Overview

Server virtualization is a game-changing technology. In the physical world, maintaining a network infrastructure requires continuous monitoring and troubleshooting. The IT team has to experiment with modifications and test new software and configurations before deploying them in a production network. However, physical lab equipment is not always readily available or in adequate supply to meet these demands. Server virtualization provides corporations and service providers with agility, flexibility, and cost savings.

Run simulations on a scalable platform

Cisco® Modeling Labs Corporate Edition is a scalable software platform. With it, IT teams can design, build, and launch real-world simulations of Cisco devices in a virtual environment. Using the Cisco IOS® Software code used for hardware, the Cisco Modeling Labs simulations have virtualized images of Cisco IOS, IOS Layer 2, IOS XR, IOS XR 9000, IOS XE, NX-OS 9000 and ASA software.

The Cisco Modeling Labs platform comprises a server and a client (Figure 1). The server is hosted on a Cisco UCS® server (or equivalent x86 architecture). The client can be installed on either a PC or a Mac (the GUI is shown in Figure 2).

Benefits

- Lowers capital and operating expenditures for lab equipment
- Improves access to resources
- Scales resources on demand
- Decreases deployment time of new services
- Increases uptime with what-if scenarios
- Reduces lab footprint and saves energy

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Cisco Modeling Labs Corporate Edition is provided as an ISO image for bare metal installation or as an Open Virtual Appliance (OVA) file for customers to install on VMware ESXi 5.1 or later (Figure 3).

Validate changes quickly and efficiently

Cisco Modeling Labs Corporate Edition is the ideal network simulation solution. It provides a virtual environment where IT teams can design, build, simulate, and visualize real-world networks and operational scenarios.

With its simple point-and-click interface, network engineers can design or import a network topology and turn it into a virtual network in minutes. Bootstrap configurations are automatically generated and displayed.

Architects can easily perform what-if analyses to validate potential design changes. Operators can replicate selected network scenarios and troubleshoot issues with no risk to the physical production network.
Here are highlights of some of the features:

- **Configuration generation and protocol visualization:** Users can take full advantage of automatically generated bootstrap device configurations based on the virtual image, as well as graphical views of routing protocols, to help validate their designs. Configurations can be modified, tested, saved, and shared.

- **Virtual Cisco IOS Software for router simulation:** Users can get started immediately with virtual Cisco IOS Software (IOSv), IOSv Layer 2 (IOSvL2), IOS XRv, IOS XRv 9000, NX-OS 9000v, IOS XE, and Adaptive Security Virtual Appliance (ASAv) software. These are provided as demonstration images. Cisco Modeling Labs supports Layer 2 and Layer 3 modeling and Gigabit Ethernet connectivity only.

- **Multiclient support:** To reduce the amount of hardware needed to run Cisco Modeling Labs, the server functionality is accessible by multiple users. The client application runs on PC and Mac platforms and accesses the server when the network design needs to be activated. End users do not need a separate server to take advantage of Cisco Modeling Labs Corporate Edition.

- **Point-and-click design:** With the intuitive palette and canvas editor, you can rapidly create new virtual topologies with network protocol attributes, addressing schemes, and image types. Network topologies can be saved and shared. Cisco Modeling Labs also includes a convenient print option.

- **Connectivity between simulated and physical labs:** Using configuration options in the topology, users can connect a virtual topology to a physical network that is in the lab. This functionality allows for more robust testing and simulation opportunities. Note that Cisco Modeling Labs is not intended for use in a production network.

- **High scalability with clustering support:** Users can build a scalable system by combining multiple machines to build a cluster that enables them to scale deployments to hundreds of nodes. Currently the system supports one controller node and up to four compute nodes. (Figure 4).

**Figure 4. Cisco Modeling Labs cluster**

For more information
