Cisco Modeling Labs v1.3

Contents

1. General

Q. What is Cisco Modeling Labs?

A. Cisco Modeling Labs is a scalable and extensible software platform that comprises a Cisco Modeling Labs server and Cisco Modeling Labs client. The following virtual images are available with Cisco Modeling Labs: Cisco Virtual IOS® (IOSv) software, including Cisco IOSvL2 switching code, Cisco NX-OSv 9000 demo image, Cisco IOS XRv demo image, Cisco IOS XRv 9000 demo image, Cisco ASAv and Cisco IOS XE (CSR1000v) demo image, as well as an Ubuntu Linux server image. Together, they create a sandbox environment in which customers can design new, or replicate existing, network topologies for the purpose of testing, modeling, and troubleshooting network issues with little risk to physical production networks or the need for a lab network.

Q. Why use Cisco Modeling Labs?

A. Cisco Modeling Labs helps corporate customers save capital expenditures (CapEx) by reducing the need for physical network equipment for designing network changes, troubleshooting problems, and testing operations. With Cisco Modeling Labs, customers can reduce risks for errors with selected network changes in actual network deployment, because they can first be simulated and verified in the virtual environment. Because there is no hardware setup required, building and tearing down network topologies can take minutes on an on-demand basis.

Q. Who uses Cisco Modeling Labs?

A. Cisco Modeling Labs is targeted to customers and partners who design, build, monitor, and manage Cisco networks and who need a lab environment. The power of the product is that, with it, you can build and tear down large and small topologies on a case-by-case basis. It is also designed for shared use. The Cisco Modeling Labs server can be accessed by an unlimited number of end users who have the Cisco Modeling Labs client. The only limitation is based on the CPU and memory sizing of the physical server that hosts the Cisco Modeling Labs server.

Q. What Reference Platforms (Virtual Images) are available with Cisco Modeling Labs?

A. The following Reference Platforms are available with Cisco Modeling Labs:

Table 1: Cisco Modeling Labs Supported Virtual Images

Image
Cisco IOSv 15.6(2)T image
Cisco IOSv Layer 2 15.2 image
Cisco IOS XRv 6.1.3 CCO demo image
Cisco IOS XRv 9000 6.0.1 CCO demo image
Cisco Nexus 9000v 7.0.3.I6.1
Cisco CSR1000v 16.5.1b XE-based demo image
Cisco ASAv 9.7.1 demo image
Ubuntu 16.04.1 Cloud-init

Q. What Linux Container are bundled with Cisco Modeling Labs?

A. The following Linux are available with Cisco Modeling Labs:

- LXC Ubuntu 16.4.1
- iPerf 2.0.2
- Ostinato-drone 0.8

Q. What products are offered to corporate customers?

A. For service provider, enterprise, and commercial customers, Cisco Modeling Labs Corporate Edition is available. The corporate edition is for customer on-premises deployment of large-scale and multiple simulations on virtual servers and for multiple-user access. This edition is offered as a software subscription with entitlement to maintenance releases, minor and major release upgrades, online resources, and the Cisco Technical Assistance Center (TAC) support services. Corporate customers have the option of 1-year, 2-year, or 3-year subscriptions.

Q. What are the server requirements for Cisco Modeling Labs 1.3?

A. The server requirements for Cisco Modeling Labs are as follows:

Table 2: Cisco Modeling Labs Server Requirements

Requirement	Description
Disk Space	500 GB *
Chipset	Intel with Intel virtualization technology VT-x and extended page tables (EPT)
Hypervisor	VMware ESXi 5.1 U2, ESXi 5.5 U1, ESXi 6.0 (Build 2494585), ESXi 6.5 (Build 4564106)
Server type for OVA Package	Any server with Intel with Intel virtualization technology VT-x and extended page tables (EPT)
Server Type for ISO Package	Supported only on Cisco UCS C220-M4 & C460-M4 with local storage*.
Server Recommendation	Cisco UCS C-Series

Important Note: 4K sector drives are not supported.

Q. What is the recommended hardware for Cisco Modeling Labs 1.3?

A. The recommended servers for Cisco Modeling Labs are the Cisco UCS C220 M4 and C460 M4 servers. For more info on the UCS server see datasheets at https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/index.html

Q. Can I use other vendor servers to run Cisco Modeling Labs 1.3 OVA package?

A. Yes but only for the OVA package. Further server must have an Intel Chipset that supports the following:

- Intel VT-x (virtualization extension) and
- Extended Page Tables (EPT).

Q. Can I use other vendor servers to run Cisco Modeling Labs 1.3 ISO package?

A. No. Other vendor servers are not supported.
Cisco Modeling Labs ISO package is only certified with the Cisco UCS C220 M4 and C420 M4 server.

Q. How do I calculate the memory and core requirement for Cisco Modeling Labs server?

A. The general rule of thumb is three virtual nodes to one physical core CPU for simulation of 49 nodes and below, and two virtual nodes to one physical core CPU for 50 nodes and above. So, to simulate 60 nodes you would need 30 cores and to simulate 45 nodes you will need 15 physical cores. This is a rule of thumb, because there are many variables, so in some cases you might have to adjust. Some contemporary images may require multiple vCPUs on a non-shared basis. Please use the CML 1.3 calculator to estimate the number of cores required.

Q. What Reference Platforms (Virtual Images) are available with Cisco Modeling Labs ?

A. See table 3.

Table 3: Cisco Modeling Labs Supported Virtual Images

Image	Memory Requirement (MB)
Cisco IOSv 15.6(2)T image	512
Cisco IOSv Layer 2 15.2 image	768
Cisco IOS XRv 6.1.3 CCO demo image	3072
Cisco IOS XRv 9000 6.0.1 CCO demo image	16384
Cisco Nexus 9000v 7.0.3.I6.1	8192
Cisco CSR1000v 16.5.1b XE-based demo image	3072
Cisco ASAv 9.7.1 demo image	2048
Ubuntu 16.04.1 Cloud-init	2048

Q. How do customers estimate Cisco Modeling Labs memory requirements?

A. The key factor for determining memory is to determine the number of virtual devices (nodes) that you want to simulate. This should be based on a cumulative number:

- Number of concurrently active simulations and the sizing of the topologies
- Types of nodes that users can activate, for example, Cisco IOS or IOS XRv Software, and so forth

As a guide, table 1 above provides the general memory requirements for supported virtual images.

Customers should use the CML 1.3 Capacity Calculator to estimate needed memory requirements.

Q. What are the supported versions of VMWare ESXi?

A. The support ESXi formats for Cisco Modeling Labs, Version 1.3, are:
ESXi 5.1U2 (Build 1483097)
ESXi 5.5U1 (Build 1623387)
ESXi 6.0 (Build 2494585)
ESXi 6.5 (Build 4564106) and above

Verify that you are using vSphere **Client** v5.5 Update 2 (Build 1993072), or later, before deploying Cisco Modeling Labs. Failure to use the minimum version results in a failed deployment that creates an error of nested virtualization that is not supported.

Q. What is the difference between Cisco Modeling Labs and Cisco Virtual Internet Routing Lab Personal Edition?

A. Cisco Modeling Labs is a production-quality product focused on corporations requiring a scalable solution to mirror production-like environments. Cisco Virtual Internet Routing Lab Personal Edition is a sandbox tool focused on (software-defined networking) SDN developers and personal use. Following is a table of differences:

Table 4: Differences between Corporate Edition and Personal Edition

	Modeling Labs Corporate Edition	Virtual Internet Routing Lab Personal Edition Personal Edition
User	Corporate	Individual
Number of users	Unlimited	Single user
Cisco node limit	300 per system	20
Expansion capability for Cisco Node	10, 50, and 100 PACs	N/A
Technical support	Cisco TAC	Community Support only
Where to purchase	Cisco Commerce Workspace and Cisco Partners	http://cs.co/GetVirlPE
Call home required for installation and operation	No	Yes. Weekly internet connectivity is required
Usage tracking sent to Cisco	No	Yes (can turn off)
Purchase capability with learning credits	Not supported	Not supported
Contact for more information	cml-info@cisco.com	ciscovirl@cisco.com

Q. Does Cisco Modeling Labs require external access to Cisco?

A. No. Cisco Modeling Labs is an on-premises solution and does not require any external connectivity.

Q. Does Cisco Modeling Labs track usage and report to Cisco?

A. No. Cisco Modeling Labs does not track any usage information.

Q. Can customers get a trial copy?

A. Yes. One-time 30-day trial license is available for qualified customers.

Q. How can I apply for the trial license?

A. Send an email to cml-info@cisco.com with the following info:

- **Company Name:**
- **Company Address:**
- **Customer Name:**
- **Customer Email:**
- **Customer Phone:**
- **Customer CCO user ID:**
- **Target Purchase Date:**
- **Cisco Account Manager:**

Q. How do customers purchase Cisco Modeling Labs?

A. The corporate edition is on the global price list (GPL) and can be ordered on the Cisco Commerce Workspace (CCW) at Cisco.com. It is also available through qualified Cisco partners.

Q. Can serial interfaces be modeled between virtual devices?

A. No. Cisco Modeling Labs supports only Gigabit Ethernet interfaces.

Q. Can I connect Cisco Modeling Labs to a physical lab or network?

A. Yes. You can use the FLAT or SNAT connectivity types to do so.

Q. Can customers simulate the physical network hardware in Cisco Modeling Labs?

A. No. The virtual images are hardware platform independent and do not model the physical hardware chassis, modules, line cards, power supplies, fans, serial numbers, ASICs, high availability, Cisco In-Service Software Upgrades (ISSU), or switch fabrics.

Q. Can Cisco Modeling Labs connect to physical devices?

A. Yes, using a bridged Ethernet connection (FLAT), a virtual network can be connected to external traffic generators, network management tools, and other applications in your lab. A virtual network simulated in Cisco Modeling Labs is for your lab environment only and should not be connected to production networks.

Q. Can customers run third-party virtual machines in Cisco Modeling Labs?

A. Third-party virtual machines should work if compiled to run on Linux kernel-based virtual machines; however, features of Cisco Modeling Labs, such as Auto Configuration, are designed for Cisco virtual operating systems only. Cisco TAC support does not answer questions about third-party virtual machines or their interworking with the software.

Q. When the subscription expires, how do customers extend it?

A. Corporate customers can reorder and obtain a new license key.

Q. How can customers get training on how to use Cisco Modeling Labs?

A. The software includes online help, which describes how to use the application's features. In addition, videos are posted on the CML Cisco Support Community .

Q. How do channel partners buy the product for internal use?

A. Cisco Modeling Labs Corporate Edition is available on the global price list. Channel partners can purchase it through Cisco Commerce Workspace at the regular price or, if preferred, they can use the not-for-resale (NFR) program to purchase the software application for their internal use. **NFR will only apply to the base software (R-CML-CE-K9=) and not for the expansion packs** and is only intended for training and marketing activities, not to run internal network on.

Q. How is Cisco Modeling Labs delivered?

A. Cisco Modeling Labs is delivered through the Cisco e-Delivery system.

Q. What is the external webpage for Cisco Modeling Labs?

A. https://www.cisco.com/go/cml

Q. What is the internal webpage for Cisco Modeling Labs?

A. https://cisco.jiveon.com/groups/cml

2. Features

Q. What are the new features in Cisco Modeling Labs, version 1.3?

A. The major new features are:

1. Cisco NX-OSv 9000 Support
2. OpenStack Mitaka Support
3. Clustering
4. Increased Scalability from 200 to 300 Nodes per System
5. Client Unified Editor
6. Coordinated Packet Capture
7. Simulated Nodes Ready Detection
8. Simulated Nodes Count Changes
9. Client Node Menu Options
10. Real-time Traffic Statistics and Graphs
11. Syslog Data Export
12. Docker Support
13. Web Editor (Alpha)

For a detailed description of the new features, see the Cisco Modeling Labs 1.3 Release Notes on the external and internal CML websites.

Q. Is Cisco Modeling Labs clustering available for both the OVA and ISO packages?

A. No. Currently Cisco Modeling Labs clustering is only supported for the OVA package.

Q. How many nodes does the Cisco Modeling Labs Cluster support?

A. Cisco Modeling Labs supports 1 controller node and up to 4 compute nodes in one cluster.

Q. Are the compute nodes images the same as the controller node?

A. No. The controller node is the base node software image that is normally used for the Stand Alone system. Compute nodes are separate images and are provided with when ordering Cisco Modeling Labs.

Q. Can I run any 300 of any type of nodes in the Cisco Modeling Labs Cluster?

A. The scalability to 300 nodes in a single cluster depends on the type of virtual images and protocols you are running.

Q. Can I connect more than one cluster through the Cisco Modeling Labs external connectivity features (FLAT/SNAT)?

A. Yes. In this case, they will be two separate clustering systems communicating through external connectivity and managed as two separate systems.

Q. What interfaces are available in Cisco Modeling Labs?

A. Currently Cisco Modeling Labs supports Gigabit Ethernet only. The Gigabit Ethernet interface is actually pointing to the E1000 driver in the hypervisor environment.

Q. Can I connect Cisco Modeling Labs to other virtualization networks?

A. Yes. If the virtual networks can reach each other, then the virtual environments can connect.

Q. Can Cisco Modeling Labs connect to a physical lab network?

A. Yes. Using the FLAT (Layer 2) or SNAT (Layer 3) features. A virtual network simulated in Cisco Modeling Labs is for your lab environment only and should not be connected to production networks

Q. Are there any limitations with the Visio import feature?

A. Visio imports support the VSDX format, which is available, in Visio 2013, and later.

Q. What version of Visio is compatible with this feature?

A. Visio 2013, and later.

Q. What version of Cariden MATE is supported?

A. Cariden MATE is support with Versions 5.0, and later, and 6.0, and later.

3. Virtual Images

Q. Are there new versions of images included in Cisco Modeling Labs, Version 1.3?
A. Yes, Cisco Modeling Labs, Version 1.3, is shipped with the following images:

Table 5: Cisco Modeling Labs 1.3 Reference Platforms' Images

Image	Bundled (Yes/No)
Cisco IOSv 15.6(2)T image	Yes
Cisco IOSv Layer 2 15.2 image	Yes
Cisco IOS XRv 6.1.3 CCO demo image	Yes
Cisco IOS XRv 9000 6.0.1 CCO demo image	No. Included in eDelivery and available on CML FileExchange
Cisco Nexus 9000v 7.0.3.I6.1	No. Included in eDelivery and available on CML FileExchange
Cisco CSR1000v 16.5.1b XE-based demo image	No. Included in eDelivery and available on CML FileExchange
Cisco ASAv 9.7.1 demo image	Yes
Ubuntu 16.04.1 Cloud-init	Yes

Q. Are reference platforms shipped with Cisco Modeling Labs demo or production images?
A. See table above.

Q. Can I install the older images that were available in previous versions Cisco Modeling Labs?
A. Yes. Additional images can be installed from the UWM images tab. Notice that the amount of disk space allocated to the server should be reviewed to ensure there is sufficient space.

Q. Can I run Cisco NX-OSv (Titanium based) image in CML?
A. Yes you can. However, the Cisco NX-OSv image is an experimental image, which is not fully featured, with very limited L2 support, and has no commitment from the BU to release. As such, it is not TAC supported. CML 1.3 supports the Cisco NX-OS 9000v which is a released and supported image.

Q. How do I get the pre-released unsupported Cisco NX-OSv?
A. The Cisco NX-OSv image can be made available upon request. Contact the cml-info@cisco.com alias for download information.

Q. As a current customer, where do I download the updated software?
A. Customers can download the updated software using the Product Upgrade Tool (PUT) https://tools.cisco.com/gct/Upgrade/jsp/productUpgrade.jsp]. You will need your CML contract number.

Q. Why is the software not available on Cisco Connection Online (CCO)?
A. Cisco Modeling Labs is updated through the Product Upgrade Tool (PUT). It will not be available through Cisco Connection Online Software Download.

Q. The Cisco Cloud Services Router (Cisco CSR 1000V) image, which I downloaded from Cisco Connection Online, loads but I cannot access the console. Why?
A. The Cisco Connection Online (CCO) version is compiled to use the virtual machine console, but Cisco Modeling Labs uses the serial console. For this functionality to work there is a Cisco Modeling Labs build version of Cloud Services Router 1000V, with "serial.qcow2" format.

Q. When will other images like wireless, voice, data center, etc., work in Cisco Modeling Labs?
A. As Cisco applications become available in the virtual environment we will make them available in Cisco Modeling Labs. We are proactively working with the business units to drive these products.

Q. What hardware is virtualized in Cisco Modeling Labs?
A. The Cisco IOSv images are compiled for the virtual environment, using the same code train, and do not reflect a specific hardware type. The reason is that the Cisco IOS code is compiled to use the virtualization drivers instead of using line cards.

Q. Can Cisco Modeling Labs connect to a physical lab network?

A. Yes, by using the FLAT (Layer 2) or SNAT (Layer 3) features. A virtual network simulated in Cisco Modeling Labs is for your lab environment only and should not be connected to production networks.

Q. Can Cisco Modeling Labs connect to another virtual environment?

A. Yes. Using FLAT (Layer 2) or SNAT (Layer 3) features, you can connect externally.

Q. Where can I download other images of the reference platforms?

A. Other images of the reference platforms are available on the Cisco Modeling Labs File Exchange. Please send an email with your CCO ID to cml-info@cisco.com to get access.

4. Ordering/Licensing

Q. Are there any important license terms or restrictions?
A. Standard Cisco end-user license agreements are applicable. For more information, see [End User License Agreement, https://www.cisco.com/go/eula%5d.

Q. Have the part numbers changed for Cisco Modeling Labs, version 1.3?
A. No. The Cisco Modeling Labs part numbers (PIDs) have not changed.

Q. Has the pricing changed for Cisco Modeling Labs, version 1.3?
A. No. The Cisco Modeling Labs part numbers (PIDs) have not changed.

Q. What are the part numbers to order Cisco Modeling Labs version 1.3?
A. The Part numbers are as follows:

Description	
BASE SOFTWARE	
R-CML-CE-K9=	CML CE SW subscription with 15 nodes, OVA Package
R-CML-CE-ISO-K9=	CML CE SW subscription with 15 nodes, ISO Package
EXPANSION NODES	
L-CML-CE-10N=	CML CE, 10 nodes expansion
L-CML-CE-50N=	CML CE, 50 nodes expansion
L-CML-CE-100N=	CML CE, 100 nodes expansion

Q. What packages are available for Cisco Modeling Labs?
A. Cisco Modeling Labs is available in two packages:

1. An open virtual appliance (OVA) to be installed on VMware ESXi
2. An ISO image for bare-metal installation

Q. What licensing model does Cisco Modeling Labs use?
A. Cisco Modeling Labs uses SWIFT licensing. Customers get the eDelivery email with the PAK which has to be redeemed at the licensing portal for a license.

Q. Does Cisco Modeling Labs version 1.3 support SMART licensing?
A. No.

Q. What happens if I use a reference platform VM that uses SMART licensing?
A. When the simulation runs in Cisco Modeling Labs, OpenStack spins a new instance of the virtual machine with a new Unique Device Identifier (UID). This means the SMART license has to be re-applied every time you run the simulation

Q. Do I need to purchase a node license per image? For example, a 15-node Cisco IOS license, a 15-node Cisco IOS XR license, and a 15-node Cisco IOS XE license?
A. No. You can purchase a 15-node license for Cisco Modeling Labs and then a right-to-use license for Cisco IOS XR and Cisco IOS XE. With these licenses you can mix and match to the purchase node count.

Q. Is there a node count per user?

A. No. The number of nodes licensed are not per user but rather based on the nodes being simulated. So, the number of nodes is based on the number of active, simultaneous nodes running in a simulation.

Q. Is there a license per user?
A. No. The licensing is based per node not per user. The client software can be downloaded and installed by an unlimited number of users.

Q. Does the Cisco IOSv Layer 2 managed switch count as a licensed node?
A. Yes.

Q. Does the Cisco IOSv Layer 2 unmanaged switch count as a licensed node?
A. No.

Q. What is considered a licensed node?
A. Only Cisco devices are counted as licensed nodes. Servers, such as Linux, Windows, or third-party images, are not part of the license count.

Q. How is Cisco Modeling Labs priced?
A. The pricing structure is an annual subscription based on the number of virtual nodes to be simulated in the Cisco Modeling Labs installation and the term. Cisco Modeling Labs is available in 1, 2 and 3 year terms.

Q. Do I need to purchase Cisco Smart Net Total Care™ Service for Cisco Modeling Labs?
A. No. The pricing model for the Cisco Modeling Labs is a subscription model. This means that the customer is entitled to free TAC support, as well as updates and upgrades during the term of the subscription

Q. Can I use my learning credits to purchase Cisco Modeling Labs?
A. No.

Q. Will the product continue to work if my license expires?
A. No. After the license expires, you cannot run any simulations. You can still access your topologies and designs, because these are saved on the client.

Q. I purchased the basic software, and 3 months later, I purchased an expansion pack. What happens at the end of the subscription?
A. If a customer purchases the expansion packs after they purchase the base line (R-CML) PID, the base software license will expire before the expansion packs and CML will stop working even though the expansion packs license is still valid.

This means, although the L- CML PID expires at a later date, the simulations cannot run until a new (R-CML) license is renewed.

Q. I purchased Cisco Modeling Labs but did not receive the eDelivery notification, what do I do?
A. Send email with your CCO ID and Sales Order number to cml-info@cisco.com to have the eDelivery email re-send to you.

Q. What do I need to order if I want to run 100 Cisco IOS XRv nodes in Cisco Modeling Labs for 1 year?
A. Table 6 shows what products to order with their PIDs.

Table 6. Products Needed to Run 100 Cisco IOS XRv Nodes

Description	Product Number	Quantity
Cisco Modeling Labs base software	R-CML-CE-K9	1
100-node Cisco Modeling Labs capacity expansion license	L-CML-CE-100N	1
1 XRV site license	R-IOSXRv-IMG L-XRV-CMLSIM-1YR	1

Q. What do I need to order if I want to run 50 Cisco IOSv nodes and 15 Cisco IOS XRV nodes?
A. Table 7 shows what products to order with their PIDs.

Table 7. Products Needed to Run 50 Cisco IOSv Nodes and 15 Cisco IOS XRV Nodes

Description	Product Number	Quantity
Cisco Modeling Labs base software	R-CML-CE-K9=	1
50-node Cisco Modeling Labs capacity expansion license	L-CML-CE-50N=	1
IOS XRV site license	R-IOSXRv-IMG L-XRV-CMLSIM-1YR	1

Q. Where can I get more info on the Reference platforms?

A. Table 8 shows the hyperlinks to the reference platforms websites.

Table 8: Cisco Reference Platforms Information Links

Virtual Image name	Link Info
Cisco NX-OS 9000v	https://www.cisco.com/c/en/us/td/docs/switches/datacenter/nexus9000/sw/7-x/nx-osv/configuration/guide/b_NX-OSv_9000.html
Cisco IOS XRv 9000	https://www.cisco.com/c/en/us/products/collateral/routers/asr-9000-series-aggregation-services-routers/datasheet-c78-734034.html
Cisco IOS XE (CSR 1000v)	https://www.cisco.com/c/en/us/products/routers/cloud-services-router-1000v-series/index.html
Cisco ASAv	https://www.cisco.com/c/en/us/products/security/virtual-adaptive-security-appliance-firewall/index.html

5. Upgrading

Q. How do customers get updates or upgrades during the subscription term?
A. Customers can obtain any new updates and/or upgrades through the Product Upgrade Tool (PUT) https://tools.cisco.com/gct/Upgrade/jsp/productUpgrade.jsp].

Q. Is Cisco Modeling Labs available on CCO?
A. No.

Q. Can I do in place upgrades from earlier versions of Cisco Modeling Labs to version 1.3?
A. No. Currently Cisco Modeling Labs does not have an in place upgrade. However, you can export existing projects and image subtypes and import them into CML 1.3.

Q. How do I move my existing images?
A. Images in Cisco Modeling Labs release 1.3 are reinstalled with the User Workspace Management interface. If you have any special image subtypes that you created, you can use the Import/Export function to move them. You would also to manually move the special image that you have saved to the new server.

Q. How do I move projects, users, etc.?
A. Use the Project export/import function in the UWM to move them between CML 1.1/1.2 and CML 1.3.

Q. Do I have to move my topologies?
A. No. Topologies are stored on the client, so they are not lost or changed when upgrading.

Q. Do I need to update my client?
A. Yes. It is mandatory to upgrade the client to match the new version of Cisco Modeling Labs. To download the client, users access the following: http:<your-CML-server-IP-address>/download.

Q. Where do I download the Cisco Modeling Labs client from?
A. The CML client is downloaded from the CML server as follows: http:<your-CML-server-IPaddress>/download.

Q. How do I transfer my license across systems (rehost)?
A. The license is built with the dynamically built MAC address and the host name of the server.

For OVA installs:
When you install the new CML version, the MAC address will be different. As such, you must get an update license. To update your license, contact cml-licensing@cisco.com.

For ISO installs:
Providing you are using the same server with the same MAC address, then you can use your existing license. Simply re-apply it at the UWM of the CML 1.3 licensing page.

6. Support

Q. Who do I contact if I need post sales technical assistance?
A. For support issues, contact TAC and have your contract number available. https://www.cisco.com/support

Q. Who do I contact if I need pre-sales assistance?
A. For customers, please contact your Cisco account team. For internal teams, contact cml-info@cisco.com.

Q. Are there any training videos that I can watch?
A. Yes. Videos are available from the external [Cisco Modeling Labs User Forum |https://supportforums.cisco.com/community/12269101/cisco-modeling-labs].

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