



Release Notes for Cisco License Manager Release 2.2

December, 2008

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Introduction

Cisco License Manager is a software application that assists you in obtaining licenses from Cisco, deploying the licenses to the Cisco devices in your network, discovering the devices, and managing and viewing your inventory of licenses and devices. Cisco License Manager is used with Cisco devices that require Cisco licensing. New or upgraded Cisco devices should be registered, and a product authorization key (PAK) must be provided to obtain licenses from Cisco.

This application provides the following two external interfaces that enable you to perform several licensing tasks from a central location:

- Application programming interface (API)—A programmatic interface that enables client programs to invoke functions implemented on the back-end server, allowing you to integrate Cisco License Manager into your systems. You can also use the API to write custom programs to perform your licensing tasks using either Java or Perl.



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- Graphical user interface (GUI)—A standalone Java application that provides an end-user interface that you can use to invoke functions implemented on the back-end server.

**Note**

You can use the Cisco IOS command-line interface (CLI) to license your devices. Refer to your device documentation for more information.

Cisco License Manager includes the following features:

- Intuitive and easy-to-use GUI
- Maintenance of an up-to-date inventory of deployed licensed features on the network through notifications and optional polling
- Simplified license transfers from one device to another
- Agentless device communication using secure shell (SSH) or Telnet
- Improved detailed license reporting to help with audit compliance
- Full-functionality Java and Perl Software Developer Kit (SDK)
- Enhanced security with role-based access control and per-user access control lists for the managed network devices and PAKs
- Completely automated license management through a simple rule-based policy interface
- Troubleshooting capabilities and X.733 based alerts

System Requirements

Make sure that your system meets the Cisco License Manager server and client requirements described here:

- [Server Requirements, page 3](#)
- [Client Requirements, page 3](#)

**Note**

For network and port requirements, see the *User Guide for Cisco License Manager*.

Server Requirements

Table 1 provides details of the software and hardware requirements for the Cisco License Manager server. These requirements support the maximum data capacity (30,000 Cisco devices in the network). These requirements are also valid if you are installing the server and client on the same host.

Table 1 *Server Software and Hardware Requirements*

Requirement Type	Requirements	Requirements at Maximum Capacity (30,000 Devices)
Processor	x86-based processor, 500-MHz minimum SPARC platform-based processor, 250-MHz minimum	Intel Pentium 4 3.2 GHz or equivalent CPU-based Sun SPARC-Enterprise-T5120 or equivalent CPU-based
Software	Operating system <ul style="list-style-type: none"> • Windows XP with Service Pack 2 or later • Windows 2003 Server • Solaris 10 • Linux: RedHat 5.0 • VMware 	Operating system <ul style="list-style-type: none"> • Windows XP with Service Pack 2 or later • Windows 2003 Server • Solaris 10 • Linux: RedHat 5.0 • VMware
RAM	1 GB	4 GB
Disk	200 MB	20 GB

Client Requirements

Table 2 lists the software and hardware requirements for the Cisco License Manager client workstation.

Table 2 *Client Workstation Software and Hardware Requirements*

Requirement Type	Minimum Requirements	Requirements
Processor	x86-based processor, 500-MHz minimum SPARC platform-based processor, 250-MHz minimum	Intel Pentium 4 3.2 GHz or equivalent CPU-based machine Sun SPARC-Enterprise-T5120 or equivalent CPU-based machine
Software	Operating system <ul style="list-style-type: none"> • Windows XP with Service Pack 2 or later • Windows 2003 Server • Solaris 10 • Linux: RedHat 5.0 	Operating system <ul style="list-style-type: none"> • Windows XP with Service Pack 2 or later • Windows 2003 Server • Solaris 10 • Linux: RedHat 5.0
RAM	512 MB	1 GB
Disk	100 MB	100 MB

Devices Supported

Table 3 lists supported Cisco devices and the corresponding Cisco IOS software release.

Table 3 *Supported Devices and Cisco Software Release*

Device	Cisco IOS Software Release
Cisco Catalyst 3750-E Switch family	Cisco IOS Software Release 12.2(35)SE and later
Cisco Catalyst 3560-E Switch family	Cisco IOS Software Release 12.2(35)SE and later
Cisco Catalyst Blade Server (CBS) 3100 Series Switches	Cisco IOS Software Release 12.2(35)SE onwards
Cisco 2811, 2821, 2851, 3825, and 3845 Integrated Services Routers (modular)	Cisco IOS Software Release 12.4(15)XY and later
Cisco AS5350XM and AS5400XM Universal Gateways	Cisco IOS Software Release 12.4(15)XY and later
Cisco C860 and C880 Integrated Services Routers (fixed)	Cisco IOS Software Release 12.4(15)XZ and later
Cisco Unified Communications 500 Series for Small Business	Cisco IOS Software Release 12.4(11)XW6 and later
Cisco Intrusion Prevention System Advanced Integration Module	Cisco IPS Software Release 6.0(4) and later
Cisco XR 12000 Series Routers	Cisco IOS XR Software Release 3.6 and later
Cisco ASA 5500 Series Appliances	Cisco ASA software release 7.0 and later
Cisco ASA 5500 Series Content Security Services Modules (CSC-SSM-10, CSC-SSM-20)	Cisco 6.1.1587.0 and 6.2.1599.0 and later
Cisco IPS 4000 Series Sensors	Cisco IPS software series 6.0 and later
Cisco PIX 500 Series Appliances	Cisco PIX OS software versions 7.0 and later
Cisco MDS 9000 Family of Multilayer Switches	Cisco SAN-OS Release 3.3.x and Cisco MDS 9000 NX-OS Version 4.1.1 and later
Cisco Nexus 7000 Family of Multilayer Switches	Cisco Nexus 7000 NX-OS Version 4.0(1) and later
Cisco 1861 Integrated Services Router	Cisco IOS Software Release 12.4(11)XW and later

Third-Party Software Included

Cisco License Manager includes Java Runtime Environment (JRE) 1.5 in both the Server package and the Client package.

Installing Cisco License Manager Release 2.2

The following sections describes how to download and install the Cisco License Manager Release 2.2 software:

- [Download Cisco License Manager Software Packages, page 5](#)
- [Install Cisco License Manager Using the Installation GUI, page 6](#)

The following section describes how to uninstall the software if necessary:

- [Uninstall Cisco License Manager, page 7](#)



Note

For installation considerations, required installation preparations, and upgrading from Cisco License Manager 2.1, see the *User Guide for Cisco License Manager, Release 2.2*. To install the Java SDK, see the *Java API Reference Guide for Cisco License Manager, Release 2.2*. To install the Perl SDK, see the *Perl API Reference Guide for Cisco License Manager, Release 2.2*.

Download Cisco License Manager Software Packages

To download the software packages for Cisco License Manager, complete the following steps:

- Step 1** From the appropriate server host or client workstation, access <http://www.cisco.com/go/clm> and click **Download Software**.



Note

You must log in using your Cisco.com username and password before you can download the software. You can also download the software from the Software Download area on Cisco.com after entering your Cisco.com username and password.

- Step 2** Click the WinZip file to download it to the appropriate host or workstation.



Note

The WinZip filenames are base-k9-windows.zip for Windows, base-k9-solaris.zip for Solaris, and base-k9-linux.zip for Linux.

- Step 3** Verify the software and image information and click **Next**.

- Step 4** To accept the Software Download Rules and begin the software download, click **Accept**.

- Step 5** Download and save the Cisco License Manager zip file to your host or workstation. This zip file includes both the Server package and the Client package.



Note

Cisco License Manager is free. There is no charge to download, install, or use it.

- Step 6** Locate the saved file on the host or workstation and unzip the file to your local drive or disk.

Install Cisco License Manager Using the Installation GUI

To install Cisco License Manager on the host or workstation using the installation GUI, complete the following steps:

-
- Step 1** Navigate to the folder where you downloaded the Cisco License Manager file.
- Step 2** Double-click **clm_installer.bat** to start the installation program. A welcome message appears.
- Step 3** Click **Next**.



Note Throughout the installation, if you want to change something on a previous screen, click **Previous**. Click **Cancel** to stop the installation.

- Step 4** Review the license agreement and indicate your agreement by selecting the appropriate radio button. After you choose to accept the terms of the license agreement, click **Next**.
- Step 5** Select the options you want to install:
- To install both the server and client packages, click **Next**. All check boxes should be checked.
 - To install only the server package, uncheck Cisco License Manager Client and click **Next**. The Cisco License Manager Server check box should be the only one checked.
 - To install only the client package, uncheck Cisco License Manager Server and click **Next**. The Cisco License Manager Client check box should be the only one checked.
- Step 6** To choose the default installation directory, click **Next**.
- To choose a different installation directory location, click **Choose** to navigate to the desired location. Select the appropriate directory and click **Next**.



Note If you made a mistake while choosing a different directory, click **Restore Default Folder**. The default installation directory is restored.

- Step 7** If you selected the option to install the client package only, proceed to Step 12. If you are installing the server or the combined server and client configuration, continue with Step 8.
- Step 8** If you want to change the server port, the event listening port, and the HTTP file server port, enter port numbers within the range from 1024 to 65535. Enter nothing if you want to accept the default port settings.
- To use secured communication between the Cisco License Manager server and the client, check **SSL enable**.
- Click **Next**.
- The server listens to the TCP/IP port to receive service requests from the client program and to receive events from the Cisco devices in the network.
- Step 9** If you have SSL-enabled Cisco devices and you want Cisco License Manager to communicate with those devices, click **Yes**. Choose a certificate file for Secure Socket Layer (SSL) authentication between Cisco License Manager and the Cisco devices by clicking **Choose**, navigating to the certificate file location, and clicking **Next**.
- If you do not have SSL-enabled Cisco devices, click **No** and **Next**.

Step 10 Enter the administrator password in the Password field. Reenter the password in the Confirm Password field. If these match, click **Next**.



Tip Remember to store your administrator password in a safe place. If you cannot remember your password, you will have to reinstall Cisco License Manager.

Step 11 Enter your SMTP e-mail server using either the IP address or the hostname and domain name, and click **Next**. Example: my_mail_server.domain.com.

You may see a message stating that your e-mail server cannot be reached. If you want to continue, click **OK**. If you want to reenter the e-mail server, click **Previous** and reenter a server name.



Tip If your e-mail server cannot be reached, try one of the following troubleshooting actions:

- Verify the spelling of the e-mail server name.
- Try to ping the e-mail server using another program to see if it is reachable.
- Skip this step and update the e-mail server after the installation.

Step 12 Review the preinstallation summary information and click **Install** to confirm the installation selections you have made. If you need to reenter installation information, click **Previous**.

Step 13 Choose one of the options:

- Click **Yes, restart my system** to restart the system and complete the installation.
- Click **No, I will restart my system myself** if you want to restart later.

In order to complete the installation, you must restart your system.

Step 14 Click **Done** to complete the installation and exit the program.

Uninstall Cisco License Manager

To uninstall Cisco License Manager Release 2.2, complete the following steps:



Note For a Windows platform, only a user with an Administrator role can uninstall the application. For a Solaris platform, only the root can uninstall the application.

Step 1 Close all Cisco License Manager command and GUI windows and stop the Cisco License Manager server.



Caution If you do not close these windows, the Cisco License Manager package will not uninstall completely. Any files that are referenced by open windows are not removed during the uninstallation.

- Step 2** From a Windows platform, select **Start > All Programs > Cisco License Manager > Uninstall**.
- Step 3** From a Solaris platform, run `$CLM_HOME/bin/runUninstallCiscoLicenseManager`.

Caveats

This section lists open caveats and caveats from the previous release that have been fixed in this release.

Open Caveats

The following caveats are open in this release. If needed, use the recommended workaround procedure.

Bug ID	Description
CSCsv93211	<p>Symptom: The Cisco License Manager data migration script directly migrates the “days to notify” number of days from CLM 2.1 to CLM 2.2.</p> <p>Condition: The Cisco License Manager Release 2.1 GUI “days to notify” field in the Scheduled Expiring license check is converted to “hour-based” days in the Cisco License Manager Release 2.1 server, whereas it is “day-based” in the Cisco License Manager Release 2.2 server. However, the SDK still enters the day-based value. The migration tool cannot differentiate between the data coming from the SDK and the data coming from the GUI, and so it is not able to correct the error.</p> <p>Workaround: Reschedule the Scheduled Expiration check using the Cisco License Manager GUI after the data migration.</p>
CSCsv56119	<p>Symptom: The Cisco License Manager GUI client does not automatically reflect the changes happening in the CLM Server, such as when a device is added to the Cisco License Server or when a device notification is received.</p> <p>Condition: The Cisco License Manager server is unable to resolve the Cisco License Manager GUI client hostname.</p> <p>Workaround: You need to set up the DNS network environment so that Cisco License Manager GUI client hostname can be resolved by the Cisco License Manager server. You can check if the DNS is correctly set up by running the "ping <client_host>" command from the server machine.</p>

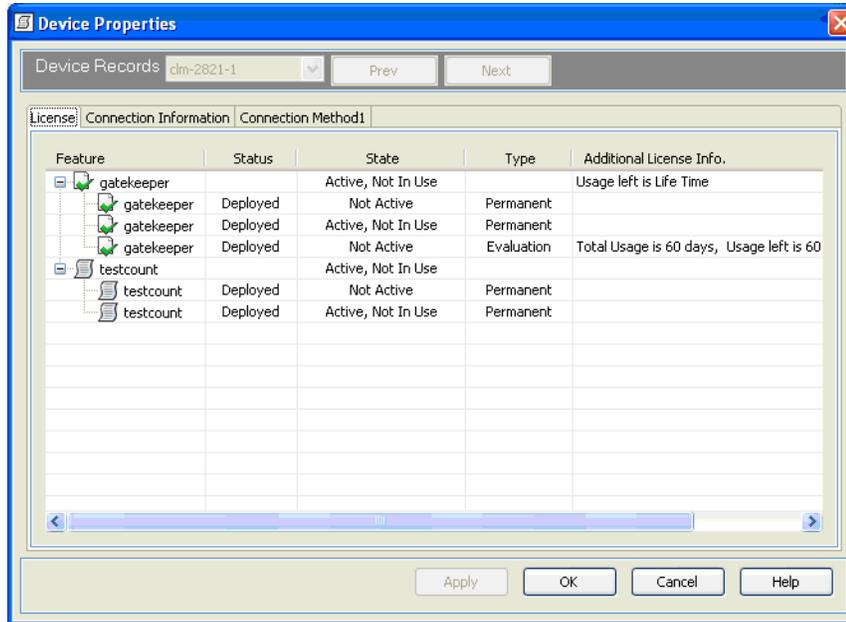
Bug ID	Description
CSCsv83394	<p>Symptom: Creating a device by IP and discovering a device using Telnet or SSH protocols fails for mixed Pixar stacks.</p> <p>Condition: This happens when the master switch is not licensable but the slave switch is licensable.</p> <p>Workaround: Create or discover the mixed Pixar stack using HTTP/HTTPS.</p>
CSCs140582	<p>Symptom: If you click Cancel during installation, the incomplete installation prevents Cisco License Manager from being uninstalled or reinstalled normally. Specifically, if you try to uninstall, you see a message that Cisco License Manager is not installed, and if you try to reinstall, you see a message that Cisco License Manager is already installed.</p> <p>Conditions: Clicking Cancel during installation.</p> <p>Workaround:</p> <p>To avoid the problem, do not click Cancel during installation. Let the installation complete, then uninstall normally, and reinstall, if desired.</p> <p>If clicking Cancel has caused an incomplete installation, follow the steps below to remedy the problem, and then reinstall.</p> <p>On Windows</p> <ol style="list-style-type: none"> 1. Remove Cisco License Manager from the Registry. Open a command window and run the appropriate command, depending on the installation: <ul style="list-style-type: none"> - Server and GUI client installation: <pre>reg delete "HKLM\Software\Cisco Systems\CLM2.0"</pre> - Server installation only: <pre>reg delete "HKLM\Software\Cisco Systems\CLM2.0\Server"</pre> - GUI client installation only: <pre>reg delete "HKLM\Software\Cisco Systems\CLM2.0\Client"</pre> 2. Delete the Cisco License Manager folder. <p>On Solaris</p> <ol style="list-style-type: none"> 1. Remove Cisco License Manager from the registry by running the appropriate command depending on the installation: <ul style="list-style-type: none"> - Server and GUI client installation: <pre>pkgrm -n CSCOc1m20; pkgrm -n CSCOc1m20gui</pre> - Server installation only: <pre>pkgrm -n CSCOc1m20</pre> - GUI client installation only: <pre>pkgrm -n CSCOc1m20gui</pre> 2. Delete the Cisco License Manager folder.

Device-Specific Display Variation for License Information

When you poll license information from a device, the information retrieved by Cisco License Manager is shown in two representations:

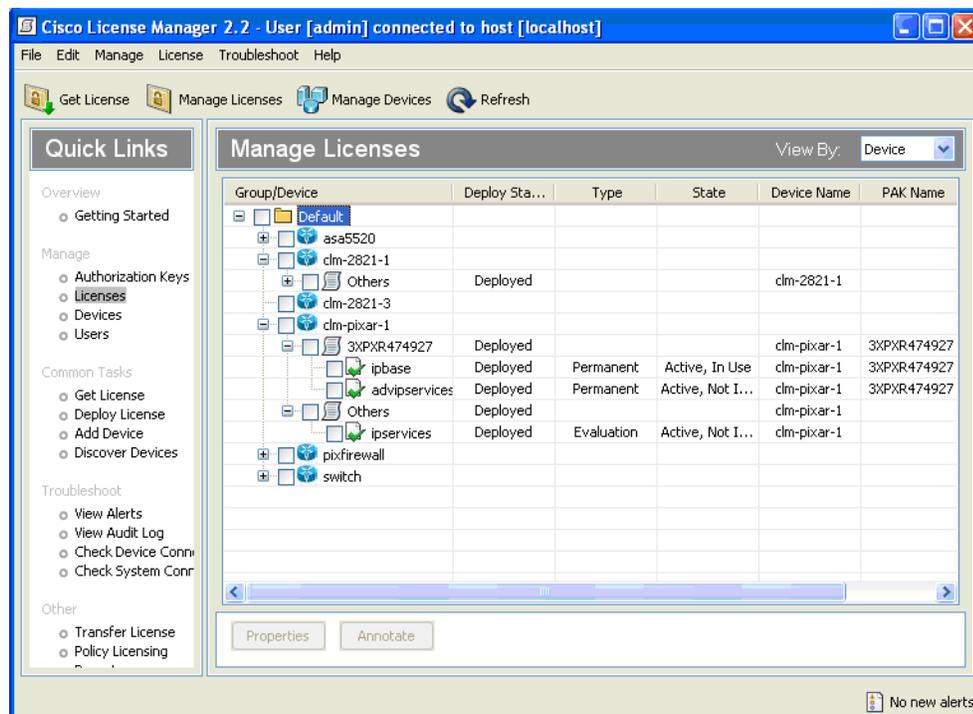
- Feature-based information is displayed in the Device Properties page, as shown in Figure 1. All the licenses for a feature are grouped under the feature name, and information about the total usage left and the feature state is displayed.

Figure 1 Feature-Based Representation



- License-based information is displayed in the Manage Licenses page by grouping all the license information polled from a device under the Others category, as shown in Figure 2. For licenses obtained through a PAK, the information is grouped under the PAK name.

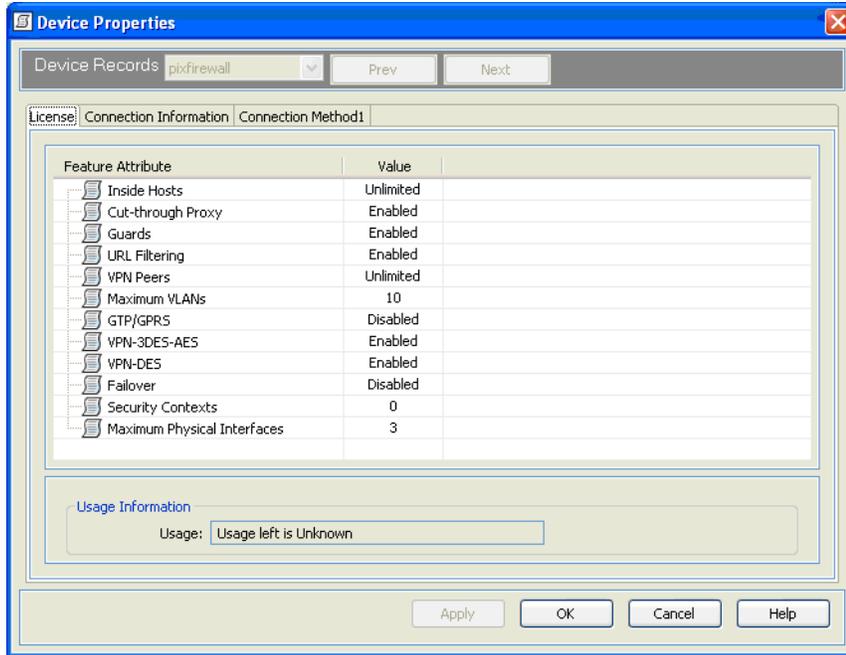
Figure 2 License-Based Representation



For most devices, Cisco License Manager Release 2.2 displays feature-based and license-based information as shown above. There is, however, a variation in the information display for the PIX/ASA, MDS9000/Nexus7000, and Mobility Service Engine (MSE).

For PIX/ASA, the Device Properties page shows feature information only for the running activation key, as shown in Figure 3.

Figure 3 Feature Information for Running Activation Key



The information for other activation keys that are installed is displayed in the Manage License page. Cisco License Manager assigns a unique license ID to each activation key. The detailed feature information for each license is displayed in the License Properties page, as shown in Figure 4 and Figure 5. The Activation Key is shown in the License Set tab, and feature-based information for the activation key is shown in the PIX/ASA tab.

Figure 4 PIX/ASA Activation Key Information for Given License

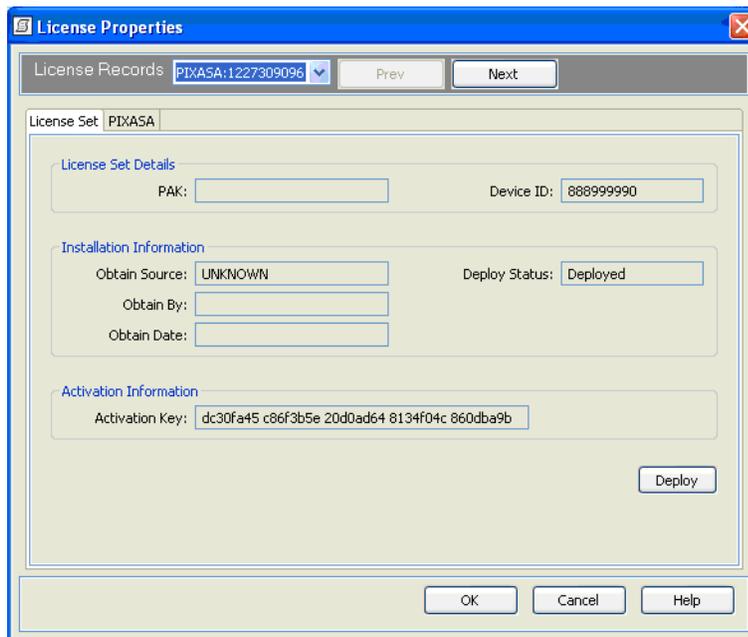
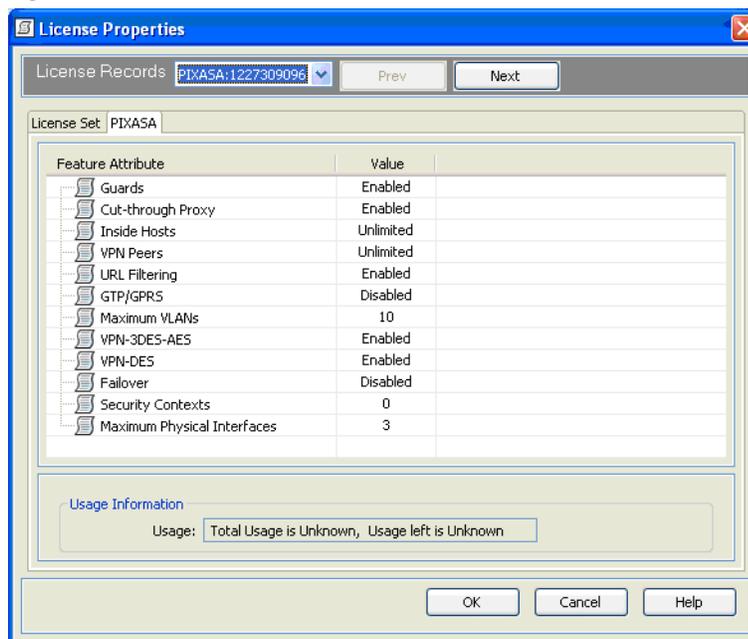
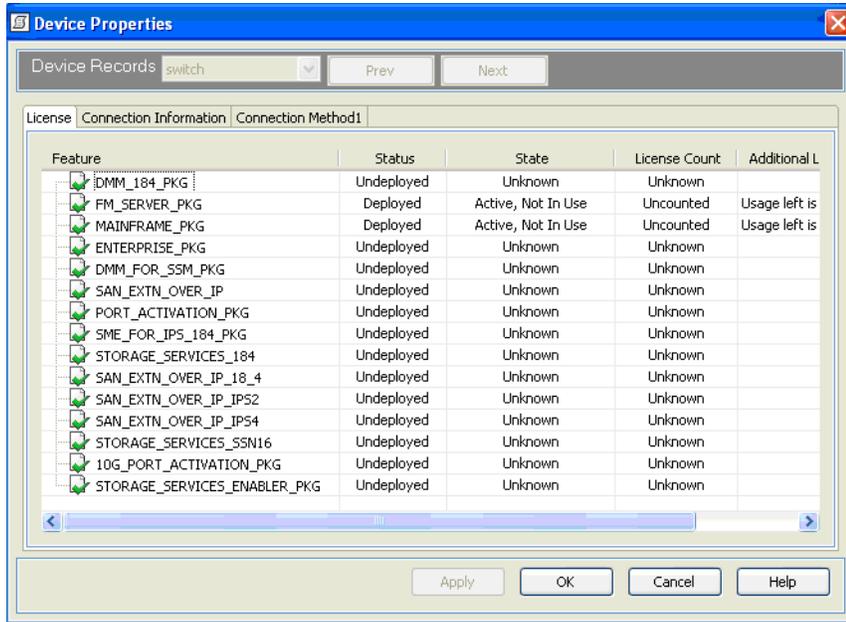


Figure 5 Feature Information for Selected License



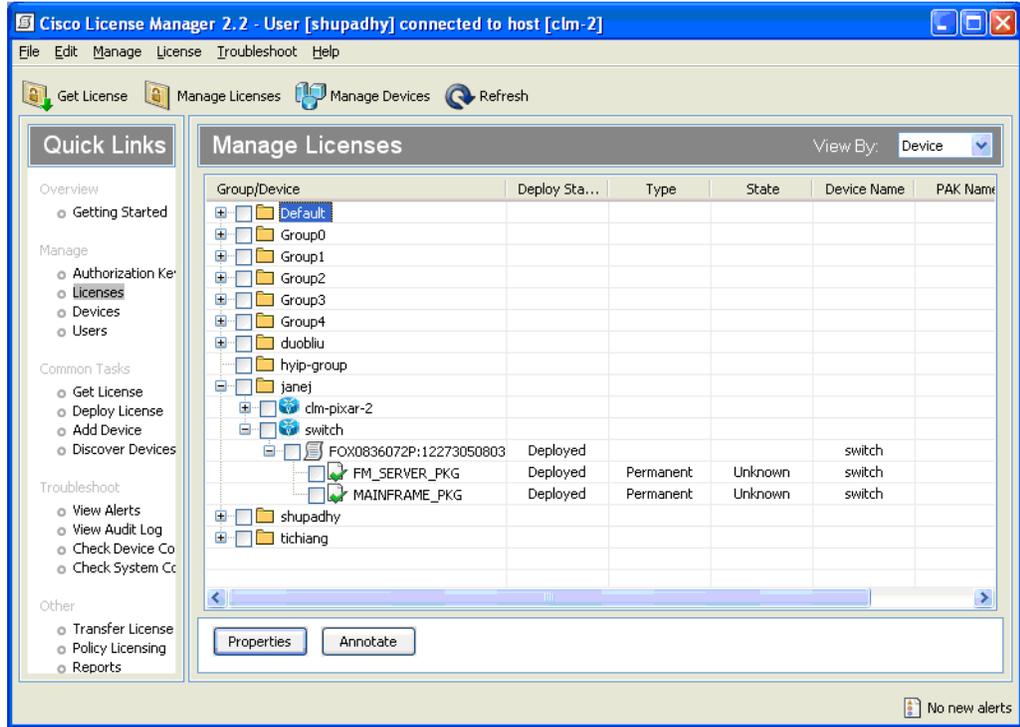
For MDS9000 and Nexus 7K switches, the current license information for all the features is displayed in the Device Properties page as shown in Figure 6.

Figure 6 Feature-Based License Information for MDS9000



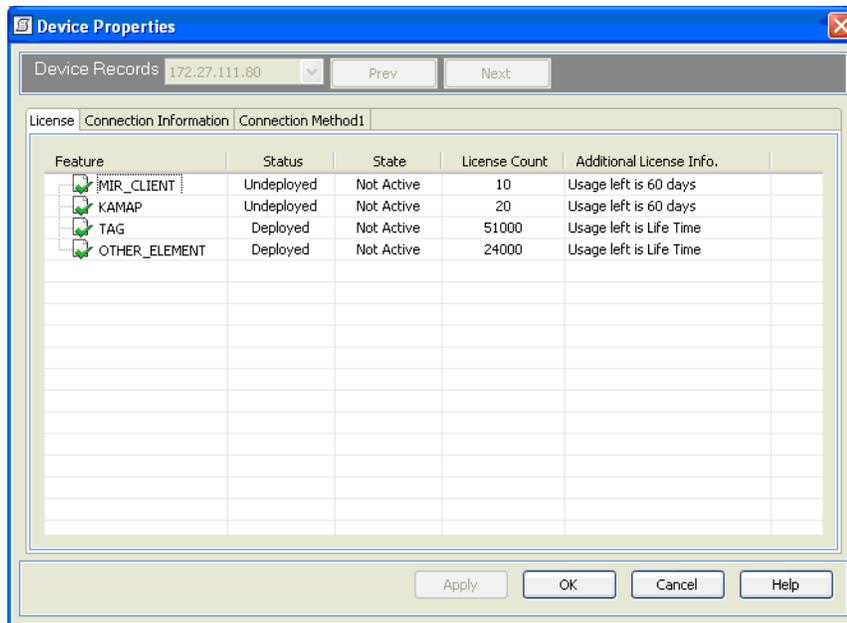
For license-based information in the Manage Licenses page, Cisco License Manager creates a unique license ID for each license file retrieved from the device and displays the license information for the features contained in the license file under this heading, as shown in Figure 7. If licenses are obtained using a PAK, the information is grouped under the PAK name.

Figure 7 License-Based Information for MDS9000



Cisco License Manager can only poll feature-based license information for Mobility Service Engine (MSE). As a result, only the feature-based information in the Device Properties page is updated, and the license-based information in the Manage Licenses page is left blank.

Figure 8 Feature-Based Information for MSE



Resolved Caveats

The following Cisco License Manager Release 2.1 caveats are resolved in this release:

Bug ID	Description
CSCsq27660	CLM GUI takes a long time (about an hour) to update the view when the Refresh button is clicked.
CSCso70310	When managing large quantities of devices using CLM, you may see Java exceptions in CLM error dialog boxes and log files. These Java exceptions include “out of memory error” and “RMI marshalling/unmarshalling error”.
CSCso98199	For valid PAK objects, the Perl API write_paks gives the error: “Input is null or 0 length”.

Troubleshooting

For troubleshooting information, refer to the *User Guide for Cisco License Manager*, Release 2.2, or the online help in the GUI application.

Cisco License Manager 2.2 Documentation Set

Table 4 lists the Cisco License Manager Release 2.2 documentation.

Table 4 **Product Documentation**

Document	Location
Home page for Cisco License Manager documentation (all releases)	On Cisco.com at http://www.cisco.com/en/US/products/ps7138/tsd_products_support_series_home.html
<i>Release Notes for Cisco License Manager, Release 2.2</i>	On Cisco.com at http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_2_2/2.2_rn/lm_rn2.2.html
<i>Finding Documentation for Cisco License Manager, Release 2.2</i>	Adobe Acrobat PDF on SDK CD and on Cisco.com at http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_2_2/2.2_roadmap/clmrdmap.html (in HTML and PDF format)
<i>User Guide for Cisco License Manager, Release 2.2</i>	On Cisco.com at http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_2_2/2.2_user_guide/clm_book.html
<i>Java API Reference Guide for Cisco License Manager, Release 2.2</i>	Adobe Acrobat PDF on SDK CD and on Cisco.com at http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_2_2/java_api/java_api.html (in HTML and PDF format)
<i>Perl API Reference Guide for Cisco License Manager, Release 2.2</i>	Adobe Acrobat PDF on SDK CD and on Cisco.com at Cisco.com at http://www.cisco.com/en/US/docs/net_mgmt/license_manager/lm_2_2/perl_api/perl_api.html (in HTML and PDF format)
Online help	In the user interface, click Help to display help in a separate window.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.

This document is to be used in conjunction with the documents listed in the “Cisco License Manager 2.2 Documentation Set” section.

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