

Cisco Modeling Labs 1.0 Corporate Edition



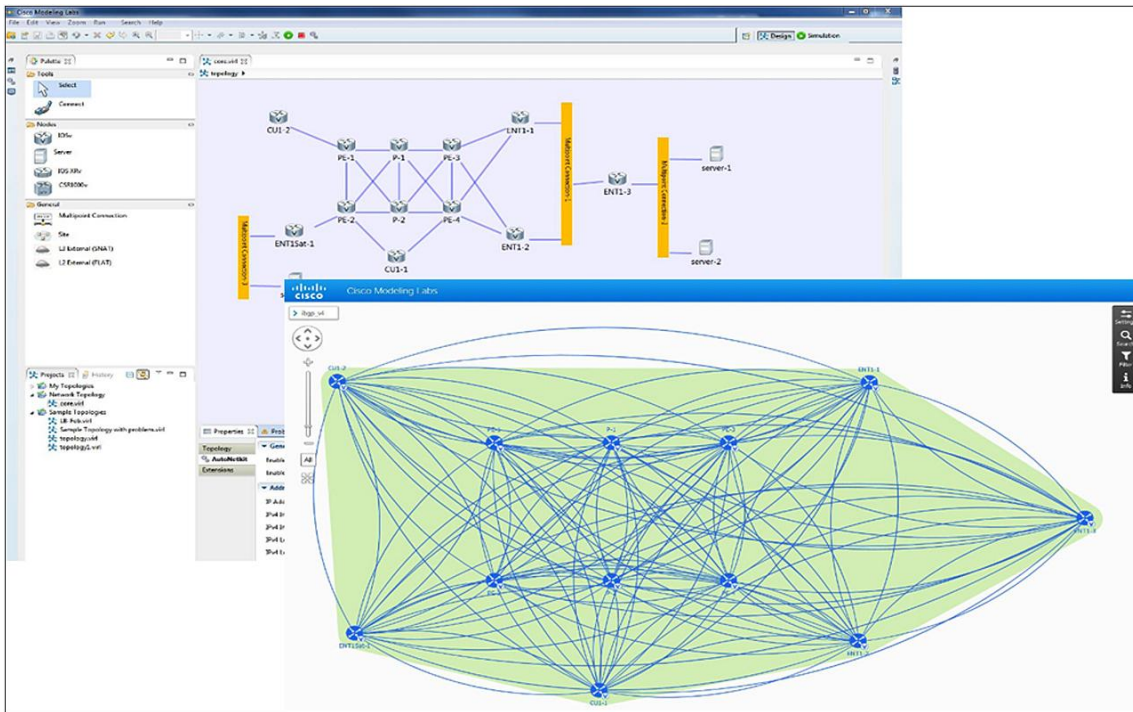
Reduce Capital and Operational Lab Expenses with Virtual Network Design and Simulation

Cisco® Modeling Labs Corporate Edition is a scalable and extensible software platform that is comprised of the Cisco Modeling Labs server and Cisco Modeling Labs client. Together they create a sandbox environment that enables the design, configuration, and simulation of network topologies. The server is a shared resource that has the capability to activate the topologies using the installed virtual images. The client provides a point and click interface that simplifies topology creation, initial device configuration, and also enables access to functions in the Cisco Modeling Labs server. Not only does the server create the bootstrap configurations but it also auto-generates logical illustrations of the enabled protocols and allows users to access and configure each of the virtual devices.

Test and Troubleshoot Network Scenarios in a Risk-Free Virtual Environment

Maintaining a network infrastructure requires continuous monitoring and troubleshooting, experimenting with modifications, and testing new software and configurations before deploying them in the production network. However, physical lab equipment is not always readily available or in adequate supply to meet these demands. Cisco Modeling Labs Corporate Edition is an ideal solution. 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. Automatic bootstrap configuration generation and visualization capabilities enable architects to 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. Offloading these tasks to Cisco Modeling Labs ultimately reduces both capital and operational costs for physical network projects.

Figure 1. Cisco Modeling Labs Client GUI with Visualization



Flexible Environment for Creating and Modeling Network Topologies

Cisco Modeling Labs Corporate Edition lets users design, build, visualize, and simulate virtual topologies quickly and efficiently. Following are some of the valued benefits:

- **Multi-Client Support:** To minimize the 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:** The intuitive palette and canvas editor let users rapidly create new virtual topologies using network protocol attributes, addressing schemes, and image types. Cisco Modeling Labs includes a print option and network topologies can be saved and shared with others.
- **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 various routing protocols to help validate their designs. Configurations can be modified, tested, saved, and shared.
- **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.
- **User and Resource Management:** The User Workspace Management console allows administrators to control user credentials, images, and resource allocations for authorized access to the Cisco Modeling Labs server.

- **Virtual IOS (IOSv) for Router Simulation:** Users can get started immediately with the provided IOSv software. It supports Layer 3 modeling and Gigabit Ethernet connectivity only. Refer to the 'IOSv Support Software' section for more details.
- **Virtual Server for End-Host Simulation:** Users can create a virtual Linux server to be used for purposes such as jump hosts, traffic generation, and scripting.
- **Heterogeneous Network Designs and Simulations:** The optionally available IOS XRv and CSR1000v virtual images are supported in Cisco Modeling Labs.

Cisco IOSv Support Features

Cisco IOSv Software Release 15.4(2)T is included in Cisco Modeling Labs 1.0. Since it is used in a virtual environment any hardware-related functionality, including Layer 2 functions such as Spanning Tree Protocol, are not currently supported. Table 1 includes a list of the currently supported features.

Table 1. Supported and Unsupported Features

Supported		
AAA	GLBP	NTP
ACL	GRE	OSPF
AppNav	HSRP	OTV
AVC	IGMP	PIM
BFD	IP SLA	QoS
BGP	IPv4/IPv6	RADIUS
DHCP	ISIS	RIP
DNS	L2TPv3	SNMP
EEM	LISP	SSH
EIGRP	MPLS	TACACS
EoMPLS	Multicast	VRF-LITE
EZVPN	NAT	VRRP
Flex Netflow+ TNF	NBAR2	WCCPv2
Not Supported		
VPLS	Voice	Layer 2

System Requirements

Following are the minimum requirements for the Cisco Modeling Labs Server:

- Recommended - Cisco UCS® C220 M3 Rack Server with 16 core CPU and 128 GB memory or Cisco UCS C460 M2 High-Performance Rack Server or higher model (actual memory and CPU consumption depends on the number of virtual nodes and virtual network OS types). To help determine the appropriate memory please find the Cisco Modeling Labs Calculator at <http://www.cisco.com/go/cml>.
- The Cisco Modeling Labs server runs on VMware ESXi 5.0, 5.1, and 5.5.

Following are the minimum hardware and software requirements to support the Cisco Modeling Labs client:

PC:

- RAM - 2 GB
- Disk space - 1 GB
- Network - Any standard IP-based (non-serial, using IPv4) network card
- Windows 7 and 8
- Java Runtime Environment version 6 or 7
- Browser - FireFox, Chrome

Mac:

- RAM - 2 GB
- Disk space - 1 GB
- Network - Any standard IP-based (non-serial, using IPv4) network card
- MAC OS 10.8 or 10.9
- Java Runtime Environment version 6 or 7
- Browser - FireFox, Chrome, Safari

Licensing and Ordering Information

Cisco Modeling Labs Corporate Edition is licensed for use in network lab environments. One-, two-, and three-year subscriptions are available. All subscription options include Cisco Technical Support and upgrade entitlements.

Table 2 describes the part numbers and what each offers.

Table 2. Cisco Modeling Labs Corporate Edition Products

Part Number	Description
R-CML-CE-K9=	The base package includes the Cisco Modeling Labs 1.0 software. This license comes with 10-nodes plus, for no additional cost, 5 nodes for a total of 15 nodes.
L-CML-CE-10N=	An expansion pack that enables increments of 10-node capacities to be added to the base package.
L-CML-CE-50N=	An expansion pack that enables increments of 50-node capacities to be added to the base package.
L-CML-CE-100N=	An expansion pack that enables increments of 100-node capacities to be added to the base package.

Note: Nodes relate to Cisco IOS images only. Server images are unlimited.

Table 3. Optional Software

Part Number	Description
L-XRV-CMLSIM-1YR/=	IOS-XRv Simulation Site VM License, 1 yr Term
L-CSR-10M-STD-1Y=	CSR 1000V e-PAK 1-year subscription 10 Mbps Standard Package
L-CSR-10M-ADV-1Y=	CSR 1000V e-PAK 1-year subscription 10 Mbps Advanced Package
L-CSR-10M-PRM-1Y=	CSR 1000V e-PAK 1-year subscription 10 Mbps Premium Package

For More Information

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




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