Installation, upgrade, and removal of Unified Manager on VMware vSphere

Active IQ Unified Manager

NetApp
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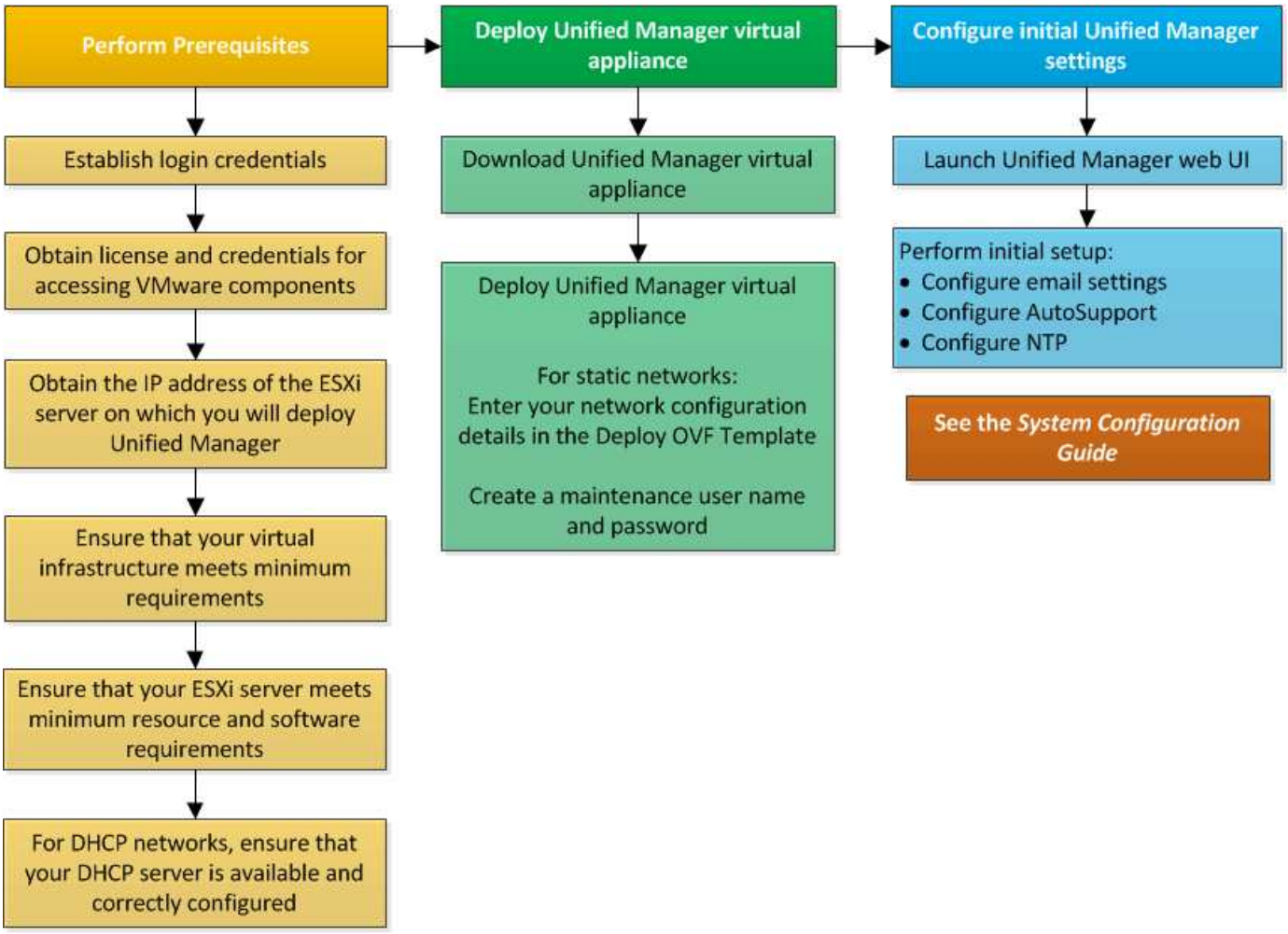
Installation, upgrade, and removal of Unified Manager on VMware vSphere

Learn about the Active IQ Unified Manager deployment process

The deployment workflow describes the tasks that you must perform before you can use Unified Manager.



Unified Manager virtual appliance deployment workflow

Deploy Active IQ Unified Manager

Deploying Unified Manager includes downloading software, deploying the virtual appliance, creating a maintenance user name and password, and performing the initial setup in the web UI.

Before you begin

- You should verify and complete the system requirements for deployment.

See System requirements.

- Ensure that you have the following information:
  - Login credentials for the NetApp Support Site
  - Credentials for accessing the VMware vCenter Server and vSphere Web Client
  - IP address of the ESXi server on which you are deploying the Unified Manager virtual appliance
  - Details about the data center, such as storage space in the datastore and memory requirements
  - IPv6 should be enabled on the host if you are planning to use IPv6 addressing.

You can deploy Unified Manager as a virtual appliance on a VMware ESXi server.

You should access the maintenance console by using the VMware console, and not by using SSH.

> Starting with Unified Manager 9.8, VMware Tools has been replaced with Open VM Tools (`open-vm-tools`). You no longer have to install VMware Tools as part of the installation because `open-vm-tools` is included with the Unified Manager installation package.

After finishing the deployment and initial setup, you can either add clusters, or configure additional network settings in the maintenance console, and then access the web UI.

Steps

1. Follow the steps in Download Unified Manager.
2. Additionally, follow the steps in Deploy the Unified Manager virtual appliance.

Download the Active IQ Unified Manager installation file

Download the Unified Manager installation file from the NetApp Support Site to deploy Unified Manager as a virtual appliance.

Before you begin

You should have the login credentials for the NetApp Support Site.

The installation file is a `.tar` file that contains a root certificate, a `README` file, and an `OVA` file containing Unified Manager software configured for a virtual appliance.

Steps

1. Log in to the NetApp Support Site, and navigate to the Download page for Unified Manager:

   NetApp Support Site

2. Select the required version of Unified Manager and accept the end-users license agreement (EULA).
3. Download and save the `.tar` file for VMware vSphere installation to a local directory or network directory that is accessible to your vSphere Client.
4. Verify the checksum to ensure that the software downloaded correctly.
5. Navigate to the directory where you downloaded the `.tar` file and enter the following command in your terminal window to expand the Unified Manager bundle:

```
tar -xvzf ActiveIQUnifiedManager-<version>.tar.gz
```

The required `OVA` file, a root certificate, and a `README` file for Unified Manager are unzipped to the target directory.

6. Verify the integrity of the `OVA` file by following the steps provided in the `README` file.

Deploy the Active IQ Unified Manager virtual appliance

After downloading the installation file, you deploy Unified Manager as a virtual appliance. Use the vSphere Web Client to deploy the virtual appliance on an ESXi server. When you deploy the virtual appliance, a virtual machine is created.

Before you begin

You should review the system requirements. Make the necessary changes before deploying the Unified Manager virtual appliance.

See Virtual infrastructure requirements.

See VMware software and installation requirements.

If you use Dynamic Host Configuration Protocol (DHCP), ensure that the DHCP server is available, and that the DHCP and virtual machine (VM) network adapter configurations are correct. DHCP is configured by default.

If you use a static networking configuration, ensure that the IP address is not duplicated in the same subnet, and that the appropriate DNS server entries have been configured.

Obtain the following information before deploying the virtual appliance:

- Credentials for accessing the VMware vCenter Server and vSphere Web Client
- IP address of the ESXi server on which you are deploying the Unified Manager virtual appliance
- Details about the data center, such as availability of storage space
- If you are not using DHCP, obtain the IPv4 or IPv6 addresses for the networking devices to which you are planning to connect:
  - Fully qualified domain name (FQDN) of the host
  - IP address of the host
  - Network mask
  - IP address of the default gateway
  - Primary and secondary DNS addresses
  - Search domains

Starting with Unified Manager 9.8, VMware Tools has been replaced with Open VM Tools (*`open-vm-tools`*). You do not have to install VMware Tools as part of the installation process because *`open-vm-tools`* is included with the Unified Manager installation package.

When the virtual appliance is deployed, a unique self-signed certificate for HTTPS access is generated. When accessing the Unified Manager web UI, you might see a browser warning about untrusted certificates.

VMware High Availability for the Unified Manager virtual appliance is supported.

Steps

1. In the vSphere Client, click **File** > **Deploy OVF Template**.
2. Complete the Deploy OVF Template wizard to deploy the Unified Manager virtual appliance.

   On the Review Details page:

   - Verify the details of the Publisher section. The message **Entrust Code Signing - OVCS2 (Trusted certificate)** confirms the integrity of the downloaded `OVA` file.
     If you see the message **Entrust Code Signing - OVCS2 (Invalid certificate)**, then upgrade the VMware vCenter Server to 7.0U3E or greater version.

     On the Customize Template page:

   - Leave all the fields blank when using DHCP and IPv4 addressing.
   - Check the “Enable Auto IPv6 addressing” box, and leave all the other fields blank when using DHCP and IPv6 addressing.
   - If you want to use a static network configuration, you can complete the fields on this page and these settings are applied during deployment. Ensure that the IP address is unique to the host on which it is deployed, that it is not already in use, and that it has a valid DNS entry.
3. After the Unified Manager virtual appliance is deployed to the ESXi server, power on the VM by right-clicking the VM, and then selecting **Power On**.

   If the Power On operation fails because of insufficient resources, add resources and then retry the installation.

4. Click the **Console** tab.

   The initial boot process takes a few minutes to complete.

5. To configure your time zone, enter your geographic area and your city or region as prompted in the VM Console window.

   All the date information that is displayed uses the time zone that is configured for Unified Manager, regardless of the time zone setting on your managed devices. If your storage systems and the management server are configured with the same NTP server, they refer to the same instant in time, even if they appear differently. For example, if you create a Snapshot copy using a device that is configured using a different time zone than that of the management server, the time stamp is the management server time.

6. If no DHCP services are available, or if there is an error in the details for the static network configuration, select one of the following options:

If you use…	Then do this…
DHCP	Select **Retry DHCP**. If you plan to use DHCP, you should ensure that it is configured correctly. If you use a DHCP-enabled network, the FQDN and DNS server entries are given to the virtual appliance automatically. If DHCP is not properly configured with DNS, the host name “UnifiedManager” is automatically assigned and associated with the security certificate. If you have not set up a DHCP-enabled network, you should manually enter the networking configuration information.
A static network configuration	a. Select **Enter the details for static network configuration**. The configuration process takes a few minutes to complete. b. Confirm the values that you entered, and select **Y**.

7. At the prompt, enter a maintenance user name, and then click **Enter**.

   The maintenance user name should start with a letter from a-z, followed by any combination of -, a-z, or 0-9.

8. At the prompt, enter a password, and then click **Enter**.

   The VM console displays the URL for the Unified Manager web UI.

You can access the web UI to perform the initial setup of Unified Manager, as described in the Configuring Active IQ Unified Manager.

Unified Manager virtual appliance upgrade workflow

Upgrade Active IQ Unified Manager

You can upgrade Active IQ Unified Manager to release 9.20 from release 9.16 or 9.18 only.

During the upgrade process, Unified Manager is unavailable. You should complete any running operations before upgrading Unified Manager.

If Unified Manager is paired with an instance of OnCommand Workflow Automation, and there are new versions of software available for both products, you must disconnect the two products and then set up a new Workflow Automation connection after performing the upgrades. If you are performing an upgrade to only one of the products, then you should log into Workflow Automation after the upgrade and verify that it is still acquiring data from Unified Manager.

If you are upgrading from Unified Manager 9.7, you cannot upgrade directly from 9.14 to 9.20 because of file system changes in the Debian versions. If you are running a version that is earlier than the supported versions, your Unified Manager instance will need to be upgraded to

one of the supported versions first, and then upgraded to the current version. Follow this recommended upgrade path: 9.14 → 9.16P2 → 9.20

Steps

1. Follow the steps in Download the Unified Manager ISO image.
2. Additionally, follow the steps described in Upgrade Unified Manager.

Use the supported upgrade path for versions of Active IQ Unified Manager

Active IQ Unified Manager supports a specific upgrade path for each version.

Not all versions of Unified Manager can perform an in-place upgrade to later versions. The Unified Manager upgrades are limited to an N-2 model. This means that you can only perform an upgrade to the next two releases on all platforms. For example, you can perform an upgrade to Unified Manager 9.20 from Unified Manager 9.16 and 9.18 only.

If you are running a version that is earlier than the supported versions, your Unified Manager instance will need to be upgraded to one of the supported versions first, and then upgraded to the current version.

For example, if your installed version is Unified Manager 9.11 and you want to upgrade to Unified Manager 9.20, you follow a sequence of upgrades.

Sample upgrade path:

1. Upgrade 9.11 → 9.13
2. Upgrade 9.13 → 9.14
3. Upgrade 9.13 → 9.16
4. Upgrade 9.14 or 9.16 → 9.18
5. Upgrade 9.16 or 9.18 → 9.20

For more information on the upgrade path matrix, see this knowledge base (KB) article.

Download the Active IQ Unified Manager upgrade file

Before upgrading Unified Manager, download the Unified Manager upgrade file from the NetApp Support Site.

Before you begin

You should have login credentials for the NetApp Support Site.

Steps

1. Log in to the NetApp Support Site:

   NetApp Support Site

2. Navigate to the Download page for upgrading Unified Manager on VMware vSphere.
3. Download the `.iso` image for upgrade, and save it to a local directory or network directory that is accessible to your vSphere Client.
4. Verify the checksum to ensure that the software has downloaded correctly.

Upgrade the Active IQ Unified Manager virtual appliance

You can upgrade the Active IQ Unified Manager virtual appliance from releases 9.16 or 9.18 to 9.20.

Before you begin

Ensure the following:

- You have downloaded the upgrade file and the ISO image from the NetApp Support Site.
- The system on which you are upgrading Unified Manager meets the system and software requirements.

  See Virtual infrastructure requirements.

  See VMware software and installation requirements.

- For vSphere 6.5 and later users, you have installed the VMware Remote Console (VMRC).
- During upgrade, you may be prompted to confirm on whether you want to keep the previous, default settings for retaining performance data for 13 months or to change it to 6 months. On confirming, the historical performance data is purged after 6 months.
- You have the following information:
  - Login credentials for the NetApp Support Site
  - Credentials for accessing the VMware vCenter Server and vSphere Web Client
  - Credentials for the Unified Manager maintenance user

During the upgrade process, Unified Manager is unavailable. You should complete any running operations before upgrading Unified Manager.

If you have paired Workflow Automation and Unified Manager, you should manually update the host name in Workflow Automation.

Steps

1. In the vSphere Client, click **Home** > **Inventory** > **VMs and Templates**.
2. Select the virtual machine (VM) on which the Unified Manager virtual appliance is installed.
3. If the Unified Manager VM is running, navigate to **Summary** > **Commands** > **Shut Down Guest**.
4. Create a backup copy, such as a snapshot or a clone, of the Unified Manager VM to create an application-consistent backup.
5. From the vSphere Client, power on the Unified Manager VM.
6. Launch the VMware Remote Console.
7. Click the **CDROM** icon, and select **Connect to Disk Image File (.iso)**.
8. Select the `ActiveIQUnifiedManager-<version>-virtual-update.iso` file, and click **Open**.
9. Click the **Console** tab.
10. Log in to the Unified Manager maintenance console.
11. In the Main Menu, select **Upgrade**.

    A message is displayed that Unified Manager is to be unavailable during the upgrade process, and is to resume after completion.

12. Type `y` to continue.

    A warning is displayed, reminding you to back up the virtual machine on which the virtual appliance resides.

13. Type `y` to continue.

    The upgrade process and the restart of Unified Manager services can take several minutes to complete.

14. Press any key to continue.

    You are automatically logged out of the maintenance console.

15. **Optional:** Log in to the maintenance console, and verify the version of Unified Manager.

You can launch the web UI on a new window on a supported web browser and log in to use the upgraded version of Unified Manager. Note that you need to wait for the discovery process to finish before performing any task in the UI.

Restart the Active IQ Unified Manager virtual machine

You can restart the Unified Manager virtual machine (VM) from the maintenance console. You should restart the VM after generating a new security certificate, or if there is a problem with the VM.

Before you begin

- The virtual appliance should be powered on.
- You should be logged in to the Unified Manager maintenance console as the maintenance user.

You can also restart the virtual machine from vSphere by using the VMware **Restart Guest** option. Refer to the Restart-VMGuest cmdlet in Broadcom's VMware vSphere PowerCLI CMDLET reference.

Steps

1. In the maintenance console, select **System Configuration** > **Reboot Virtual Machine**.
2. Start the Unified Manager web UI from your browser, and log in.

Remove Active IQ Unified Manager

You can uninstall Unified Manager by removing the virtual machine (VM) on which the Unified Manager software is installed.

Before you begin

- You should have credentials for accessing VMware vCenter Server and vSphere Web Client.
- Any active connection of the Unified Manager server to a Workflow Automation server should be closed.
- All clusters (data sources) should be removed from the Unified Manager server before you remove the virtual machine (VM).

Steps

1. Use the Unified Manager maintenance console to verify that the Unified Manager server does not have an active connection to an external data provider.

2. In the vSphere Client, click **Home** > **Inventory** > **VMs and Templates**.
3. Select the VM that you want to remove, and click the **Summary** tab.
4. If the VM is running, click **Power** > **Shut Down Guest**.
5. Right-click the VM that you want to remove, and click **Delete from Disk**.

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