



# Cisco ACI Virtual Edge Upgrade

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This chapter describes upgrading the Cisco ACI Virtual Edge, including prerequisites and instructions.

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## About Cisco ACI Virtual Edge Upgrades

Upgrading Cisco Application Centric Infrastructure (ACI) Virtual Edge is similar to installing it. You download a new Cisco ACI Virtual Edge OVF file from Cisco.com and upload it to the VMware vCenter content library. You then upgrade by redeploying Cisco ACI Virtual Edge on the ESXi hosts.

You perform these upgrade tasks using the Cisco ACI vCenter plug-in only. You cannot use the VMware PowerCLI or a Python script.

The Cisco ACI vCenter plug-in was originally designed to work with Adobe Flash. However, and Adobe has deprecated flash in VMware vSphere version 6.7, and Adobe will stop updating Flash at the end of 2020. Beginning with the VMware vSphere 6.7 release, a new version—Cisco ACI HTML5 vCenter plug-in—designed to work with HTML5 is available. This section includes upgrade procedures for both plug-ins.

**Note**

- The name of the VMware vSphere client differs depending on whether you use the Flash or HTML5 version. The Flash version is referred to as the VMware vSphere Web Client; the HTML5 version is referred to as the VMware vSphere Client.
- Do not use the vSphere (thick) Client to upgrade Cisco ACI Virtual Edge or modify its vApp properties. Use only the Cisco ACI vCenter plug-in. Use only the vSphere Web Client to modify Cisco ACI Virtual Edge vApp properties.
- The Cisco ACI Virtual Edge upgrade gets stuck on hosts through the Cisco ACI fabric plug-in in VMware vCenter 7.0U1. It also fails to put the host into maintenance mode to install the new Cisco ACI Virtual Edge virtual machine (VM). This happens when you try to upgrade try Cisco ACI Virtual Edge on VMware vCenter 7.0U1 that has vSphere Cluster Services (vCLS)-enabled VMs deployed in a cluster by default. Doing so is required for Distributed Resource Scheduler (DRS) and high availability.  
To remedy the issue, manually migrate the vCLS VMs from the host in the cluster where the Cisco ACI Virtual Edge VM upgrade is scheduled to any other host in the cluster.
- Migrate from Cisco Application Virtual Switch (AVS) to Cisco ACI Virtual Edge before upgrading to Cisco Application Policy Infrastructure Controller (APIC) 5.0(x) and later releases. Cisco AVS VMM domains are not supported beginning in Cisco APIC release 5.0(x).

The following sections provide information about prerequisites and installation.

For information about other Cisco Cisco ACI Virtual Edge tasks, see the following sections in this guide.

- Installing Cisco ACI Virtual Edge: See the chapter [Cisco ACI Virtual Edge Installation](#).
- Migrating from Cisco AVS to Cisco ACI Virtual Edge: See the chapter [Migration from Cisco AVS to Cisco ACI Virtual Edge](#).
- Migrating from VMware VDS to Cisco ACI Virtual Edge: See the chapter [Migration from VMware VDS to Cisco ACI Virtual Edge](#).

## Recommended Upgrade Sequence for Cisco APIC, the Fabric Switches, and Cisco ACI Virtual Edge

When you upgrade the Cisco APIC, NX-OS software on the fabric switches, or Cisco ACI Virtual Edge, upgrade them all so they remain compatible.

To avoid network traffic disruption, we recommend that you perform the different upgrades in the following order:

**Important**

Before you upgrade the Cisco APIC, fabric switches, and Cisco ACI Virtual Edge, check the *Cisco Application Policy Infrastructure Controller Release Notes* and the *Cisco ACI Virtual Edge Release Notes* for software compatibility information. All are available on [Cisco.com](http://Cisco.com).

1. The Cisco APIC software image—Follow the instructions in the *Cisco APIC Management, Installation, Upgrade, and Downgrade Guide*.

If you have Cisco APIC clusters, the clusters are upgraded one by one automatically.

2. The switch software on the fabric switches—Follow the instructions in the *Cisco APIC Management, Installation, Upgrade, and Downgrade Guide*.

To avoid network traffic disruption during the upgrade, provide a path for Cisco ACI Virtual Edge traffic by putting the TORs and spines into different firmware or maintenance groups and then upgrading each firmware or maintenance group individually.

3. The Cisco ACI Virtual Edge—Complete the following tasks:
  - a. Follow the instructions in this chapter.
  - b. Complete one of the following steps:
    - Run the **vem restart** command on the VIBs if you decide to keep the VIBs on the current release.
    - Upgrade the VIBs to the later release if you decide to upgrade the VIBs.

## Cisco ACI Virtual Edge Upgrade Workflow

This section provides a high-level description of the tasks required to upgrade the Cisco ACI Virtual Edge.

1. Fulfill all the prerequisites. See the section [Prerequisites for Upgrading Cisco ACI Virtual Edge, on page 3](#) in this guide for instructions.
2. Download the Cisco ACI Virtual Edge Open Virtualization Format (OVF) file from Cisco.com and then upload it to the vCenter content library. See the section [Upload the Cisco ACI Virtual Edge VM OVF File to the VMware vCenter, on page 4](#) in this guide for instructions.
3. Deploy Cisco ACI Virtual Edge on the ESXi hosts. See the section [Upgrade Cisco ACI Virtual Edge Using the Flash Version of the Cisco ACI vCenter Plug-In, on page 6](#) in this guide for instructions.

## Prerequisites for Upgrading Cisco ACI Virtual Edge

Perform the following tasks before you upgrade Cisco ACI Virtual Edge:

- Ensure that the Cisco ACI Virtual Edge that you plan to upgrade is properly configured and is operating without any issues.
- Check the Cisco ACI Virtual Edge [Release Notes](#) on Cisco.com for information about upgrading to the desired version.
- Ensure that OpFlex is online.
- In order to use the Cisco ACI vCenter plug-in, we recommend that you use vCenter 6.0 Update 3 or later.
- If you want to use the Cisco ACI vCenter plug-in to upgrade the Cisco ACI Virtual Edge, you first must upgrade the plug-in to the version shipped with the Cisco APIC version (4.x).
- If you use static or DHCP IP pools, ensure that you have enough IP addresses.

There must be more IP addresses in the static or DHCP pools than there are the in the Cisco ACI Virtual Edge service VMs in the data center in VMware vCenter. Otherwise, the upgrade of the new Cisco ACI Virtual Edge will fail.

- If the host is *not* part of a DRS cluster, manually move the non-Cisco ACI Virtual Edge VMs out of the host or power them off before the upgrade. If the host is part of a DRS cluster, non-Cisco ACI Virtual Edge VMs are moved out of the host automatically.

## Cisco ACI Virtual Edge Upgrade

After you fulfill the upgrade prerequisites, you can use the Cisco Application Centric Infrastructure (ACI) Virtual Edge VMware vCenter to install . You use the Cisco ACI plug-in for VMware vCenter, which automates the process.



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**Note** If you use a version of VMware vSphere earlier than 6.7, you use the Cisco ACI vCenter plug-in, which is designed to work with Flash. If you use VMware vSphere 6.7, you use the Cisco ACI HTML5 vCenter plug-in, which is designed to work with HTML5. This section provides procedures for both plug-ins.

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You first upload the Cisco ACI Virtual Edge VM OVF file to the VMware vCenter content library. You can then deploy Cisco ACI Virtual Edge on the ESXi hosts.



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**Note** If you use a local data store for content library storage, re-create the content library after you remove a host and then reattach it to vCenter. That is because the data store ID changes after the host is reattached, breaking the association between the content library and the data store.

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**Note** After you deploy Cisco ACI Virtual Edge, do not remove it from the vCenter inventory and add it back. Doing so removes all the configurations you made during deployment. Deploy a new Cisco ACI Virtual Edge instead of adding an existing one back to the inventory.

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## Upload the Cisco ACI Virtual Edge VM OVF File to the VMware vCenter

You upload the Cisco ACI Virtual Edge VM OVF file to the VMware vCenter before you deploy Cisco ACI Virtual Edge on the ESXi hosts.

### Before you begin

You must have done the following:

- Downloaded the folder with the OVF file to your computer.
- Check the Cisco ACI Virtual Edge Release Notes on Cisco.com to ensure that the OVF file is compatible with the version of Cisco APIC.
- Have already registered the Cisco ACI fabric inside the Cisco ACI vCenter plug-in.

## Procedure

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- Step 1** Log in to the vSphere Web Client.
- Step 2** Choose **Content Libraries**.
- You can use an existing content library or create one to receive the upload of the Cisco ACI Virtual Edge VM OVF. See VMware documentation for instructions.
- Step 3** Choose the library and then click **Import item**.
- Step 4** In the **Import library item** dialog box, click the **Browse** button.
- Step 5** In the pop-up dialog box, choose the OVF file and click **Open**.
- Once the OVF file is uploaded to the content library, it appears in the work pane under the **Templates** tab.
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## Upgrade Cisco ACI Virtual Edge Using the HTML5 Version of the Cisco ACI vCenter Plug-in

After you upload a new Cisco Application Centric Infrastructure (ACI) Virtual Edge VM OVF file to the VMware vCenter, you upgrade by redeploying Cisco ACI Virtual Edge on the ESXi hosts.

### Before you begin

You must have uploaded the Cisco ACI Virtual Edge VM OVF file to the VMware vCenter.

## Procedure

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- Step 1** Log in to the VMware vSphere Client.
- Step 2** On the **Home** page, in the left navigation pane, click **Cisco ACI Fabric**.
- Step 3** In the **Cisco ACI Fabric** navigation pane, choose the fabric from the **Fabric** drop-down list.
- Step 4** In the left navigation pane, click **AVE** to display the list of domains associated with the fabric, and then double-click the domain where you want to deploy the Cisco ACI Virtual Edge VM.
- Step 5** In the **AVE** work pane, click the **AVE** tab.
- Step 6** (Optional) In the upper right of the work pane, click **Max concurrent tasks** pencil icon to choose the number of deployments to run at the same time.
- If you want to deploy the Cisco ACI Virtual Edge VM on multiple hosts, if you specify the number of concurrent tasks, the VM will be deployed on the number of hosts that you specify. For example, if you choose to deploy the VM on five hosts and choose three tasks to run concurrently, deployment will proceed on three of the hosts at the same time while deployment for the other two hosts is queued.
- Step 7** In the **Datacenter** table, check the check box for each host on which you want to deploy the Cisco ACI Virtual Edge VM.
- Step 8** Click **UPGRADE AVE**.
- Step 9** In the pop-up window, click **CONTINUE**.  
The **New AVE Wizard** appears.

- Step 10** In the **Version** pane, click the radio button for the Cisco ACI Virtual Edge version that you want to use and then click **NEXT**.
- Step 11** In the **Networking** pane, click the radio button for the management port group that you want to use with the Cisco ACI Virtual Edge VM and then click **NEXT**.
- Step 12** In the **Storage** pane, complete one of the following actions:
- Leave the check box checked for **Let vCenter select the Datastore Automatically** and then click **NEXT**.  
Uncheck the check box for **Let vCenter select the Datastore Automatically**, from the host drop-down list, choose a datastore, and then click **NEXT**.
- Step 13** In the **Settings** pane, in the **Admin Password** and the **Confirm Admin Password** fields, enter your password for the VMware vCenter and then click **NEXT**.
- Step 14** In the **Summary** pane, view information about the newly deployed VM and then click **FINISH**.

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### What to do next

Verify that the upgrade is underway. In the **AVE** work pane, a **New AVE** pop-up window appears on the host where you deployed the VM. The host displays the percentage of how much of the upgrade has completed. You also can click the clipboard icon at the upper right of the work pane and in the **ACI Tasks & Settings**, view information about the **New AVE** task.

## Upgrade Cisco ACI Virtual Edge Using the Flash Version of the Cisco ACI vCenter Plug-In

After you upload a new Cisco Application Centric Infrastructure (ACI) Virtual Edge VM OVF file to the VMware vCenter, you upgrade by redeploying Cisco ACI Virtual Edge on the ESXi hosts.

### Before you begin

You must have uploaded the Cisco ACI Virtual Edge VM OVF file to the VMware vCenter.




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**Note** If you use VMware vCenter 6.0 Web Client, the pop-up window for browsing to the OVF file may not appear. In that case, upload the OVF and virtual machine disk file (VMDK) to the HTTP server. Then use the OVF file URL from the server to download the OVF file to the content library.

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### Procedure

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- Step 1** Log in to the vSphere Web Client.
- Step 2** In the **Home** work pane, click the **Cisco ACI Fabric** icon.
- Step 3** In the **Cisco ACI Fabric** navigation pane, click **ACI Virtual Edge**.
- Step 4** In the **ACI Virtual Edge** work pane, if there are multiple virtual domains, choose the domain from the **Select an ACI Virtual Edge Domain** drop-down list.
- If there is only one virtual domain, skip to the next step.

- Step 5** Choose the host or hosts on which you want to deploy Cisco ACI Virtual Edge.
- Step 6** From the **ACI Virtual Edge version** drop-down list, choose the version to be deployed.
- Step 7** From the **Management PortGroup** drop-down list, choose the management port group.
- Step 8** From the **Datastore** drop-down list, choose **Custom**, click **Edit**.
- Step 9** In the **Custom AVE Datastore selection** dialog box, choose a local or a remote data store for each Cisco ACI Virtual Edge.
- Note** To ensure a higher level of availability, we recommend that you choose a local data store if you have one.
- Note** You may not see all types of local storage in vCenter. However, if you uncheck the **Use local datastore only** check box, vCenter shows all local data stores. For details, see the documentation on the VMware website for details.
- Step 10** In the **VM Admin Password** fields, enter a new password for the Cisco ACI Virtual Edge VMs.
- Step 11** Click **Install/Upgrade ACI Virtual Edge**.
- Step 12** In the dialog box, click **Yes**.
- In the work pane, the installed hosts display OpFlex status, the Cisco ACI Virtual Edge VM, and management IP. It could take a little while for OpFlex to come up.
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