



# Cisco ACI Simulator VM Installation Guide

[New and Changed Information](#) 2

## New and Changed Information

The following sections provide an overview of the significant changes to the organization and features in this guide up to this current release. The tables do not provide an exhaustive list of all changes made to the guide or of the new features up to this release.

If a table does not exist for a release, then all of the information from the first previous release that has a table also applies to this release. For example, the none of the 4.1 releases have a table, and as such the information for the 4.0(1) release applies to the 4.1(1) and 4.1(2) releases, as well as to the 4.0(2) and 4.0(3) releases. The applicable information includes the virtual machine requirements.

**Table 1: New Features and Changed Behavior in the Cisco ACI Simulator VM for Cisco APIC Release 5.2(1)**

Feature or Change	Description	Where Documented
Small and large topology	You can now choose between a small or large topology.	<a href="#">About the Cisco ACI Simulator Virtual Machine, on page 3</a> <a href="#">Simulator VM Topology and Connections, on page 3</a>

**Table 2: New Features and Changed Behavior in the Cisco ACI Simulator VM for Cisco APIC Release 5.0(1)**

Feature or Change	Description	Where Documented
New virtual machine requirements	The virtual machine requirements are higher starting with the 5.0(1) release.	<a href="#">About the Cisco ACI Simulator Virtual Machine, on page 3</a>

**Table 3: New Features and Changed Behavior in the Cisco ACI Simulator VM for Cisco APIC Release 4.2(1)**

Feature or Change	Description	Where Documented
Installing ACI Simulator VM	From this release onwards, you do not need a challenge key nor an activation token to install the Cisco ACI simulator virtual machine.	<a href="#">Installing the Cisco ACI Simulator Virtual Machine, on page 4</a>

**Table 4: New Features and Changed Behavior in the Cisco ACI Simulator VM for Cisco APIC Release 4.0(1)**

Feature or Change	Description	Where Documented
Hardware resources	The hardware resource requirements were increased.	<a href="#">About the Cisco ACI Simulator Virtual Machine, on page 3</a>

**Table 5: New Features and Changed Behavior in the Cisco ACI Simulator VM for Cisco APIC Release 3.1(1)**

Feature or Change	Description	Where Documented
Initial release	This guide was introduced.	-

## About the Application Policy Infrastructure Controller

The Cisco Application Centric Infrastructure (ACI) is a distributed, scalable, multitenant infrastructure with external end-point connectivity controlled and grouped through application-centric policies. The Application Policy Infrastructure Controller (APIC) is the unified point of automation, management, monitoring, and programmability for the ACI. The APIC supports the deployment, management, and monitoring of any application anywhere, with a unified operations model for the physical and virtual components of the infrastructure. The APIC programmatically automates network provisioning and control that is based on the application requirements and policies. It is the central control engine for the broader cloud network; it simplifies management and allows flexibility in how application networks are defined and automated. It also provides northbound Representational State Transfer (REST) APIs. The APIC is a distributed system that is implemented as a cluster of many controller instances.

## About the Cisco ACI Simulator Virtual Machine

The intent of the Cisco ACI Simulator is to provide real, fully-featured Cisco Application Policy Infrastructure Controller (APIC) software, along with a simulated fabric infrastructure of leaf switches and spine switches in one virtual machine. Because the ACI Simulator includes Cisco APICs with real production software, you can use it to understand features, exercise APIs, and initiate integration with third-party orchestration systems and applications. The native GUI and CLI of the Cisco APIC use the same APIs that are published to third parties.

The ACI Simulator includes simulated switches, so you cannot validate a data path. The simulator allows you to connect external management entities such as ESX servers, VMware vCenters, vShields, bare metal servers, Layer 4 to Layer 7 services, AAA systems, and other physical or virtual service appliances. In addition, the ACI Simulator allows the simulation of faults and alerts to facilitate testing and to demonstrate features.

The ACI Simulator virtual machine requirements are as follows:

Release	vCPU	Memory	Storage
3.1, 3.2	8	16 GB	80 GB
4.x	12	24 GB	100 GB
5.0, 5.1	12	64 GB	130 GB
5.2, 6.0 (small topology)	12 (10,000 MHz reservation)	32 GB	100 GB
5.2, 6.0 (large topology)	16 (10,000 MHz reservation)	64 GB	100 GB

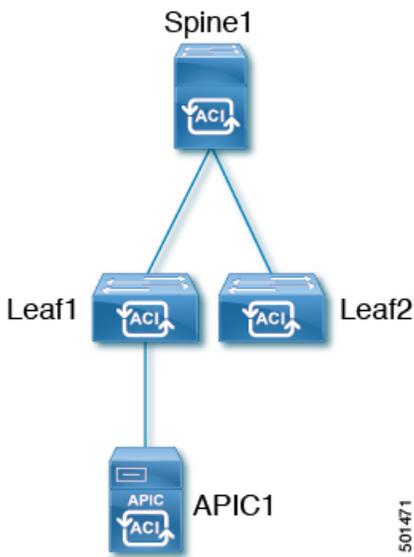
## Simulator VM Topology and Connections

In the 5.2 release and later, you can choose a small or large topology for the ACI Simulator. Prior to the 5.2 release, you can use only the small topology.

The small topology contains the following components:

- One spine switch (spine1)
- Two leaf switches (leaf1, leaf2)
- One instance of Cisco APIC (apic1)

The following diagram shows the components and connections simulated within the simulator VM server:



The large topology contains the following components:

- Two spine switches (spine1, spine2)
- Two leaf switches (leaf1, leaf2)
- Three instances of Cisco APIC (apic1, apic2, apic3)

## Guidelines and Limitations

Follow these guidelines and limitations:

- Only VMware vSphere is supported.
- With the ACI VM simulator, policies can be configured and deployed, but traffic between endpoints (physical or virtual) is not possible.

## Installing the Cisco ACI Simulator Virtual Machine

### Procedure

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- Step 1** Download the Open Virtualization Appliance (OVA) file.
- Step 2** Enable **Promiscuous Mode** and **Forged Transmits** on the VMware vSwitch to which the simulator is connected:
- In the VMware vSphere Web Client, navigate to *host* > **Configuration** > **Virtual Switches**, choose the switch.
  - Click the **Edit** icon. The **vSwitch Properties** dialog appears.
  - For the **Promiscuous Mode** drop-down list, choose **Accept**.
  - For the **Forged Transmits** drop-down list, choose **Accept**.
- Step 3** Confirm that the virtual machine allocated the required CPU and memory.
- Step 4** Power on the virtual machine.
- In the release 4.2(1) and later, you do not need a challenge key nor an activation token.

- Step 5** For releases prior to 4.2(1), open the console to the activation screen. If the Simulator virtual machines network Interfaces are attached to a port group with a DHCP server on the subnet, it will have been assigned an IP that can be used to connect remote via SSH. *If you do not have DHCP available on the relevant subnet, you will need to copy the Activation Challenge Key manually as well as enter it manually in the console session which can be tedious and leave room for typos.* After the activation screen is opened, perform the following actions:
- Open your SSH client and start a session using the provided IP address.
  - Log in using **activation** and the password **activation** and copy the activation challenge key provided.
  - Send the activation challenge key to your local Cisco account team.
- Step 6** For releases prior to 4.2(1), after you have received the activation token information from the account team, copy and paste the token into the **Enter Activation Token** prompt.
- The simulator can take up to 30 minutes to activate depending on the VMware vSphere host's resources.
- Step 7** Complete the first set up and accept all of the default settings with the exception of the password, IP address and netmask, and the gateway.
- If you change any of the settings other than the password, IP address and netmask, or the gateway, the installation will succeed, but the Cisco Application Policy Infrastructure Controller (APIC) will fail to discover the virtual leaf switches and spine switches.
- Step 8** For **Network Settings**, enter your management IP address with the subnet and your gateway IP address.
- Step 9** Complete the setup by providing an admin password.
- Step 10** Review your configuration. Click **y/n** to edit or **n** to continue.
- Step 11** After the setup process is completed, you should be able to connected to the simulator Cisco APIC GUI using the assigned management IP address.
- Step 12** For best-effort support assistance with the Cisco ACI Simulator virtual machine, open a case here: <https://community.cisco.com/t5/application-centric/bd-p/12206936-discussions-aci>. The Simulator virtual machine is not supported through regular TAC channels.
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