

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, on page 1
- Supported Host Platforms and Software Versions, on page 1
- VMware ESXi Server Datastore Memory and Disk Space for Cisco vWAAS and vCM Models, on page 1
- OVA Package Formats for vWAAS on VMware ESXI, on page 3
- Installing VMware ESXi for Cisco vWAAS, on page 5
- Operating Guidelines for VMware ESXi in Cisco vWAAS in WAAS v6.4.3 and Later, on page 23
- Upgrade and Downgrade Guidelines for vWAAS on VMware ESXi, on page 23

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:

- Platforms and software versions supported for Cisco vWAAS on VMware ESXi.
- Supported Cisco WAAS versions for VMware ESXi for a new Cisco vWAAS installation.
- Supported Cisco WAAS versions for VMware ESXi for a Cisco vWAAS upgrade.

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

The following table 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.

| | For Cisco WA | AS v4.3.1 throug | gh v5.3.5 | For Cisco WA | AS v5.4.x throug | h v6.x |
|---|--------------|---------------------------------------|-----------|--------------|---------------------------------------|---------|
| Cisco vWAAS Model | 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 1: vCPUs, Server Datastore Memory, and Disk Space by Cisco vWAAS Model

The following table 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 2: vCPUs, Server Datastore Memory | , and Disk Space | by Cisco vCM Model |
|---|------------------|--------------------|
|---|------------------|--------------------|

| | For Cisco WAAS v4.3.1 through v5.3.5 | | | For Cisco WAAS v5.4.x through v6.x | | |
|--------------------|--------------------------------------|---------------------------------------|--------|------------------------------------|---------------------------------------|--------|
| Cisco vCM Model | 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 Cisco vWAAS and vCM Sizing Guidelines for Cisco WAAS Version 6.4.3x and Later and Cisco vWAAS Resizing Guidelines in the chapter "Introduction to Cisco vWAAS."

OVA Package Formats for vWAAS on VMware ESXI

This section contains the following topics:

Note

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

OVA Package for vWAAS on VMware ESXi in 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, for **vWAAS in WAAS 6.4.1 to 6.4.3x**:

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

The following are examples of the unified OVA and NPE OVA package filenames for Cisco vWAAS in VMware ESXi, for **vWAAS in WAAS 6.4.5x**:

- OVA: Cisco-WAAS-Unified-6.4.5-b-69.tar
- NPE OVA: Cisco-WAAS-Unified-6.4.5-npe-b-69.tar

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 in Cisco WAAS Versions 5.x to 6.2.x, on page 19 and in Installing VMware ESXi for Cisco vWAAS for Cisco WAAS Version 6.4.1 through 6.4.3a, on page 17.

OVA Package for vWAAS on VMware ESXi in 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 and for each Cisco vCM connection profile, shown in the following two tables.

| 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 |
| 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: Cisco OVA Package Format Examples for vCM in 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 |

Installing VMware ESXi for Cisco vWAAS

This section contains the following topics:

Using VMware vCenter to Install VMware ESXi for Cisco vWAAS in WAAS v6.4.3b and Later

Before you begin



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

- 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.

Procedure

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

- For VMware Version 6.5 for vWAAS in WAAS Version 6.4.3b and later, select the Flash method of login.
- 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 1: VMware vCenter Single Sign-On Window

| vm ware [.] | | |
|-----------------------------|------------------------------------|--------------------------------|
| | | |
| User name: Password: | example@domain.local | VMware°vCenter° Single Sign-On |
| | Use Windows session authentication | |

- **Step 3** Navigate to the required datacenter host on which the deployment will be done.
- **Step 4** Click the required host to highlight it, as shown in the following figure.

Figure 2: Navigator > Datacenter > Host Menu Option

| Navigato | r | | | + | |
|---|---|----------|-------------------|---|--|
| Back | | | | | |
| U | | | Q | | |
| - 🕝 10.19 | 97.90.39 | | | | |
| ▼ <u>h</u> □ | atacenter | 126 76 | | | |
| | 192.168. | 30.200 (| (not resp | D | |
| | 192.168. | 37.36 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Trece | nt Objects | 3 | ¥ | × | |
| Trees View | nt Objects red | s Cre | X eated | × | |
| View | nt Objects red 8.37.36 | s Cre | ∓ eated | × | |
| Received in the second seco | nt Objects red 8.37.36 | s Cre | ₽ eated | × | |
| Received View 192.16 10.197 192.16 | nt Objects red 8.37.36 .90.39 8.30.200 | s Cre | ₽ eated | × | |
| Received View 192.16 10.197 192.16 Dev-15 | nt Objects red 8.37.36 .90.39 8.30.200 50k | Cre | ₽ eated | × | |
| Received View 192.16 10.197 192.16 Dev-15 Dataset | nt Objects red 8.37.36 .90.39 8.30.200 50k | s Cre | ¥ eated | × | |

Step 5 After you have highlighted the required host, right-click and select Deploy OVF Template....

| | New Virtual Machine | |
|----|---|---|
| | New vAnn | |
| 2 | New Resource Pool | |
| | Deploy OVF Template | |
| | Connection | |
| | Maintenance Mode | , |
| | Power | , |
| | Certificates | , |
| | Storage | , |
| 2 | Add Networking | |
| | Add Diagnostic Partition | |
| | Host Profiles | , |
| | Edit Default VM Compatibility | |
| | Export System Logs | |
| | Reconfigure for vSphere HA | |
| 20 | Assign License | |
| | Settings | |
| | Move To | |
| | Tags & Custom Attributes | , |
| | Add Permission | |
| | Alarms | , |
| | Remove from Inventory | |
| Ъ | Disassociate Host | |
| | All vCenter Orchestrator plugin Actions | , |

Figure 3: Deploy OVF Template... Menu Option

Step 6 In the **Deploy OVF Template > Select Template** window, shown below, follow these steps:

- 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: Deploy OVF Template > Select Template Window

| Deploy OVF Template | | (3) |
|----------------------------|--|----------|
| 1 Select template | Select template | |
| 2 Select name and location | Select an OVF template. | |
| 3 Select a resource | Enter a URL to download and install the OVF package from the Internet, or browse to a location accessible from your of | omputer, |
| 4 Review details | such as a local hard drive, a network share, or a CD/DVD drive. | |
| 5 Select storage | ○ URL | |
| 6 Ready to complete | | - |
| | Local file | |
| | Browse 1 file(s) selected, click Next to validate | |
| | Use multiple selection to select all the files associated with an OVF template (.ovf., .vmdk, etc.) | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back Next Einish | Cancel |

Step 7 In the **Deploy OVF Template > Select Name and Location** window, shown below, follow these steps:

- 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 5: Deploy OVF Template > Select Name and Location Window

| 8 | Deploy OVF Template | | (?)) |
|---|--|---|-----------|
| ~ | 1 Select template 2 Select name and location | Select name and location Enter a name for the OVF and select a deployment location. | |
| | 3 Select a resource 4 Review details 5 Select storage 6 Ready to complete | Name 12k Filter Browse Select a datacenter or folder. ✓ ② 10.197.90.39 ► Datacenter | |
| | | Back Next Fini | sh Cancel |

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

| Deploy OVF Template | | (?) |
|---|---|--------------------|
| 1 Select template 2 Select name and location | Select a resource Select where to run the deployed template. | |
| 3 Select a resource | Filter Browse | |
| 4 Review details | Select a host or cluster or resource pool or vapp. | |
| 5 Select storage | ▼ In Datacenter | |
| 6 Ready to complete | ▶ ■ 192.168.126.76 | |
| | B 192.168.30.200 (not responding) | |
| | ▷ 192.168.37.36 | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Back | Next Einish Cancel |
| | Deck | |

Figure 6: Deploy OVF Template > Select a Resource Window

Step 9 In the **Deploy OVF Template > Review Details** window, verify that the template details are correct. The following figure shows a **Review Details** window with configuration notices and guidance messages.

Figure 7: Deploy OVF Template > Review Details Window

| 0 | Deploy OVF Template | | (?) |
|---|---|--|---|
| | Select template Select name and location | Review details Verify the template de | talis. |
| | Select a resource Review details | The OVF packag configuration op | e contains advanced configuration options, which might pose a security risk. Review the advanced tions below. Click next to accept the advanced configuration options. |
| 1 | Select configuration | Product | Cisco WAAS: WYAAS |
| 1 | 6 Select storage | Version | 6.4.3b-npe |
| | ' Select networks | Vendor | Cisco Systems Inc. |
| | Customize template | Publisher | No certificate present |
| 1 | Ready to complete | Download size | 579.0 MB |
| | | Size on disk | 577.5 MB (thin provisioned) 174.0 GB (thick provisioned) |
| | | | A The OVF uses dynamically sized disks. The size of those disks is not included here. |
| | | Description | "Cisco WAAS: vWAAS/vCM" Cisco Virtual Wide Area Application Services (vWAAS) appliance resourced to optimize concurrent TCP connections Cisco Virtual Configuration Manager (vCM) resourced to manage nodes |
| | | Extra configuration | time.synchronize.tools.startup = 0 time.synchronize.continue = 0 time.synchronize.tools.enable = 0 time.synchronize.restore = 0 |

- **Step 10** In the **Deploy OVF Template > Select Configuration** window, shown below, follow these steps:
 - a) From the **Configuration** drop-down list, choose the configuration of the deployed Cisco vWAAS model.
 - b) Click Next.

Figure 8: Deploy OVF Template > Select Configuration Window

| 8 | Deploy OVF Template | | | | | | | (?) |
|-----|---|--------------------------------|---|-----|--------------|------|--------|--------|
| * * | 1 Select template 2 Select name and location | Select configuration | n nt configuration. | | | | | |
| | 2 Select name and location 3 Select a resource 4 Review details 5 Select configuration 6 Select storage 7 Select networks 8 Customize template 9 Ready to complete | Configuration: Description: | VWAAS-150-Original WWAAS-150-Original WWAAS-150-Resized WWAAS-200-Original WWAAS-200-Resized WWAAS-750-Resized | vCl | PU, 3 GB RAM | | | |
| | | | | | Back | Next | Finish | Cancel |

Step 11 In the **Display OVF Template > Select Storage** window, shown below, follow these steps:

- 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.

| Fiaure 9: De | olov OVF | Template > | Select Storage | Window |
|--------------|----------|------------|----------------|--------|
| | | | | |

| Deploy OVF Template | | | | | | ? |
|---|--|------------------------|--------------|-------------------|--------------|--------------|
| 1 Select template 2 Select name and location | Select storage Select location to store the | e files for the deploy | ed template. | | | |
| 3 Select a resource | Select virtual disk format: | Thin provision | | • | | |
| 4 Review details | VM storage policy: | None | | • | | |
| 5 Select configuration | Show datastores from | Storage DRS cluste | ers 🚯 | | | |
| 6 Select storage | Filter | | | | | |
| 7 Select networks | Detectores Detector | Clusters | | | | |
| 8 Customize template | Datastores Datastor | e Clusters | | | | |
| Ready to complete | | | | | 📡 📑 🔍 Filter | •) |
| | Name | Sta | itus | VM storage policy | Capacity | Free |
| | datastore1 | 0 | Normal | VM Encryption P | 930.25 GB | 654.42 GB |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | 4 | | | | | |
| | M | | | | 1 Ob | jects Copy - |
| | | | | | | |
| | | | | Back | Next Fi | hish Cancel |

Step 12 From the Deploy OVF Template > Select Networks window:

- a) From the Destination Network drop-down list, choose the appropriate VM network for your system.
- b) Click Next.

Figure 10: Deploy OVF Template > Select Networks Window

| 🍘 Deploy OVF Template | | • |
|---|---|--------------------------------|
| 1 Select template 2 Select name and location | Select networks Select a destination network for each sour | ce network. |
| 3 Select a resource | Source Network | Destination Network |
| 4 Review details | VM Network | VM Network 🔹 |
| 5 Select configuration | | |
| 6 Select storage | | |
| 7 Select networks | | |
| 8 Customize template | | |
| 9 Ready to complete | | |
| | IP Allocation Settings | |
| | IP protocol: IPv4 | IP allocation: Static - Manual |
| | | Back Next Finish Cancel |

Step 13 In the **Deploy OVF Template > Customize Template** window, review the information and click **Next**.

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

Figure 11: Deploy OVF Template > Customize Template Window

| Contraction OVF Template | | | | (? H |
|---|--|--------------------------------------|------------------|--------------|
| 1 Select template 2 Select name and location | Customize template Customize the deployment p | roperties of this software solution. | | |
| 2 Select name and location 3 Select a resource | All properties have valid v | alues | Show next | Collapse all |
| ✓ 4 Review details | + Uncategorized | 3 settings | | |
| 5 Select configuration 6 Select storage | Number of Connections | The number of connections to deploy. | | |
| | | vW 12000 | | |
| 7 Select networks | Size for Disk 1 | The size of the disk in gigabytes. | | |
| 8 Customize template | | 750 | | |
| 9 Ready to complete | Size for Disk 2 | The size of the disk in gigabytes. | | |
| | | 10 | | |
| | | | | |
| | | | Back Next Finish | Cancel |

Step 14

In the **Deploy OVF Template > Ready to Complete** window, shown below, follow these steps:

- 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 12: Deploy OVF Template > Ready to Complete Window

| 🍞 Deploy OVF Template | | | ? |
|---|--|--|--------|
| 1 Select template 2 Select name and location | Ready to complete Review configuration data. | | |
| 3 Select a resource 4 Review details 5 Select configuration 6 Select storage 7 Select networks 8 Customize template 9 Ready to complete | Name Source VM name Download size Size on disk Datacenter Resource Deployment configuration > Storage mapping | 12k Cisco-WAAS-Unified-6.4.3b-npe-b-48 579.0 MB 577.5 MB Datacenter 192.168.37.36 n vWAAS-12000-Original 1 | |
| | Network mapping IP allocation settings | 1 IDr.4. Static - Manual | |
| | Properties | Number of Connections = vW 12000 Size for Disk 1 = 750 Size for Disk 2 = 10 | |
| | | | |
| | | Back Next Finish | Cancel |

Step 15 The **Recent Tasks** pane of the **VMware vSphere Web Client** window displays the status of the import and deployment of the image.

Figure 13: VMware vSphere Web Client Recent Tasks Pane - In-Progress Status

| 😰 Recent Tasks | | | | | | ¥ | × |
|---------------------------|---------------|-------------------------------|---------------------|------------|---------------------|---------------------|----|
| - | | | | | (| Q Filter | • |
| Task Name | Target | Status | Initiator | Queued For | Start Time 1 | Completion Time | |
| Deploy OVF template | 192.168.37.36 | 0% 🕲 | VSPHERE.LOCAL\\ | 22 ms | 4/2/2019 5:14:12 PM | | |
| Import OVF package | 192.168.37.36 | 0% 🕲 | vsphere.local\\Admi | 115 ms | 4/2/2019 5:11:56 PM | | : |
| Delete virtual machine | 🔂 vcm-100 | Completed | VSPHERE.LOCAL\\ | 51 ms | 4/2/2019 5:09:10 PM | 4/2/2019 5:09:10 PM | ī. |
| Power Off virtual machine | 🔂 vcm-100 | Completed | VSPHERE.LOCAL\\ | 8 ms | 4/2/2019 5:09:02 PM | 4/2/2019 5:09:03 PM | |
| Delete virtual machine | Ap 200 | Completed | VSPHERE.LOCAL\\ | 11 ms | 4/2/2019 5:07:53 PM | 4/2/2019 5:07:55 PM | • |

Step 16 After deployment is complete, the **Recent Tasks** pane items show **Completed** for the deployed Cisco vWAAS image.

Figure 14: VMware vSphere Web Client Recent Tasks Pane - Completed Status

| 😨 Recent Tasks | | | | | | Ŧ | × |
|--------------------------|---------------|-------------------------------|---------------------|------------|---------------------|---------------------|---|
| • - | | | | | | Q Filter | • |
| Task Name | Target | Status | Initiator | Queued For | Start Time | 1 V Completion Time | - |
| Power On virtual machine | Dev-150k | ✓ Completed | VSPHERE.LOCAL\\ | 11 ms | 4/2/2019 5:15:30 PM | 4/2/2019 5:15:40 PM | |
| Initialize powering On | Datacenter | ✓ Completed | VSPHERE.LOCALI | 19 ms | 4/2/2019 5:15:30 PM | 4/2/2019 5:15:30 PM | |
| Deploy OVF template | 🔂 12k | ✓ Completed | VSPHERE.LOCAL\\ | 22 ms | 4/2/2019 5:14:12 PM | 4/2/2019 5:17:12 PM | |
| Import OVF package | 192.168.37.36 | ✓ Completed | vsphere.local\\Admi | 115 ms | 4/2/2019 5:11:56 PM | 4/2/2019 5:17:12 PM | |
| Delete virtual machine | A vcm-100 | Completed | VSPHERE.LOCALII | 51 ms | 4/2/2019 5:09:10 PM | 4/2/2019 5:09:10 PM | |

Step 17

17 After deployment is complete, use the **Power > Power On** menu option to power on the device.

Sporadically, deployment may fail due to a communication error between VMware vCenter and the VMware ESXi host. If this occurs during deployment, try one of 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
- While deploying, choose the **Disk Type** option as Thin Provisioning and use the following procedure to convert the disks to **Thick Eager Zero**.
- **a.** Wait for the deployment to complete 100%.
- **b.** Ensure the deployed VM is in Power-Off state. If it is not, power off the device before proceeding to the next step.
- c. Navigate to the folder of the virtual disk you want to inflate.
 - In the vSphere Web Client, browse to the virtual machine.
 - Click the **Datastores** tab.
 - The datastore that stores the virtual machine files is listed.
 - Select the datastore and click the Browse Files icon.

The datastore browser displays contents of the datastore.

- **d.** Expand the virtual machine folder and browse through the list of files. The files with extension **.vmdk** will have the virtual disk icon.
- e. Right-click the .vmdk virtual disk file and select the Inflate option.
- f. Repeat the above step for all the .vmdk files in the deployed VM.
- Step 18Use the Open Console menu option to open the device console. The following two figures show the Open
Console menu option and the Device Console.

L

Actions - 12k Power Guest OS Snapshots 📑 Open Console Aigrate... Clone Template Fault Tolerance VM Policies Compatibility Export System Logs... Edit Resource Settings... B Edit Settings... Move To ... Rename... Edit Notes... Tags & Custom Attributes Add Permission... Alarms Remove from Inventory 5 Delete from Disk 3561 All vCenter Orchestrator plugin Actions

Figure 15: VMware vSphere Web Client Open Console Menu Option

Figure 16: Device Console

```
Keepalive probleм: Node Health Mgr incorrectly мarked nodeмgr dead, will reregis
terPassword:
Login incorrect
UCSE-ESXI login: admin
Password:
System Initialization Finished.
UCSE-ESXI#sh ver
Cisco Wide Area Application Services Software (WAAS)
Copyright (c) 1999-2019 by Cisco Systems, Inc.
Cisco Wide Area Application Services (universal-npe-k9) Software Release 6.4.3b-
npe (build b48 Mar 29 2019)
Version: oe-vwaas-6.4.3b.48
Compiled 16:12:45 Mar 29 2019 by cubuild
Device Id: 00:50:56:99:07:c1
System was restarted on Tue Apr 2 11:38:08 2019.
System restart reason: Power-on.
The system has been up for 10 minutes, 50 seconds.
UCSE-ESXI#_
```

356159

Using VMware OVF Tool to Install VMware ESXi for Cisco vWAAS in WAAS v6.4.3b and Later

Before you begin

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.

Procedure

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

vWAAS-200

vWAAS-750

vWAAS-1300

vWAAS-2500

vWAAS-6000

vWAAS-6000R

vWAAS-12000

vWAAS-50000

vWAAS-150000

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

• Resized Cisco vWAAS models supported:

vWAAS-150

vWAAS-200

vWAAS-750

vWAAS-1300

vWAAS-2500

vWAAS-6000

vWAAS-6000R

Cisco vWAAS on VMware ESXi

vWAAS-12000

vWAAS-50000

To deploy a resized vWAAS model: Use the designation _Res, for example, VW_6000_Res.

• The supported original Cisco vCM models are:

vCM-100

vCM-500

vCM-1000

```
vCM-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
```

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

Before you begin

• 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.

Procedure

| Step 1 Step 2 | From tl From tl | ne vSphere Client , choose Deploy OVF Template > Deployment Configuration . ne 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 N | lext. |
| Step 4 | In the I | Deploy OVF Template window, choose Source to select the source location for the deployed template. |
| Step 5 | From th | ne Deploy from a file or URL drop-down list, click Browse |
| | The Na | me and Location window is displayed. |
| Step 6 | Enter a a) In t 80 b) In t | unique name for the deployed template, and select a location for the deployed template. the Name field, enter a unique name for the deployed template. The template name can contain up to alphanumeric characters. the Inventory Location listing, select a folder location. |
| Step 7 | Click N | lext. |
| Step 8 | In the I | Deploy OVF Template window, select Deployment Configuration. |
| Step 9 | From th | ne 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 N | Jext. |
| Step 11 | In the I | Deploy OVF Template window, select Disk Format. |
| Step 12 | In the I | Datastore: field, enter the datastore name. |
| Step 13 | For pro | visioning, choose one of the following virtual disk format types: |
| | • TI dis on | hick Provision Lazy Zero : The entire space specified for virtual disk files is allocated when the virtual sk is created. The old data on the physical device is not erased when the disk is created, but zeroed out demand, as needed, from the VM. |
| | • Tl dis su | hick Provision Eager Zero : The entire space specified for virtual disk files is allocated when the virtual sk is created. Old data is erased when the disk is created. The thick provision eager zero option also pports VMware fault tolerance for high availability. |
| | Note | The Thin Provision option is not available for Cisco vWAAS with VMware ESXi. |
| Step 14 | Click N | lext. |
| | The VN | Aware ESXi hypervisor is created for the specified Cisco vWAAS model. |

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

Procedure

Step 1

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

The **Source** window appears.

Figure 17: File > Deploy OVF Template

| vCenter-Server - vSphere Clier | nt | | | _ []] |
|---|--|--|--|---------------------|
| e Edit View Inventory Admini | stration Plug-ins Help | | | |
| New | ventory > 🔠 Hosts and Clusters | | Search Invento | ry Q |
| Deploy OVF Template | | | | |
| Export | | | | |
| Report | 2.8.3.17 VMware ESX, 4.0.0, 236512 | | | |
| Browse VA Marketplace | Getting Started Summary Virtual Mac | tines 🔍 Resource Alocation 🔍 Performance 🔪 🕻 | Configuration Tasks & Events Alarns Permissions Ma | ps Starage Vews HEE |
| Print Maps | Hardware | Processors | | Properties |
| Exit | Processors | General | | |
| (1) VMESO12 (2.8.1.17) | Memory Strags Networking Strags Adgetes Network Adgetes Advanced Setting: Software Licensed Fedures Time Croine adapt | Model Processor Speed Processor Solvets Processor Solvets Logical Processors Hyperthreading Power Management: Policy System | Intel(R) Xeon(R) CPU E5540 @ 2.53GHz 2.5 GHz 2 4 16 Enabled Enhabled Enhabled Enhabled Enhabled | |
| Sheepork Sheevare TNPL-W2X8-R2 Vonter-Server Vonter-Server Vonter-VOD Vontor-VOD Vontor-VOD Vontor-NOD Vontor-ND Vontor-ND | Inite Control and Kinh Disk and Routing Power Management Virtual Machine Startup/Shutdown Virtual Machine Swartup/Shutdown Virtual Machine Swartup/Shutdown System Resource Adoction Advanced Settings | Manufasturer Model | Cisco Systems Inc R200-1120402 | |

Step 2 Click Browse.

The **Open** window appears.

- **Step 3** Navigate to the location of the 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 To accept the selected OVA file, click **Next**.

The Name and Data Center Location window appears.

Figure 18: Deploy OVF Template > Name and Data Center Location

| ame and Location Specify a name and loca | ation for the deployed template |
|---|---|
| urce /F Template Details | Name: |
| ame and Location esource Pool atastore sk Format | The name can contain up to 80 characters and it must be unique within the inventory folder. |
| twork Mapping ady to Complete | Datacenter Datacenter Datacenter Datacenter Datacenter |
| | |
| | |
| | |
| | |

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**).

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.

L

| ource | Select a datastore in which to store the VM files: | | | | | | |
|--|--|----------|-------------|-----------|------|-------------------|---------|
| OVF Template Details Jame and Location | Name | Capacity | Provisioned | Free | Туре | Thin Provisioning | Access |
| tesource Pool | [SAN Storage] | 1.36 TB | 629.80 GB | 884.45 GB | VMFS | Supported | Multipl |
| isk Format letwork Mapping leady to Complete | | | | | | | |

Figure 19: Deploy OVF Template > Datastore

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

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 8The 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 20: Deploy OVF Template > Network Mapping

| what networks should t | ne depioyed template use? | | |
|--|--|--|---|
| ource IVF Template Details Iame and Location | Map the networks used in this OVF | template to networks in your inventory | |
| esource Pool | Source Networks | Destination Networks | |
| latastore | VM Network | Virtual Machine Network | |
| etwork Manning | | | |
| | | | |
| | Description: | | |
| | Description: The VM Network network | | 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.

Step 11 To complete the installation, click **Finish**.

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

Figure 21: Cisco vWAAS: Status Window

| 14% Deploying vWAAS-vCM-S | mall-OVF |
|---|--|
| Deploying vWAAS-vCM-Small-OVF | |
| Deploying disk 2 of 2 from C:\Docum Documents\vWAAS-vCM-Small-0VF k | ents and Settings\Administrator\My \vWAAS-vCM-Small-OVF-disk2.vmd |
| | Cancel |
| 43 seconds remaining | |
| | |

- Step 12 When the deployment is finished, the Deployment Completed Successfully window appears.
- Step 13 Click Close.
- Step 14 You are ready to start the VM. Highlight the vWAAS VM and click Power on Virtual Machine.
- Step 15 After Cisco vWAAS finishes booting, click the Console tab to view bootup messages.

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 more information, see the chapter "Troubleshooting Cisco vWAAS."

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

Operating Guidelines for VMware ESXi in Cisco vWAAS in WAAS v6.4.3 and Later

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:
- 1. In VMware vSphere, choose the Virtual Hardware tab, and from the Adapter Type drop-down list, choose the VMXNET3.
- 2. 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.
- **3.** 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:
- 1. Power off the VM.
- **2.** From the host, change the adapter type to VMXNET3.
- 3. Power on the VM.
- **4.** To verify that the configured routers appear in the routing table output, run the **show ip route** EXEC command.

Upgrade and Downgrade Guidelines for 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:

- 1. Power down the Cisco vWAAS.
- 2. From the VMware vCenter, choose vSphere Client > Edit Settings > Hardware.
- 3. Choose SCSI controller 0.
- 4. 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**.
- 5. Click OK.
- 6. Power up the Cisco vWAAS in Cisco WAAS Version 6.1.x or later.