

Cisco License Manager Release 3.2.2 Q&A

Last updated: April 2012

Product Overview

Q. What does Cisco® License Manager do in a Cisco network?

A. Cisco License Manager is a secure client/server-based application to manage Cisco IOS® Software activation and license management for a wide range of Cisco platforms running Cisco IOS Software as well as other operating systems. It automates the workflow associated with Cisco IOS Software activation through its wizard-based GUI and scales for large network deployments. Cisco License Manager accelerates deployment of licenses using policy-based license management and helps enable you to rapidly roll out advanced services in your networks.

Cisco License Manager also provides an optional full-functionality Java Software Development Kit (SDK) to integrate with your existing license or asset management products and protects your investment in these assets.

Q. Does Cisco License Manager manage software activation and licenses for other Cisco products, such as Cisco Wireless Controllers and Cisco Unified Communications Manager software?

A. At this time, Cisco License Manager Release 3.2.2 manages software activation and license management for a wide range of Cisco platforms running Cisco IOS Software as well as other operating systems such as Cisco Catalyst® 3750-E/X, 3560-E/x Series Switches as well as Cisco 5500 Series Wireless Controllers, and the Cisco MDS 9000 Family of Multilayer Switches. Cisco Unified Communications Manager software licenses are not supported by Cisco License Manager Release 3.2.2. Please see the supported device list in the Cisco License Manager data sheet.

Q. Can all Cisco License Manager users access Product Authorization Keys (PAKs)?

A. Only Cisco License Manager users with the appropriate privileges can view full PAK strings. Other users will see either the user-assigned tag for a given PAK or only the last four characters of the PAK.

Q. Is there a nonencryption (non-K9) version of the product?

A. Cisco License Manager Release 3.2.2 requires encryption (K9) software to interact with the Cisco.com license server. The Cisco.com interactions are mandatory to automate licensing workflow, and this communication cannot be made optional. Therefore, a nonencryption (non-K9) version of the product is not available. Please work with your account team to obtain export permissions.

Device Management

Q. Do I need any agent configured on my managed devices before using Cisco License Manager?

A. No, Cisco License Manager does not require any agent or configuration on the managed devices. Cisco License Manager can manage licenses using Telnet, Secure Shell (SSH) Protocol, and a command-line interface (CLI). In addition, it can communicate with license agents on devices using Extensible Markup Language (XML) over HTTPS to manage licenses if you have enabled this facility on your devices.

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- Q.** Can I specify the order of the connection protocol to be used to access my managed devices?
- A.** Yes, Cisco License Manager allows you to specify the preferred connection method for autodiscovery so that you can try HTTPS first before using Telnet or SSH. Cisco License Manager device properties will show you the method that was used for device communication.
- Q.** Can I disable polling for my network devices?
- A.** Yes, Cisco License Manager allows you to choose the polling frequency and also allows you to disable it altogether.
- Q.** Does Cisco License Manager listen to device notifications?
- A.** Yes, Cisco License Manager listens to notifications. For devices managed over HTTPS, Cisco License Manager listens to XML notifications and for devices managed using Telnet or SSH, syslog is used.
- Q.** What severities standard is followed for Cisco License Manager alerts?
- A.** Cisco License Manager uses ITU X.733 severity for all alerts, so it can be integrated easily into your event management systems.
- Q.** What scenario will stop Cisco License Manager proceeding on Return Materials Authorization (RMA) license transfer?
- A.** The Cisco License Manager will stop proceeding on RMA license transfer when an error occurs due to SSL handshake, network connection, or invalid Cisco.com (CCO) account.
- Q.** Can I get a report listing devices that have been discovered since the last run?
- A.** Yes, Cisco License Manager provides the newly discovered device report that lists devices discovered since the last run.
- Q.** Can I schedule device discovery using Cisco License Manager?
- A.** Yes, you can schedule device discovery using Cisco License Manager and specify the starting date and time as well as the frequency.
- Q.** What are the various feature/license states displayed by Cisco License Manager and what do they mean?
- A.** The feature/license states displayed by the Cisco License Manager are:
- **Active, In Use:** License/feature is active and is currently being used by the device.
 - **Active, Not In Use:** The license/feature is currently active but is not being used by the device. (Typical scenario: when the licensed feature is currently turned off, or the image is running at a lower license level.)
 - **Inactive:** The license is currently not active. This can happen when another license, for example, a permanent license, is running. In this case, the temporary license will be inactive.
 - **Unknown:** Unknown is displayed by Cisco License Manager when the correct state of the license/feature can't be accurately determined.
- Apart from the above four states, Cisco License Manager also defines a new state, *Active and In Use After Next Reload*. This information is displayed for features that will become active and in use after the next reload. After the reload, the feature state will be displayed as *Active, In Use*.
- Q.** What information can I search for using Cisco License Manager?
- A.** Cisco License Manager helps you to search for a specified substring in the list of PAKs and list of devices and highlights the matches.

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- Q.** Is it safe to add my Cisco.com username and password in Cisco License Manager?
- A.** Yes, Cisco License Manager uses HTTPS to securely interact with the Cisco.com license server. The username and passwords are always transferred in encrypted form for Cisco.com transactions.
- Q.** I have already obtained licenses from the Cisco.com license server; can Cisco License Manager deploy them?
- A.** Yes, you need to import these licenses in Cisco License Manager, and then they can be deployed to network devices. Please see the Cisco License Manager User Guide at http://www.cisco.com/en/US/products/ps7138/products_user_guide_list.html.
- Q.** I have added my PAKs in Cisco License Manager; can I still use Cisco.com for license fulfillment?
- A.** Yes, if you have not obtained licenses for those PAKs, you can still manually use Cisco.com to obtain licenses for them. However, Cisco License Manager does this for you automatically and also deploys the licenses to network devices using a wizard-based GUI.

Please note that in this case, Cisco License Manager will have no knowledge regarding the usage of the PAK, and if you try to obtain licenses using the same PAK later on through Cisco License Manager, the request may fail if you have used all the available licenses in that PAK.

- Q.** Can Cisco License Manager automatically download and import PAKs as well?
- A.** You must manually add PAKs received from Cisco to Cisco License Manager. Once the PAKs are added, Cisco License Manager can automatically download detailed feature SKU information associated with the PAKs and then can obtain licenses for those SKUs.
- Q.** I have an isolated network and do not have Internet connectivity; can I still use Cisco License Manager?
- A.** Cisco License Manager resides at the customer premises and needs Internet connectivity to Cisco.com for many of its features. For isolated networks, Cisco License Manager supports two-stage license deployment, where you can move Cisco License Manager to a network domain with Internet connectivity and obtain and save licenses to its database by securely communicating to the license server at Cisco.com. Cisco License Manager can then be moved back to the original isolated network domain to deploy the previously obtained licenses to network devices. In addition, Cisco License Manager supports Cisco.com connectivity through proxy servers. Please see the *Deploying Cisco License Manager in Isolated Networks* white paper located at <http://www.cisco.com/go/clm> for more approaches to securely handle this scenario.
- Q.** I am concerned about my privacy; does Cisco License Manager periodically send my network information to Cisco?
- A.** Cisco License Manager communicates to Cisco.com only when you initiate *Download PAK Info*, *Obtain License*, and *Resend License* operations. It does not send any customer network information to Cisco.com except the unique device identifier (UDI), which is required for obtaining licenses.
- Q.** How long will the Return Materials Authorization (RMA) discrepancy report take to generate?
- A.** Cisco License Manager contacts the license server at Cisco.com to obtain the RMA history for all managed devices, and typically it can process approximately 10 devices per minute. The exact time depends on many factors such as WAN bandwidth, server load, etc.
- Q.** I have not installed or configured my device yet and it is offline; can I still obtain licenses for it? What if my device is offline?
- A.** Yes, Cisco License Manager can obtain licenses even for predeployed or offline devices if you add them to Cisco License Manager using their UDIs instead of their IP addresses.

Product Integration

- Q.** Does Cisco License Manager integrate with other Cisco network management products?
- A.** Yes, Cisco License Manager integrates with [CiscoWorks LAN Management Solution \(LMS\)](#) Release 3.1 and later, it can import device lists and credentials from CiscoWorks LMS.
- Q.** What are the SDKs supported by Cisco License Manager?
- A.** Cisco License Manager Release 3.2.2 supports a full-functionality Java SDK.
- Q.** What type of management capability is supported by the Cisco License Manager Java SDK?
- A.** Cisco License Manager SDK provides all the functionality that is available through the GUI. You can use the SDK to integrate your existing license and asset management products with Cisco License Manager. For details, please refer to the Cisco License Manager API reference documentation at http://www.cisco.com/en/US/products/ps7138/products_installation_and_configuration_guides_list.html.
- Q.** How many concurrent clients can be used with a Cisco License Manager server?
- A.** Cisco recommends a maximum of five concurrent clients to Cisco License Manager. These clients can be either GUI clients or northbound clients using the Cisco License Manager SDK.
- Q.** Does Cisco License Manager Release 3.2.2 support the Perl SDK?
- A.** No, Perl SDK support has been dropped from Cisco License Manager beginning with Release 3.0. The full-functionality Java SDK will continue to be available.

General Installation and Configuration

- Q.** Which operating system can Cisco License Manager run on?
- A.** Cisco License Manager Release 3.2.2 GUI software supports the following operating systems:
- Windows Server 2003 R2 Standard Edition, 32 bit
 - Windows Server 2008 R2 Enterprise Edition, 64 bit
 - Windows XP Professional, 32 bit
 - Windows 7 Professional, 32 and 64 bit
 - Solaris 10
 - Red Hat Linux Enterprise 5
- Q.** Can I install both Cisco License Manager GUI client and server software on the same machine?
- A.** Yes, this is supported as long as the minimum system resource requirements specified in the Cisco License Manager data sheet are met. Server and client should be deployed on different machines in order to support 20,000 devices with the embedded database or if using an external Oracle database.
- Q.** What is the Java Runtime Environment (JRE) needed by Cisco License Manager Release 3.2.2?
- A.** Cisco License Manager needs JRE 1.6, which is bundled as part of the installation CD.
- Q.** Do I need to install a database for Cisco License Manager?
- A.** No, Cisco License Manager includes an embedded database. Cisco has purchased the license to embed this database in Cisco License Manager, and you do not need to purchase any license or support for this database. Alternatively, you may separately purchase and use your own Oracle 11 database for greater scalability and integration with existing database process and procedures.

Policy-Based License Management

- Q. Can the policies created by one user be shared by other Cisco License Manager users?
- A. Yes, Cisco License Manager facilitates collaboration by allowing users to share policies created by one user with others. The policies can be modified and executed by all Cisco License Manager users.
- Q. If a device matching the rules set by a policy already has the appropriate license, will Cisco License Manager obtain and install another license for it?
- A. Cisco License Manager will skip devices that match the rules specified in the policy and that already have the appropriate license and will not obtain a new license.

Ordering Information

- Q. Do I need to buy any other Cisco network management product for Cisco License Manager to work?
- A. Cisco License Manager is a standalone product and does not need any other Cisco network management product to work.
- Q. How can Cisco License Manager be ordered?
- A. Cisco License Manager GUI client and server software is offered free of cost and is available only through download from:
<http://www.cisco.com/cisco/software/type.html?mdfid=280841731&softwareid=282885668&i=rm>.
- Q. How is Cisco License Manager licensed?
- A. Cisco License Manager client and server software and the optional SDKs have right-to-use (RTU) licenses. Cisco License Manager is free of cost and does not require a license key.

Product Support

- Q. Is there a service contract available for Cisco License Manager?
- A. Cisco License Manager GUI client and server software is offered free of cost, and no service contract is needed. A service contract is available for the optional Cisco License Manager Java SDK product, and you must purchase a Software Application Support (SAS) contract to receive access to technical assistance through the Cisco Technical Assistance Center (TAC) or Cisco.com.

Technical Questions—Installation

- Q. Cisco License Manager installation is stopped by anti-virus software?
- A. Lower the security level of the anti-virus software installed in the machine before installing Cisco License Manager.
- Q. Installer has stopped with “Resource folder is not found” error.
- A. Do not run the installer from within WinZip. Extract all files in the Cisco License Manager package to a file folder before running the installer.
- Q. After awakening from suspend/hibernate, the Cisco License Manager server is not responding to the client program.
- A. The Cisco License Manager server's host might have re-assigned a new IP address by DHCP. This new IP address might not match the one cached by the RMI Registry. Restart the Cisco License Manager server to resolve this problem.

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- Q.** During installation, if you click Cancel after a certain stage, the Install Anywhere program is not cleaned up properly. This causes the Cisco License Manager client/server, both registered in the Windows system, to fail. Cisco License Manager cannot be installed or uninstalled.
- A.** If the installation failed in the middle, execute the following steps to clean the incomplete Cisco License Manager package on the system and re-run the installation:

Windows platform:

Remove the Cisco License Manager registry entry from Windows. Open a command window and run the following,

- Client and server installed together:

```
reg delete "HKLM\Software\Cisco Systems\CLM3.2"
```

- Client-only installation:

```
reg delete "HKLM\Software\Cisco Systems\CLM3.2\Client"
```

- Server-only installation:

```
reg delete "HKLM\Software\Cisco Systems\CLM3.2\Server"
```

Remove the Cisco License Manager installation folder manually.

Solaris platform:

Remove the 3.2 registry

- Client and server installed together:

```
pkgrm -n CSCOcIm32; pkgrm -n CSCOcIm3gui
```

- Client-only installation:

```
pkgrm -n CSCOcIm32gui
```

- Server-only installation:

```
pkgrm -n CSCOcIm32
```

Remove the Cisco License Manager installation folder manually.

Device Discovery

- Q.** I'm unable to discover devices.
- A.** If you are unable to discover devices through device discovery, check for the following:
1. Add device authentication when running discovery.
 2. Ensure the device has the license agent enabled with the "license agent listener" and "ip http server" commands.
 3. If setting up HTTPS, make sure both the HTTP and HTTPS servers are up.
 4. Make sure both devices and the Cisco License Manager server are configured if using HTTPS, and also make sure the CA certificate is added to the Cisco License Manager server. If Cisco License Manager is not configured for HTTPS, use the GUI to reconfigure the Cisco License Manager server. Go to Start>All Programs>Cisco License Manager>CLM Server> Configure Server and follow the instructions.

5. User additional methods to discover, such as Telnet and SSH.
6. Ping the device IP address to check that the address is accessible to the Cisco License Manager server.
Cisco License Manager does not support multi-home in this release.

License Deployment

Q. I'm unable to deploy a license.

A. Please make sure following conditions are met:

1. Ensure that the device username and password are correct.
2. Ensure that the device has license agent enabled with the "license agent listener" command.

Q. I'm unable to receive notification from the device.

A. Please make sure following conditions are met:

1. Ensure that the device recognizes the server's host. You might need to add the "ip host <server_hostname> <server_ip_address>" command in the device configuration.
2. See if "license agent notify http ://< server_hostname>:80/clm/servlet/HttpListenServlet" is in the device configuration. If not, run the device discovery again.
3. Ensure that there is no firewall between the Cisco License Manager client program and the server.

Q. Why do I get an error while polling or deploying licenses on devices that are connected through Telnet/SSH?

A. Ensure that the IP address of the Cisco License Manager server has not changed. If the IP address has changed, then stop and restart the Cisco License Manager server.

Q. I get a "Socket timeout" or "Read timeout" error for Telnet/SSH. How can I increase the timeout value?

A. To increase the socket timeout value for telnet, perform the following:

- Stop the Cisco License Manager server.
- Go to \$CISCO_LM_HOME/conf
- Change the value of "PROMPT_TIMEOUT" in the TelnetSSHv2.properties. The timeout value is in milliseconds.
- Start the Cisco License Manager server.

To increase the socket timeout value for SSH, change the SSH_PROMPT_TIMEOUT in the TelnetSSHv2.properties.

Q. I see some error message from GUI/SDK. How do I know if this is inventory related?

A. Perform the following actions:

- Turn the logging level to DEBUG.
- Inspect the clm.log file to see if there is any entry with "ERROR inventory"

Q. I'm unable to receive email notifications from the device.

A. Try this solution:

1. Ensure that the email server is correct. If not, run the Cisco License Manager setup to change it.
2. Ensure that the email address is correct in the User Information.

Import of an XML File

Q. How do you import a completed XML file?

A. If these XML files were exported from the previous Cisco License Manager Release 3.0 database, they can be imported into the Release 3.1 or 3.2 database. If you created your own, it will not work because Cisco License Manager requires much more information than the basic hostname, IP address, UDI etc., Cisco License Manager also maintains other data structures that are needed for the device access, device authentication, device hierarchy, and so forth.

For Cisco License Manager Release 3.0 database export files, use the `clm_import.bat` (Windows) or `clm_import.sh` (Solaris and Linux) script to import license XML files into Cisco License Manager. The syntax is

Usage: `clm_import.sh <admin_password> <-licensefile> <license_file_path> <-udi> <DEVICE_UDI_STRING>`

Example of license file import for a device: `clm_import.sh password -licensefile /usr/licensefile -udi PID12345:FTX1211Y0J6`

If you are trying to import devices by not using the Cisco License Manager GUI, use `DeviceImportCSV.sh/bat`

To import devices with only IP addresses, you can import to Cisco License Manager by using CSV format with hostname, IP address list. Cisco License Manager does not support XML format. The `DeviceImportCSV` scripts call the Cisco License Manager server and gets the needed information from the device.

Usage: `./DeviceImportCSV.sh <CLM_admin_password> <ip file> [<master credential file>]`

Q. Does one file overwrite the previous file or add to its devices during device data import?

A. If it is a device import using the CSV format, it overwrites the old information. If you use XML import, if the information is the same, it will not be overwritten.

Q. How much of the proforma do you need to complete? The GUI entry asks only for device name and IP address. Presumably you can leave most tags undefined, which will then go to their default? If so, do you need to include empty/default tags or can they be omitted?

A. If you try to use XML to import the device with most tags undefined, you will not get what you want since it is an import into the database, but Cisco License Manager needs more than basic device information.

Q. How do you use proforma to add multiple devices? Presumably you can add multiple devices/elements in the same xml file. To do so, which tags do you need to repeat or do you need to repeat them all? Do you just repeat after `<xs:element name="deviceList">` (with closing tags of course)?

A. Please read the user guide about using `DeviceImportCSV.sh`. We do not recommend using `clm_import.sh` for user self-created device import because it is too much work. For example, you need the device xml, `DevicePlatformInfo` xml, and `DeviceCredential` XML, whole sets of xmls to make one device import valid.

Q. How do you delete devices via XML?

A. Cisco License Manager does not support the XML API. You can use the Cisco License Manager SDK and the Java API to delete devices.

Please read the SDK documentation at this URL:

http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_3_1/java_api/java_api.html

Q. If we apply a configuration to a router that includes configuration for features that are not licensed, is the configuration accepted? Meaning if we apply a configuration to a spare to get WAN connectivity up so it can

communicate with Cisco License Manager do we need to reapply the configuration (or at least the missing bits) once the license is activated?

- A.** The configuration will be accepted but will not take effect until there is a license.

Device RMA

- Q.** If one of the devices is down, can I use the RMA process to transfer its license to any other device (contactable by Cisco License Manager)?

- A.** Yes, Cisco License Manager can RMA transfer licenses to any other devices assuming the two devices are from the same product line. You do not need an RMA ticket because there is no such thing.

If the replacement device has its own hostname and IP address, then it is as simple as using the old device as source and replacement device as the destination in the RMA license transfer process.

If you are replacing the old device with another device with the same configuration, you need to create the new device in Cisco License Manager, and then you will see two devices with same hostname and same IP address. The only way to differentiate these two are the UDIs and the connectivity of the devices. If both are green lights, then use "Check Device" in Cisco License Manager device management. One of the devices will turn red if it is not accessible. Then you can select the red device as the source device in the RMA.

There are also other factors that might affect RMA license transfer:

1. The failed device does not contain a device certificate that is required by the Cisco.com API.
2. Cisco.com does not support the RMA of this product type especially if it is not CSL device. (ISR-G2 is CSL device)
3. There is no record of the license in the failed device.
4. The license from the failed device has been RMA transferred three times.
5. If there is a license with the same feature of the destination device already in the database of Cisco.com, Cisco.com will reject the request.

What is Not Supported

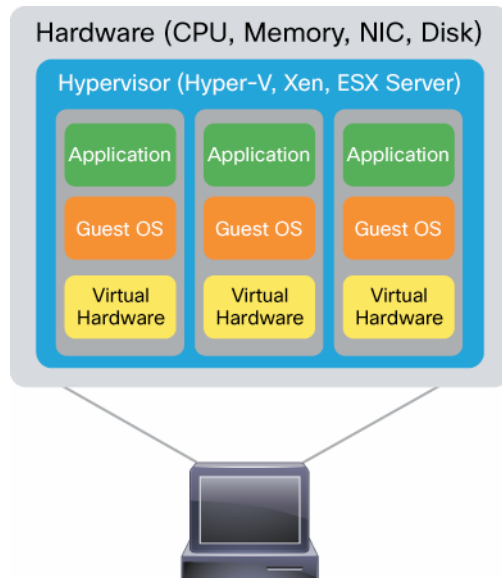
- Q.** I am unable to find report options for EoL, EoS and PSIRT reports.

- A.** Cisco License Manager relies on a third-party EOS, EOL & PSIRT API to fetch the report data for these reports. However this API is not working. These reports are disabled and support for the same is discontinued as of February 2012 in all versions of Cisco License Manager.

- Q.** What is virtualization? Can Cisco License Manager be run on virtual machine instances running standard supported guest operating systems?

- A.** The word virtual indicates that the hardware (CPU, memory, network card, graphics card, storage) is not real but something simulated by a Hypervisor (or virtual machine monitor software). The Cisco License Manager may not run well on virtual hardware. The Cisco License Manager server can also experience issues if the network interfaces are running NAT (Network Address Translation) because the IP addresses are private or inaccessible to reach the GUI, devices, or the Cisco.com portal. Therefore we do not officially support VM environments/NATted Private IP network interfaces.

Figure 1. What is Virtual machine?



Source: http://en.wikipedia.org/wiki/Hardware_virtualization

For More Information

For more information about Cisco License Manager, visit <http://www.cisco.com/go/clm>, contact your local Cisco sales representative, or send an email to the product marketing group at ask-clm-pm@cisco.com.



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