWAAS with a different adapter:
    a. Power off the VM.
    b. From the host, change the adapter type to **VMXNET3**.
    c. Power on the VM.
    d. To verify that the configured routers appear in the routing table output, run the **show ip route** EXEC command.

Upgrade and Downgrade Guidelines for Cisco vWAAS on VMware ESXi

Consider the following guidelines when upgrading or downgrading your Cisco WAAS system with Cisco vWAAS on VMware ESXi:

- When upgrading Cisco vWAAS, do not upgrade more than five vWAAS nodes at the same time on a single Cisco UCS device. Upgrading more than five vWAAS nodes at the same time may cause the vWAAS devices to go offline and into diskless mode.

- If the virtual host was created using an OVA file of Cisco vWAAS in Cisco WAAS Version 5.0 or earlier, and you have upgraded Cisco vWAAS within Cisco WAAS, you must verify that the **SCSI Controller Type** is set to **VMware Paravirtual**. Otherwise, the Cisco vWAAS will boot with no disk available and will fail to load the specified configuration.

    If needed, change the **SCSI Controller Type** to **VMware Paravirtual** by following these steps:

    a. Power down the Cisco vWAAS.
    b. From the VMware vCenter, choose **vSphere Client** > **Edit Settings** > **Hardware**.
    c. Choose **SCSI controller 0**.
    d. From the **Change Type** drop-down list, verify that the SCSI Controller Type is set to **VMware Paravirtual**. If this is not the case, choose **VMware Paravirtual**.
    e. Click **OK**.
    f. Power up the Cisco vWAAS in Cisco WAAS Version 6.1.x or later.

Upgrade and Downgrade Guidelines for Cisco vWAAS on VMware ESXi