

# Cisco Modeling Labs Corporate Edition: Virtual Network Design and Simulation with Clustering Support

The new Cisco® Modeling Labs Corporate Edition software platform creates a virtual sandbox environment for the design, configuration, and simulation of network topologies. Its server component enables the activation of topologies using installed virtual images, while its client simplifies topology creation and device configuration. With a sleek point-and-click interface, engineers and architects can design or import a topology and turn it into a virtual network in minutes. Operators can replicate selected scenarios and troubleshoot problems with little risk to the physical production network, ultimately reducing both capital and operating costs for physical network projects.

Cisco Modeling Labs now supports OpenStack's clustering capability, which allows customers to run simulations across multiple servers with a single point of control. Clustering distributes the nodes in large resource-intensive simulations so they can take advantage of the additional compute and memory resources.

## Features and capabilities

### Supported platforms

The Cisco Modeling Labs Corporate Edition server comes with the following images: virtualized Cisco IOS® Software, Cisco IOS Software Layer 2, Cisco Nexus® 9000 Software, Cisco IOS XR Software, Cisco IOS XR 9000 Software, Cisco IOS XE Software in the Cisco Cloud Services Router 1000V, the Cisco ASA Adaptive Security Appliance, and the Linux Ubuntu server.

IOS	IOS XR	IOS XE	ASA	Nexus	Other
					<ul style="list-style-type: none"> <li>Containers</li> <li>• LXC</li> <li>• IPerf</li> <li>• Ostinato</li> </ul>
Virtualized in IOSv and IOSv L2	Virtualized in IOS XRv and XRv 9000	Virtualized CSR1000V	Virtualized ASA v	Virtualized NX-OS 9000v	<ul style="list-style-type: none"> <li>Server</li> <li>• Ubuntu</li> </ul>

## Clustering

A Cisco Modeling Labs cluster supports one “controller” node and up to four “compute” nodes. At a minimum, a cluster must have one controller node and one compute node.

With the new clustering feature, customers can build models of large-scale networks of up to 300 nodes. Further, they can use clustering to use lower-end compute devices to build a powerful system running larger models of the real networks.

## Features

The Cisco Modeling Labs server creates bootstrap configurations based on user-supplied parameters and system defaults. Users can do a quick setup and tear-down of network topologies and test beds. Modeling Labs also has a powerful protocol visualization feature. Typically, users view the network from a physical topology only. The server generates views of the network from a routing-protocol perspective. The result is a powerful platform for creating, visualizing, simulating, and testing virtual network scenarios quickly and efficiently.

Table 1 summarizes the main features of the Cisco Modeling Labs Corporate Edition server.

Table 1. Main features

Feature	Description
<b>Create models and what-if scenarios</b>	Uses features such as link and interface parameters, routing protocol attributes, and address schemes on multiple reference platforms to model real-life scenarios of virtual topologies.
<b>Configuration generation and protocol visualization</b>	Takes advantage of automatically generated device configurations and graphical views of routing protocols to test and validate designs.
<b>Virtual-to-physical connectivity</b>	Connects a virtual network to a physical device or network in the lab to allow for a range of activities, such as connecting and testing using traffic generators and using automation scripts and network management tools.
<b>User management</b>	Controls authorized access to projects for multiple users, as well as managing user credentials, images, and resource allocations.
<b>Real network operating systems</b>	Uses virtual Cisco IOS Software compiled from the same Cisco IOS code as your physical Cisco hardware.
<b>Multiclient and multiuser support</b>	Gives multiple users the ability to access and share the resources of a single Modeling Labs server. Supports both Mac and Windows operating systems.
<b>Point-and-click design</b>	Designs or imports topologies using an intuitive GUI and a simple mouse point and click.

## Packaging

Cisco Modeling Labs is offered as an Open Virtualization Appliance (OVA) file that installs on a VMware vSphere hypervisor (ESXi) 5.1 or later or as an ISO image for bare-metal installation.

## Upgrade path

Upgrades and updates to Cisco Modeling Labs are done through the [Cisco Product Upgrade Tool \(PUT\)](#). Customers are entitled to all upgrades and updates during the term of the Modeling Labs subscription at no additional charge.

## Licensing and ordering information

The Corporate Edition is licensed for use in network lab environments. One-, two-, and three-year subscriptions are available. All subscription options include Cisco Technical Assistance Center (TAC) support and upgrade entitlements.

To place an order, go to [How to Buy](#).

Table 2 provides ordering information.

Table 2. Cisco modeling labs software and subscription part numbers

Type	Description	Subscription		
		1 year	2 years	3 years
<b>Base software</b>				
<b>R-CML-CE-K9=</b>	The base OVA package includes the Cisco Modeling Labs software and 15-node license	CML-CE-1Y	CML-CE-2Y	CML-CE-3Y
<b>R-CML-CE-ISO-K9=</b>	The base ISO package includes the Cisco Modeling Labs software and 15-node license	CML-CE-1Y	CML-CE-2Y	CML-CE-3Y
<b>Expansion packages</b>				
<b>L-CML-CE-10N=</b>	10-node Cisco Modeling Labs expansion pack	CML-CE-10N-1Y	CML-CE-10N-2Y	CML-CE-10N-3Y
<b>L-CML-CE-50N=</b>	50-node Cisco Modeling Labs expansion pack	CML-CE-50N-1Y	CML-CE-50N-2Y	CML-CE-50N-3Y
<b>L-CML-CE-100N=</b>	100-node Cisco Modeling Labs expansion pack	CML-CE-100N-1Y	CML-CE-100N-2Y	CML-CE-100N-3Y

**Note:** Nodes relate to Cisco IOS images only.

## For more information

For more information about Cisco Modeling Labs Corporate Edition, visit <http://www.cisco.com/go/cml> or contact your account representative.

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