Mentor®
A Siemens Business

Mentor® Standard Licensing Manual

Software Version 2019_1

March 2019

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Chapter 1
Mentor Standard Licensing Overview

Mentor® software uses the Mentor Standard Licensing (MSL) system to administer software licenses. MSL is based on FlexNet™ licensing and uses the FlexNet license file format. Mentor uses FlexNet Publisher certificate-based licensing only.

Note

Mentor uses the term *license file* instead of *certificate*.

MSL has two implementations:

- MGLS (Linux[1]) — Mentor Graphics Licensing System
- PCLS (Microsoft® Windows®) — PC Licensing System

Licenses are delivered to you as a result of booking an order or requesting an evaluation. The authorization codes, which are in the license file, enable Mentor applications.

This manual provides instructions and information for the system or license administrator on how to use MGLS and PCLS to license Mentor software.

The “Mentor Standard Licensing Overview” chapter discusses the following:

FlexNet Licensing Components

FlexNet Licensing provides a FlexNet-enabled application that communicates with the license server, a license manager daemon that contacts the client applications and passes the connection to the appropriate vendor daemon, a Mentor vendor daemon that tracks license status, and a file that stores licensing data.

1. Linux® is the registered trademark of Linus Torvalds in the U.S. and other countries.

- **FlexNet-Enabled Application Program —** The application program uses MSL and communicates with the license server.
- **License Manager Daemon (lmgrd) —** The lmgrd daemon handles initial contact with the client application programs and passes the connection to the appropriate vendor daemon. The lmgrd daemon also starts and restarts the vendor daemons.

  Note

  Node-locked uncounted (mobile compute) licenses do not require lmgrd or mgcld.

- **Vendor Daemon (mgcld) —** The Mentor vendor daemon, mgcld, keeps track of the licenses that are checked out. If the mgcld process terminates for any reason, all users lose their licenses but usually regain them automatically when lmgrd restarts mgcld.
- **License File —** The license file is a text file where FlexNet stores licensing data. Mentor creates this license file, which contains information about the server and mgcld and at least one line of data, called the INCREMENT line, for each licensed product.

  Each INCREMENT line contains an encryption code that is based on data on that line, the host ID of the server(s), and other Mentor-supplied data such as expiration date, count, and version.

  For details about the license file's contents, see "License File Format" on page 10.

For more information about FlexNet components, refer to the *FlexNet Publisher License Administration Guide* published by Flexera Software.

Note

Mentor uses FlexNet certificate-based licensing only.

Related Topics

Types of Licenses Available

Mentor Standard Licensing Benefits

Mentor Standard Licensing (MSL) has many benefits, including a standard implementation of FlexNet licensing, a customized licensing environment, debugging capabilities, and tools to help with license configuration and management.

- **Standard implementation of FlexNet Licensing for Mentor applications —** MSL provides a consistent licensing implementation across all Mentor products and product lines, facilitating the management of application environments.
- **Licensing environment customization —** MSL enables system administrators to control connection timeouts, license file and licensing software locations, and access to

specified licenses. For more information, refer to “Environment Variables for Licensing” on page 39.

- **Debugging capabilities —** MSL writes license information regarding check-out and check-in, queue, denial, and server status to a log file on the license server and client environment and transaction information in the application environment. For more information, refer to “lmgrd” on page 71 and “MGLS_DEBUG_LOG_DIR” on page 43.
- **Tools to help with license configuration and management —** To test license availability, MSL provides the mgls_ok utility for Linux and the pcls_ok and mgls_ok utilities for Windows. MSL also supports standard FlexNet administration graphical user interface and command-line utilities. For more information, refer to “Utilities for Licensing” on page 65.

Related Topics

mgls_ok

pcls_ok

Types of Licenses Available

Various types of licenses can authorize Mentor applications, and each has specific characteristics.

Floating

- Anyone on the network can use the license. The licenses are tied to a server host ID provided by a system host ID, network interface, or hardware key.
- A license server is required. The license server tracks how many licenses are available and how many are currently in use. You can use the options file to configure license servers to allow access only to certain groups or individuals.
- Licenses must be served from the computer whose host ID matches the host ID listed on the SERVER line of the license file.
- The license file contains both a SERVER and DAEMON line, and the quantity on each INCREMENT line is greater than zero (0).

Node-Locked Uncounted (Mobile Compute)

- For Windows only.
- The license is locked to a particular piece of hardware, either an Ethernet address or hardware key, and the hardware must be installed and operational for the license to work.

- The license file does not contain SERVER or DAEMON lines, and the quantity on each INCREMENT line is zero (0). “Zero” identifies this as a special kind of license, not that licenses are unavailable.
- A license server is not required.

Node-Locked Counted

- The license is locked to a particular piece of hardware, either an Ethernet address, host ID, or hardware key. The devices provide a unique identifier for the license.
- The software runs only on the system that has the particular piece of hardware installed.
- A license server is required. The license server tracks how many licenses are available and how many are currently in use. You can use the options file to configure license servers to allow access only to certain groups or individuals.
- The license file contains both a SERVER and DAEMON line, and the quantity on each INCREMENT line is greater than zero (0).
- The license must be served from the computer whose host ID matches the host ID on the SERVER line of the license file.
- The difference between floating and node-locked counted licenses is that node-locked counted licenses have a host ID field (HOSTID=) on each INCREMENT line.

Related Topics

License File Format

Vendor Daemon Options File

License File Format

Mentor delivers licenses to you as a result of booking an order or requesting an evaluation. The authorization codes, which are in the license file, enable Mentor applications. The license file adheres to a standard format determined by your type of license.

Figure 1-1. License File Example

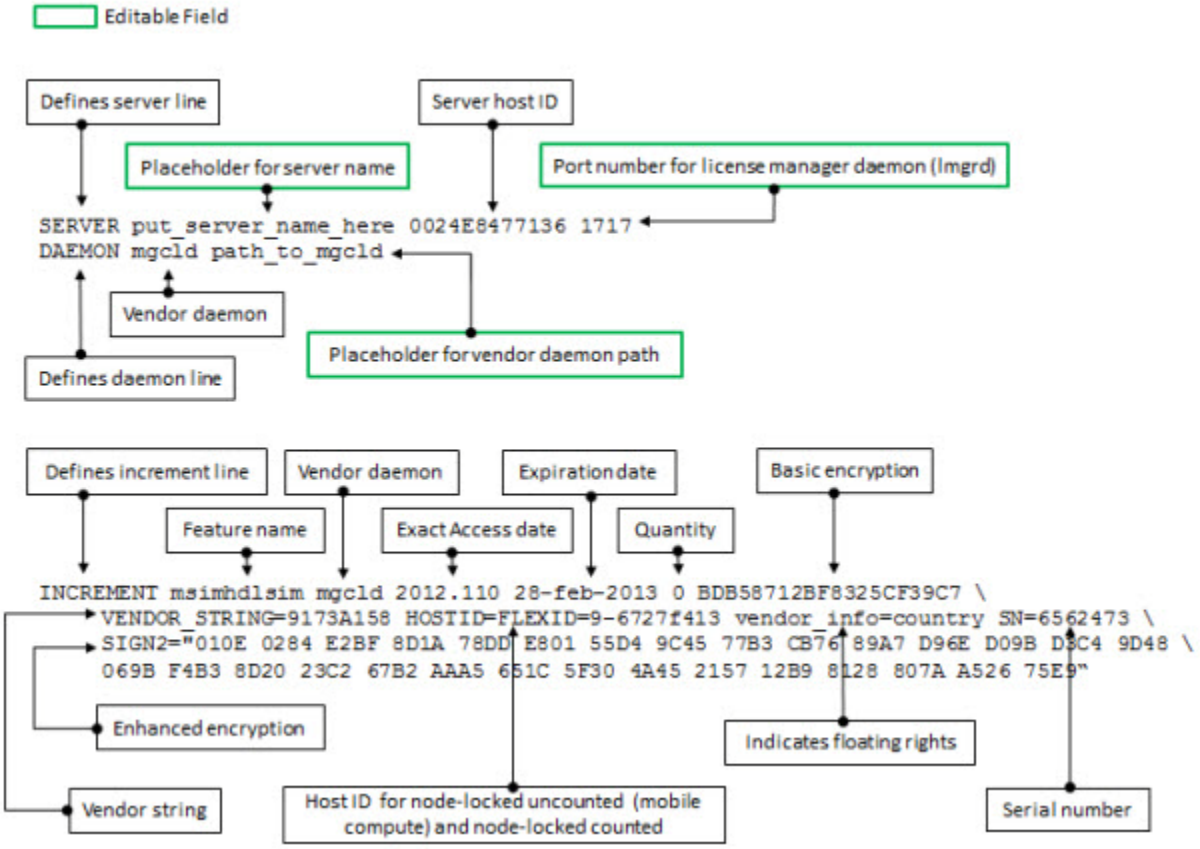


Figure 1-1 identifies the functional fields within a Mentor license file. Optionally, you can add other fields. See the *FlexNet Publisher License Administration Guide* published by Flexera Software for more information. This example applies to all types of Mentor licenses, so refer to the following descriptions of each field to determine which apply to your license environment.

SERVER Section

- **Defines server line —** (Floating and node-locked counted licenses only.) Tells the FlexNet license manager daemon (lmgrd) to expect information about the server.
- **Placeholder for server name —** (Floating and node-locked counted licenses only.) Shows a placeholder that you must replace with your server's host name.
- **Server host ID —** (Floating and node-locked counted licenses only.) Shows the server host ID, which must match that of your server. The host ID can be an Ethernet (Linux and Windows) or a hardware key/dongle (Windows only). Do not change this field. To verify the host ID, use lmutil lmhostid or LMTOOLS. For additional methods, refer to "Determining the Hostid for Licensing" on the Mentor Communities site.

- **Port number for license manager daemon (lmgrd) —** (Floating and node-locked counted licenses only.) Tells the license manager which TCP/IP port to use. You can change this to any available port.
- **Defines daemon line —** (Floating and node-locked counted licenses only.) Tells the license manager to expect information about a vendor daemon.
- **Vendor daemon —** (Floating and node-locked counted licenses only.) Tells the license manager that the information that follows applies to the Mentor vendor daemon, mgcld.
- **Placeholder for vendor daemon path —** (Floating and node-locked counted licenses only.) Shows a placeholder that you must replace with the path to mgcld, including the filename.

INCREMENT Section

- **Defines increment line —** Tells the license manager or license client to process the next fields as license feature information.
- **Feature name —** Defines the name of the feature, which the application checks out at run time.
- **Vendor daemon —** Designates this as a license feature that the Mentor vendor daemon or license client uses.
- **Exact Access date —** Shows the date relating to the version of the product you are currently running. For applications to run, your Mentor products must have minimum license versions. Keeping the support contracts current for your products ensures that you will always be able to run the latest versions. For more information, refer to "Exact Access Licensing" on Account Center.
- **Expiration date —** Shows the date the license (authorization code) expires. This date corresponds to the end of your support contract term plus three months. For more information, refer to "Authorization Code Duration Policy/Guideline" on Account Center.
- **Quantity —** Defines the quantity of each license feature. For floating or node-locked counted licenses, the value is an integer equaling 1 or greater. For mobile compute licenses that are not counted by a license manager, the value is always 0. This field helps you determine whether your licenses are floating or mobile compute. For more information about license types, refer to "License Models, Servers, Types Policy Guideline" on Account Center.
- **Basic encryption —** Shows the 20-digit basic encryption number that secures the license feature.
- **Vendor string —** Shows the string that Mentor assigns for security.

- **Host ID for node-locked uncounted (mobile compute) and node-locked counted —** Locks the feature to a specific host ID. The host ID can be an Ethernet (Linux and Windows) or a hardware key/dongle (Windows only). To verify the host ID, use lmutil lmhostid or LMTOOLS. For additional methods, refer to "Determining the Hostid for Licensing" on the Mentor Communities site.
- **Indicates floating rights —** (Floating licenses only.) Reflects geographic usage rights defined by your license agreement.
- **Serial number —** Shows the unique ID that Mentor uses to look up license information.
- **Enhanced encryption —** Shows the enhanced encryption for securing the license feature.

Determine Your Host ID for Licensing

You must provide your host IDs to Mentor to obtain the licenses for the products you have purchased.

You can determine your host ID by using lmutil lmhostid or LMTOOLS. For additional methods, refer to "Determining the Hostid for Licensing" on the Mentor Communities website.

Additional Licensing Resources

Mentor provides a range of industry-leading support services that keep design teams productive and up-to-date with Mentor products.

A Mentor support contract includes the following:

- **Software Updates —** Get the latest releases and product enhancements to keep your environment current.
- **Mentor Support Center —** Access our online knowledge base, personalized to your Mentor products.
- **Support Forums —** Learn, share, and connect with other Mentor users.
- **Technical Support —** Collaborate with Mentor support engineers to solve complex design challenges.
- **Regular Communications —** Receive the latest knowledge base articles and announcements for your Mentor products.
- **Mentor Ideas —** Share ideas and vote for your favorites to shape future products.

More information is available here:

https://support.mentor.com/

If your site is under a current support contract, but you do not have a Support Center login, register today:

https://support.mentor.com/register

For answers to your account questions, refer to the Account page on Account Center.

For answers to frequently asked licensing questions and to collaborate with Mentor community members and technical experts, visit the Licensing and Installation Mentor Communities site:

Licensing and Installation Mentor Communities site

Chapter 2
Basic License Administration

Mentor Standard Licensing (MSL) provides the ability to install and configure your licensing software on Linux and Windows systems.

License Configuration and Management for Linux

Mentor provides the ability to configure and manage your licensing on Linux systems.

Note

Mentor does not support hardware keys (dongles) on Linux systems.

Installing and Configuring a License Server on Linux

You must perform certain tasks to install licensing on a license server for the first time.

Prerequisites

- You determined which machines you will use as license servers and determined their host IDs. For information on the latter, refer to “Determine Your Host ID for Licensing” on page 13.
- You received your Mentor license file either by email or Account Center download. If you have questions, contact Mentor.
- You ensured that the proper networking components are installed and correctly configured. For Mentor licensing software to work correctly, workstation hardware and operating system versions must be at a level adequate to support the current versions of software. For hardware and operating system information, refer to your application’s configuration information.
- You ensured that TCP/IP is configured on your network.

Procedure

1. From Account Center (https://account.mentor.com), click **Licenses > Licensing Software** to show a list of Licensing releases.
2. Click the most recent Licensing release. The window expands to show four tabs: **Files**, **Important Info**, **Documentation**, and **System Requirements**.

3. From the **Files** tab, click the Licensing release name. The Release Information and Downloads window opens.
4. To download the release, click the MGLS file that corresponds to your platform.
5. Copy the downloaded file to the directory where the licensing software is to be installed and navigate to the location.
6. Unzip the file.

   For example (Linux 64-bit, FlexNet v11.13.0.2):

   ```
   $ gzip -d mgls_v9-13_5-2-0.aol.tar.gz
   ```

   Note

   After unzipping the file, the *.gz* suffix no longer appears on the original file. For example: *mgls_v9-13_5-2-0.aol.tar*.

7. Untar the resulting file.

   For example:

   ```
   $ tar -xvf mgls_v9-13_5-2-0.aol.tar
   ```

   The command creates a licensing software subdirectory for MGLS. For example: *mgls_v9-13_5-2-0.aol*. Inside this subdirectory is the *bin* directory that contains lmgrd, mgcld (the Mentor vendor daemon), and FlexNet utilities.
8. Save your licenses in a file on your local hard drive.

   If you received the license file as an attachment to an email or downloaded the file from Account Center, copy and save the file to a directory that permits you to edit the file. If the licensing information is embedded in an email, copy the contents of the email to a file that permits you to edit the file. Edit the file to remove any email header information. The license file must adhere to the following:

   - Be plain-text only
   - Have a name that does not contain any spaces
   - End in *.dat*, *.lic* or *.txt*

   You are not restricted as to where you put the license file. However, you should keep a backup copy of your license file in a safe location.
9. Open the license file in a text editor.
10. Specify the server name.

    Edit the SERVER line in the license file with the correct license server host name. For example:

    Before

```
SERVER put_server_name_here 0024e8477136 1717
```

After

```
SERVER enterprise 0024e8477136 1717
```

If you are administering licenses using a redundant server configuration, you must supply the host name for each license server in your configuration.

11. If necessary, change the port number in the license file from the default value of 1717 to an open port on your system.

    If you are using a redundant server configuration, you must perform this task for each server listed in the license file that cannot use port 1717.

    Caution

    Running multiple networked applications on the same port can introduce instability into the environment and cause unpredictable results that may be extremely difficult to diagnose. Ensure that the port number you choose is dedicated to license server communications only.

12. If you are using a redundant server configuration, copy the license file to the other license servers in your configuration.

    Each redundant license server requires a local copy of the same license file.

13. Edit the DAEMON line to include the path to the vendor daemon mgcld.

    Note

    Firewalls can interfere with licensing communication. For more information, refer to “Firewall Considerations” on page 92.

    Locate the path to the vendor daemon in the licensing software directory that you created in Step 7. For example: */usr1/mgls_v9-13_5-2-0.aol/bin/mgcld*. You must use the absolute path to the daemon. An absolute pathname begins with a “/” (slash). Currently, FlexNet does not allow an environment variable in this pathname. You can add the path to the daemon options file on the DAEMON line. For more information, refer to “Vendor Daemon Options File” on page 91.

    The following is an example of an edited DAEMON line without a daemon options file:

    ```
    DAEMON mgcld /usr1/mgls_v9-13_5-2-0.aol/bin/mgcld
    ```

14. Optionally, adjust the order of your INCREMENT lines to help control license consumption. For more information, refer to “License Ordering in a License File” on page 92.

15. If you want to customize license usage, edit the daemon options file.

    For more information, refer to “Vendor Daemon Options File” on page 91.

16. Start the license manager daemon on the license server.

    ```
    $ lmgrd -c license_file
    ```

    Where *license_file* is the path to the license file you configured in the previous steps.

    You also can create a server debug log file. For example:

    ```
    $ lmgrd -c license_file -l logfile
    ```

    Then you can use the Linux **tail -f** *logfile* command to monitor the status of the license server.

    Note

    We recommend that you do not run license servers as “root.”

17. Verify that the server is valid and has started.

    ```
    $ lmutil lmstat [-c {license_file | port@host}]
    ```

    The command reports the server and daemon status and the product usage.

    Note

    If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

18. For redundant servers, repeat this process for each server in the cluster.

Related Topics

License File Format

How to Start a License Server Automatically on Linux

LM_LICENSE_FILE

lmstat

Configuring Licensing on a Client Workstation on Linux

After you start a license server, you can configure licensing on a client workstation.

Prerequisites

- You performed “Installing and Configuring a License Server on Linux” on page 16.

Procedure

1. Set the licensing environment variables to find the licensing software, and set the environment variables for the application to find the license file.

You must set either the MGLS_LICENSE_FILE variable or the LM_LICENSE_FILE variable to point to the license file location.

2. Validate the server environment.

   Use lmstat to check that the server is running and a feature is available.

   ```
   $ lmutil lmstat -a [-c {license_file | port@host}]
   ```

   The lmstat command reports the server and daemon status and the product usage.

   Note

   If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

3. Use mgls_ok to verify that a client can check out a specific license feature.

   ```
   $ mgls_ok license_name
   ```

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

lmstat

mgls_ok

Adding a New License on Linux

You may need to add new licenses to your existing license server if, after you install your software and licenses, you decide to purchase additional Mentor licenses for your existing software.

Prerequisites

- You performed “Installing and Configuring a License Server on Linux” on page 16.

Procedure

1. Set the license environment variables.

   You must set either MGLS_LICENSE_FILE or LM_LICENSE_FILE so that the licensing software can find the location of the license file or server. For more information, refer to “Environment Variables for Licensing” on page 39.

2. Edit the license file with the new licenses.

   Use a text editor to add the new INCREMENT lines to the existing license file.

3. Use lmreread to reread the license file if the server is running.

   ```
   $ lmutil lmreread [-c {license_file | port@host}]
   ```

Note

If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

4. Validate the server environment.

   Use lmstat to check that the server is up and that a feature is available.

   ```
   $ lmutil lmstat -a [-c {license_file | port@host)]
   ```

   This command reports the server and daemon status and product usage.

5. Use mgls_ok to verify that a client can check out a specific license feature.

   ```
   $ mgls_ok license_name
   ```

Related Topics

License File Format

lmreread

lmstat

mgls_ok

Removing Expired Licenses From Your License File

Replacing a License File on Linux

You may need to replace a license file if you receive a renewed license.

Note

If you are managing a license file with term-based licenses, we recommend that you do not completely replace your license file. Instead, refer to “Adding a New License on Linux” on page 20.

Prerequisites

- You performed “Installing and Configuring a License Server on Linux” on page 16.

Procedure

1. Set the license environment variables.

   You must set MGLS_LICENSE_FILE or LM_LICENSE_FILE to the path of the license file. This enables the licensing software to find the location of the license file.

2. Shut down the license manager.

   The license daemons write their last messages to the log file, close the file, and exit. All licenses that were checked out are rescinded. When the license manager restarts, the applications attempt to reacquire their licenses.

Follow these steps:

a. Use lmdown -c to shut down the license daemons and confirm the shutdown.

```
$ lmutil lmdown -c {license_file | port@host}
```

Note

If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

b. If you started the daemon with a server debug log file, check the log to ensure the daemons have exited.

```
$ tail -f  logfile

6/24 12:00(lmgrd)SHUTDOWN request from davem at node davem
6/24 12:00(lmgrd)Shutting down mgcld
6/24 12:00(mgcld)daemon shutdown requested-shutting down
```

3. Replace the license file.

   Rename the old license file and save the new license file in its place.

4. Copy the SERVER and DAEMON lines from the old license file and paste them in place of the SERVER and DAEMON lines in the new license file.

5. Start the license manager daemon on the license server.

```
$ lmgrd -c license_file
```

   Where *license_file* is the file that you configured in "Installing and Configuring a License Server on Linux" on page 16.

   You also can create a server debug log file.

```
$ lmgrd -c license_file -l logfile
```

   Then you can use the Linux **tail -f** *logfile* command to monitor the status of the license server.

6. Verify that the server is valid and has started.

```
$ lmutil lmstat -a [-c {license_file | port@host}]
```

   The lmstat command reports the server and daemon status and the product usage.

7. Verify that a client can check out a license.

   Use mgls_ok to ensure that a client can check out a specific license feature.

```
$ mgls_ok license_name
```

Related Topics

Vendor Daemon Options File

Upgrading to a Newer Version of Licensing Software on Linux

You may need to support applications that require a newer version of licensing software.

Prerequisites

- From Account Center, you downloaded the most recent version of MGLS for your platform: https://account.mentor.com/licenses/download

Procedure

1. Shut down the license manager.

   The license daemons write their last messages to the log file, close the file, and exit. All licenses that were checked out are rescinded. When the license manager restarts, the applications attempt to reacquire their licenses.

   a. Use **lmdown -c** to shut down the license daemons and confirm the shutdown.

      ```
      $ lmutil lmdown -c {license_file | port@host}
      ```

      Note

      If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

   b. If you started the daemon with a server debug log file, check the log to ensure the daemons have exited.

      ```
      $ tail -f  logfile


      6/24 12:00(lmgrd)SHUTDOWN request from davem at node davem
      6/24 12:00(lmgrd)Shutting down mgcld
      6/24 12:00(mgcld)daemon shutdown requested-shutting down
      ```

2. Install the current release on the workstation running your Mentor license server by renaming the existing mgls package and copying the new mgls_*version*.*vco* in its place. The *vco* definitions are as follows:

   - **ixl** = Linux 32-bit
   - **aol** = Linux 64-bit

   Note

   Renaming your old mgls package and copying the new mgls package in its place or creating symbolic links to the package ensures that your current paths to scripts, license files, $PATH, and so on continue to resolve.

3. Restart the license manager and generate a server debug log file.

   For example:

   ```
   $ lmgrd -c license_file -l debug_log_path
   ```

4. Verify that the license server is updated to the newer version by examining the server debug log file.

   For example:

   ```
   $ more debug_log_path

   17:29:54 (lmgrd) Starting vendor daemons ...
   17:29:54 (lmgrd) Started mgcld (internet tcp_port 33767 pid 29237)
   17:29:54 (mgcld) FlexNet Licensing version v11.13.0.2 build 162702 x64_lsb
   17:30:29 (mgcld) Server started on server for:
   --More--(50%)
   ```

Related Topics

lmdown

Uninstalling Licensing Software on Linux

You may want to remove the licensing software.

Note

If you are using licensing from within an application tree, this procedure does not apply.

Prerequisites

- You performed “Installing and Configuring a License Server on Linux” on page 16.

Procedure

1. Shut down the license manager.

The license daemons write their last messages to the log file, close the file, and exit. All licenses that were checked out are rescinded. When the license manager restarts, the applications attempt to reacquire their licenses.

a. Use **lmdown -c** to shut down the license daemons and confirm the shutdown.

```
$ lmutil lmdown -c {license_file | port@host}
```

Note

If you do not set LM_LICENSE_FILE, you must use the -c switch with all lm* commands.

b. If you started the daemon with a server debug log file, check the log to ensure the daemons have exited.

```
$ tail -f  logfile


6/24 12:00(lmgrd)SHUTDOWN request from davem at node davem
6/24 12:00(lmgrd)Shutting down mgcld
6/24 12:00(mgcld)daemon shutdown requested-shutting down
```

2. Delete the mgls_v**.vco* folder.

   For example:

```
$ rm -Rf mgls_v9-13_5-2-0.aol
```

Related Topics

lmdown

How to Start a License Server Automatically on Linux

If you want the license server to start automatically when a system reboots, use a startup script.

For information about scripts that you can customize for your own purposes, refer to "Scripts for Starting Mentor License Servers on Linux/Unix" on Support Center.

License Configuration and Management for Windows

Mentor provides the ability to configure and manage your licensing on Windows systems using the Mentor® Install Program (MIP).

Note

For complete information about MIP features, access the MIP online help by clicking on the **?** at the top right of any MIP window, or refer to the MIP online help PDF file at *C:\MentorGraphics\Install\installHelp.pdf*.

Installing and Configuring a License Server on Windows

You must perform certain tasks to install licensing on a license server for the first time.

Prerequisites

- You have an account with administrator privileges.
- You determined which machines you will use as license servers and determined their host IDs. For information on the latter, refer to “Determine Your Host ID for Licensing” on page 13.
- You received your Mentor license file either by email or Account Center download. If you have questions, contact Mentor.
- You ensured that the proper networking components are installed and correctly configured. For Mentor licensing software to work correctly, workstation hardware and operating system versions must be at a level adequate to support the current versions of software. For hardware and operating system information, refer to your application’s configuration information.
- You ensured that TCP/IP is configured on your network.

Procedure

1. From Account Center (https://account.mentor.com), click **Licenses > Licensing Software** to show a list of Licensing releases.
2. Click the most recent Licensing release. The window expands to show four tabs: **Files**, **Important Info**, **Documentation**, and **System Requirements**.
3. From the **Files** tab, click the Licensing release name. The Release Information and Downloads window opens.
4. To download the release, click the PCLS file that corresponds to your platform.
5. Save the Windows *.zip* file to a location on your system.
6. Extract the files.
7. Open the extracted folder.

   For example:

   ```
   pcls_v9.13.5.2
   ```

8. Double-click the *setup.bat* file. This opens the Install Mentor Licensing window.
9. Click the button in the lower right corner of the window, either **Next**, **Upgrade**, or **Install**.

   If you click **Upgrade** or **Install**, a dialog box opens asking if you would like to configure licensing. Click **Yes**.
10. From the Configure Licensing window, choose **Import license file**.

    Note

    Plug in the hardware key if you have one. Cancel any attempts by the Windows operating system to install the driver.

    This option reads the license file and determines what configuration is needed. Mobile compute (node-locked) licenses are imported to a common file (*C:\MentorGraphics\License_Files\license.txt*) and hardware key drivers are installed, if applicable. Floating licenses are not imported into the common license file. However, if Mentor licensing software is installed, licensing server setup is offered.
11. Click **Next**. A licensing server file is created (*C:\MentorGraphics\License_Files\server_<hostid>.txt*). If a license file for the server already exists, the floating licenses are merged into the existing server license file.
12. Click **Done** and then click **No** or, if you have more licenses to configure, click **Yes**.

Results

A Windows service is created for your license server. Now, every time you reboot your machine, the license server starts automatically.

Related Topics

How to Start a License Server Automatically on Windows

Configuring Licensing on a Client Workstation on Windows

You can configure your mobile compute (node-locked uncounted) or your floating/node-locked counted licensing with MIP.

Prerequisites

- You have an existing license file or the port number and host name of the license servers.

Procedure

1. From Account Center, download the most recent version of PCLS: https://account.mentor.com/licenses/download.
2. Save the Windows *.zip* file to a location on your system.
3. Extract the files.
4. Open the extracted folder.

   For example:

   ```
   pcls_v9.13.5.2
   ```

5. Double-click the *setup.bat* file. This opens the Install Mentor Licensing window.
6. Click the button in the lower right corner of the window, either **Next**, **Upgrade**, or **Install**.

   If you click **Upgrade** or **Install**, a dialog box opens asking if you would like to configure licensing. Click **Yes**.

7. To configure your mobile compute (node-locked uncounted) licensing, follow these steps. If you do not need to configure mobile compute licensing, skip to Step 8.

   a. In the Configure Licensing window, select “Import license file” and click **Next**.

   b. In the Import License File window, type the pathname in the “Import licenses from” field or click **Browse** to navigate to the license file.

   c. Click **Next**.

      If MIP detects authorization codes locked to hardware keys in the license file, the Select Hardware Key window opens. Select the drivers you want to install. Select **Skip** or **Install**. For more information, refer to “Selecting the Hardware Key Driver” in the *Installing Mentor Software Online Help* manual.

If MIP detects node-locked licenses in the license file and they match the current machine's host ID, MIP automatically creates the common file (*C:\MentorGraphics\License_Files\server_<hostid>.txt*). If the licenses do not match the current machine's host ID, the Common License File window opens. Select either:

- **Licenses for Matching HostIDs ONLY** — Imports licenses only for the machine you are using.
- **Licensing for ALL HostIDs in license file** — Imports all licenses. This is useful if hardware keys are not currently attached.

d. Click **Next**.

Note

If you are prompted to configure a license, follow the procedure in "Installing and Configuring a License Server on Windows" on page 26.

e. If you are configuring other licenses, a dialog box confirms that the configuration is complete and asks if you have more licenses to set up.

- Click **Yes** to return to the Configure Licensing window.
- Click **No** to restart MIP using the updated licensing information.

8. To configure your floating/node-locked counted licensing and enable license consumption from the license server, follow these steps. If you do not need to configure floating/node-locked counted licensing, skip Step 8.

a. In the Configure Licensing window, select "Point to a license server" and click **Next**.

b. In the Add Server window, specify the port number and host name. The default port number is 1717. You can set this number to any port number that is currently not in use.

Click **Test** to verify that the license manager is running on the designated host name and port number.

c. Click **Next**. A dialog box confirms that the configuration is complete and asks if you have more licenses to set up.

- Click **Yes** to return to the Configure Licensing window.
- Click **No** if you are finished.

Adding a New License on Windows

You may need to add new licenses to your existing licenses if, after you install your software and licenses, you decide to purchase additional Mentor licenses for your existing software.

Prerequisites

- You performed "Installing and Configuring a License Server on Windows" on page 26 or "Configuring Licensing on a Client Workstation on Windows" on page 28.

Procedure

1. From the **Start** menu, choose **Mentor Licensing > Configure Licensing**.
2. Repeat either of the following options:
   - Steps 10 through 12 of "Installing and Configuring a License Server on Windows" on page 26
   - Step 7 of "Configuring Licensing on a Client Workstation on Windows" on page 28

Results

The installer comments out expired licenses in your license file. If your license file has soon-to-expire licenses, you must comment them out or remove them manually. For more information, refer to "Removing Expired Licenses From Your License File" on page 93.

Replacing a License File on Windows

You may need to replace a license file if you receive a renewed license.

Prerequisites

- You performed "Installing and Configuring a License Server on Windows" on page 26.

Procedure

1. From the **Start** menu, choose **Mentor Licensing > Configure Licensing**.
2. Repeat Steps 10 through 12 of "Installing and Configuring a License Server on Windows" on page 26.

Results

The installer comments out expired licenses in your license file. If your license file has soon-to-expire licenses, you must comment them out or remove them manually. For more information, refer to "Removing Expired Licenses From Your License File" on page 93.

Upgrading to a Newer Version of Licensing Software on Windows

You may need to support applications that require a newer version of licensing software.

Prerequisites

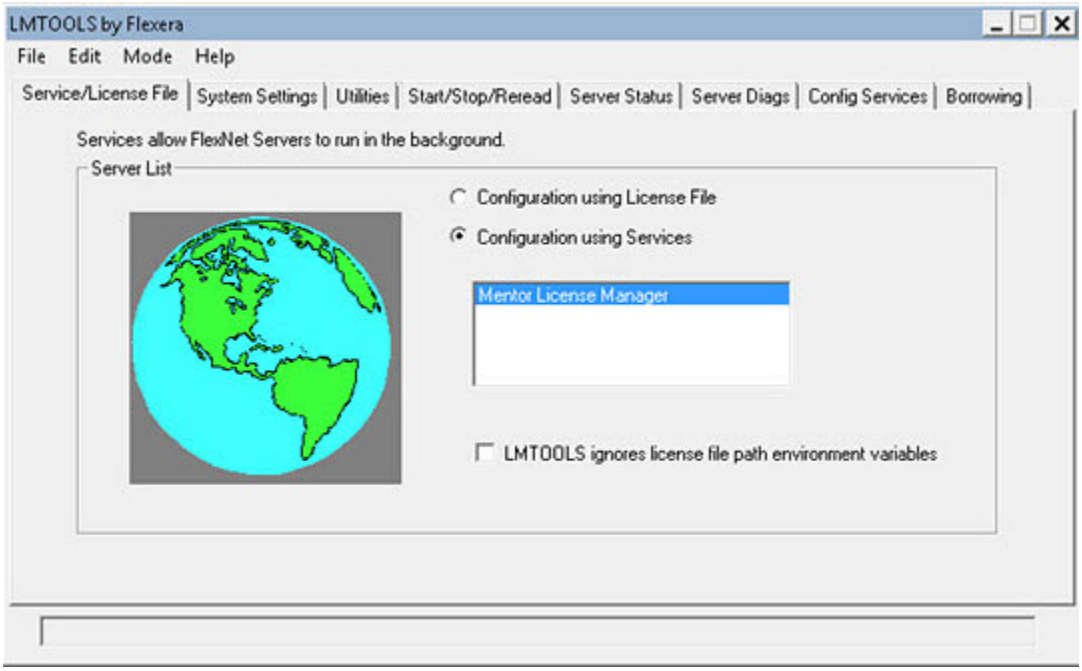
- You have an account with administrator privileges

- From Account Center, you downloaded the most recent version of PCLS: https://account.mentor.com/licenses/download

Procedure

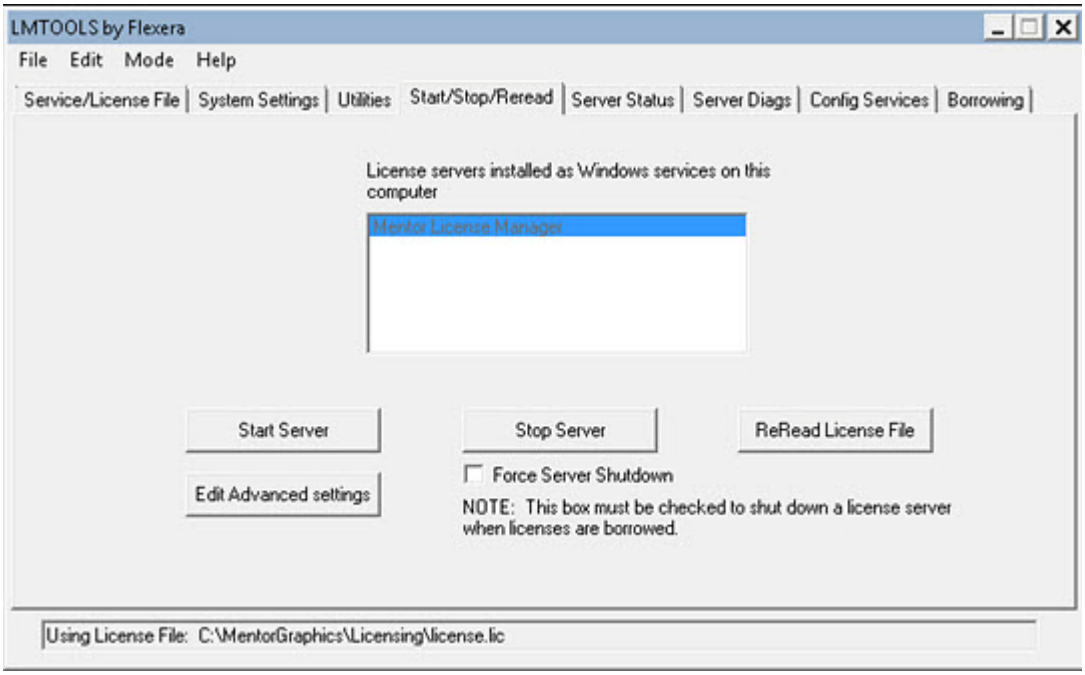
1. Shut down the license manager.

   a. From the **Start** menu, choose **Mentor Licensing > lmtools**. The LMTOOLS window opens in the **Service/License File** tab.



   b. Select Configuration using Services and select your service.

   c. Click the **Start/Stop/Reread** tab and click the **Stop Server** button.



d. Close the LMTOOLS window.

2. Install the current PCLS on the workstation running your Mentor license server.

   a. From Account Center, download the most recent version of PCLS: https://account.mentor.com/licenses/download.

   b. Save the Windows *.zip* file to a location on your system.

   c. Extract the files.

   d. Double-click the setup file. This opens the Install Mentor Licensing window.

   e. Click **Update**.

3. Ensure that the DAEMON line in the license file points to the correct location of *mgcld.exe*.

   For example:

   ```
   C:\MentorGraphics\Licensing\mgcld.exe
   ```

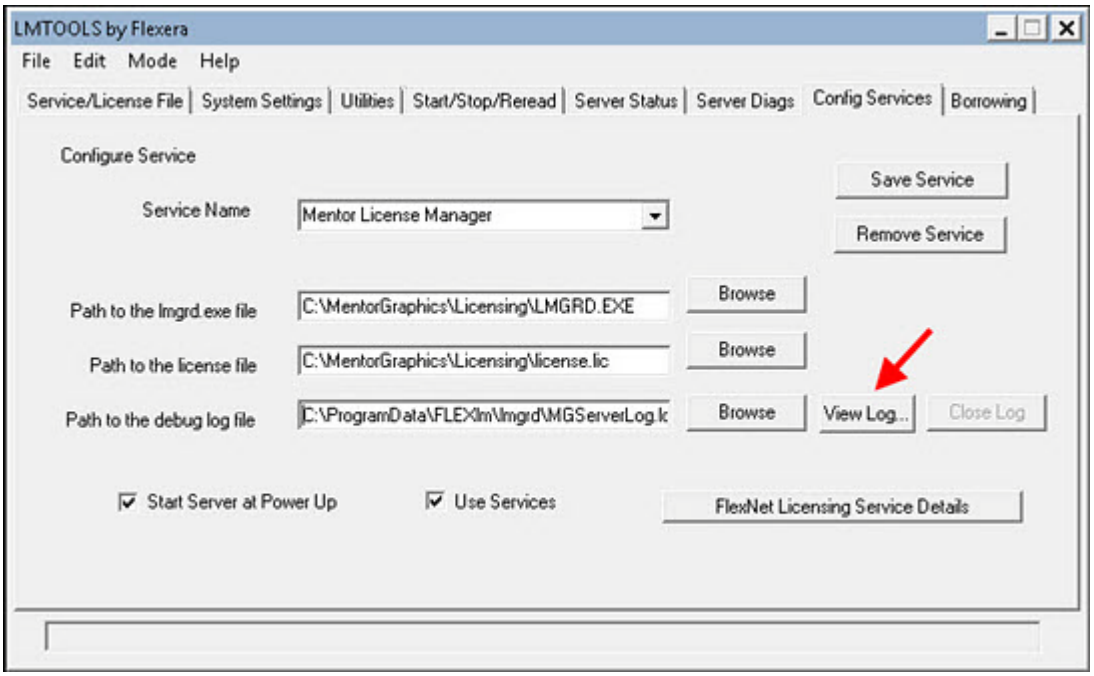
4. Restart the server and verify that the daemons are running and the version is correct.

   a. From the **Start** menu, choose **Mentor Licensing > lmtools**. The LMTOOLS window opens in the **Service/License File** tab.

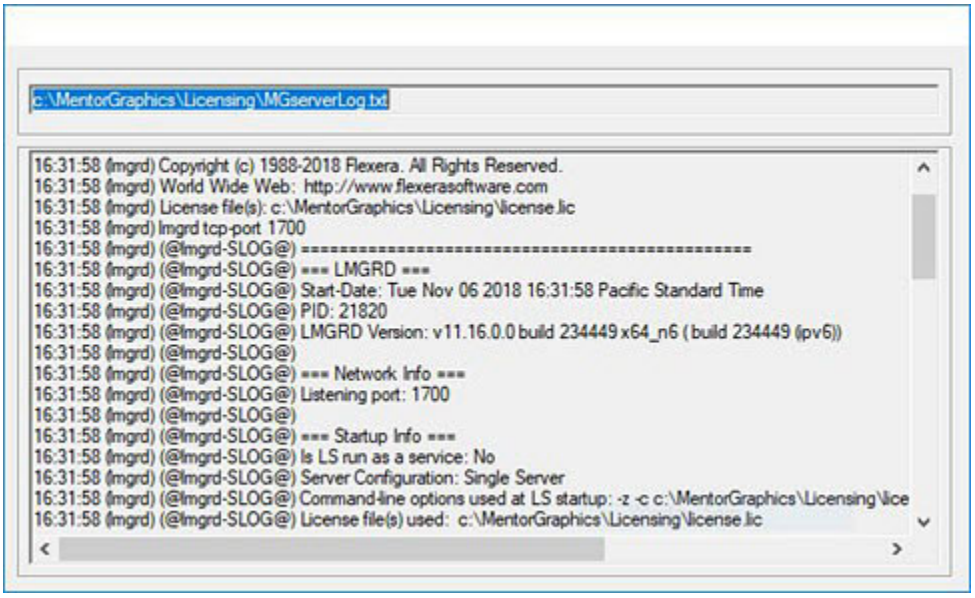
   b. Select Configuration using Services and select your service.

   c. Click the **Start/Stop/Reread** tab and click the **Start Server** button.

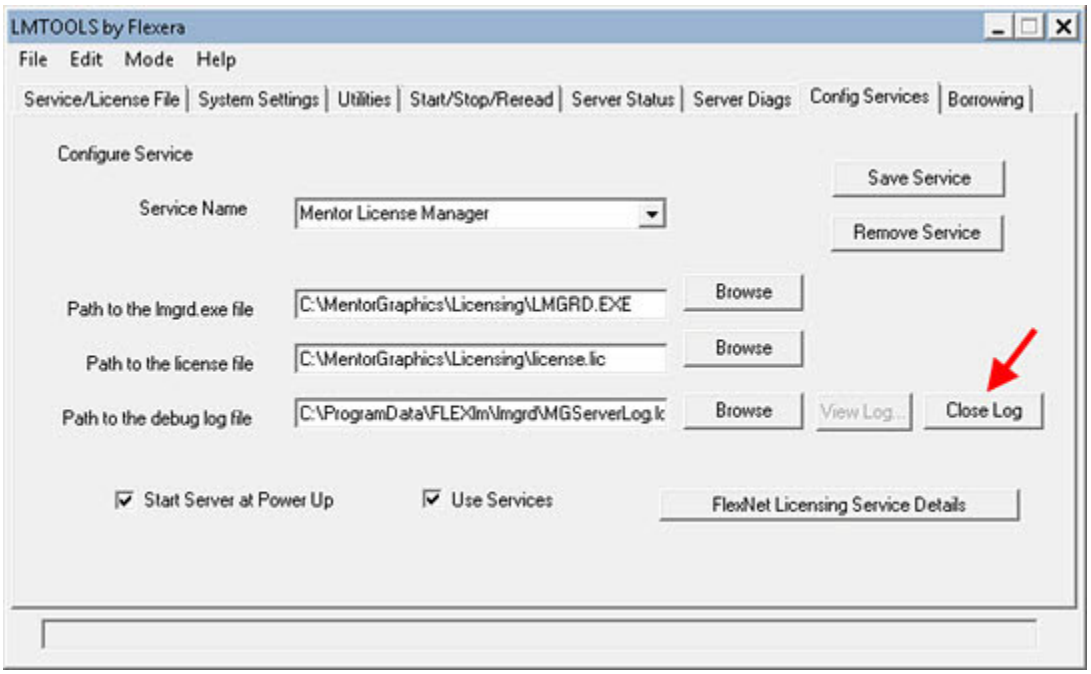
   d. Click the **Config Services** tab and click the **View Log** button.



e. A window opens showing the server debug log file. Scroll the log file window to verify that the daemons are running and the version is correct.



f. Click the **Close Log** button in the **Config Services** tab.



g. Close the LMTOOLS window.

Related Topics

License File Format

LMTOOLS

Uninstalling Licensing Software on Windows

You may want to remove the licensing software.

Prerequisites

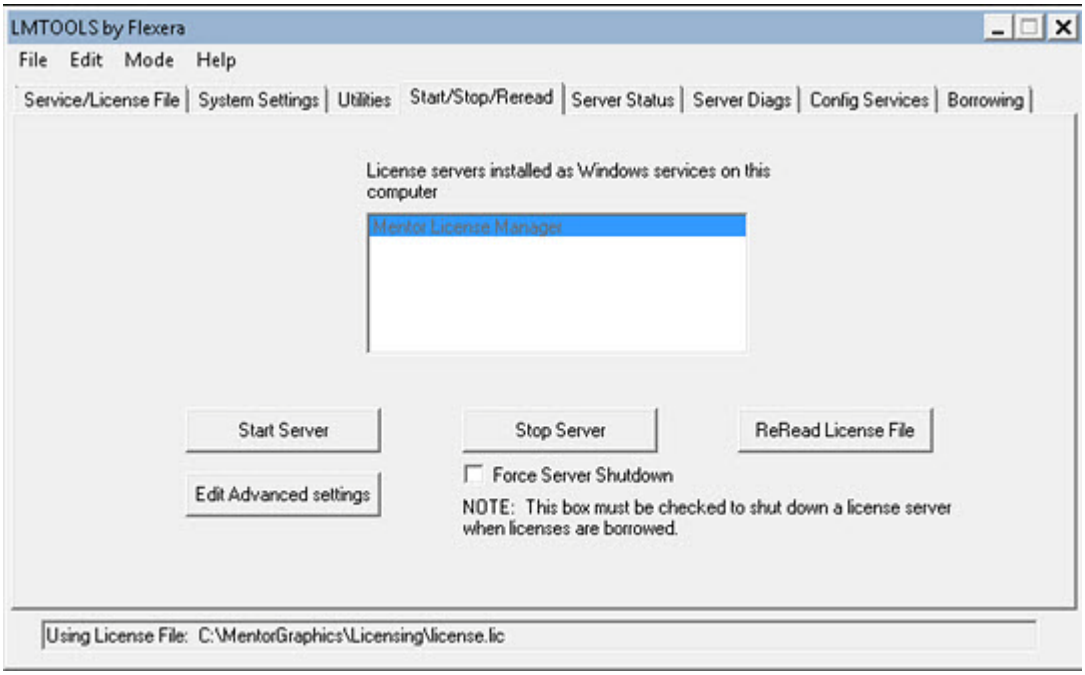
- You performed "Installing and Configuring a License Server on Windows" on page 26 or "Configuring Licensing on a Client Workstation on Windows" on page 28.

Procedure

Note

If you are uninstalling licensing on a client workstation, only perform Step 5.

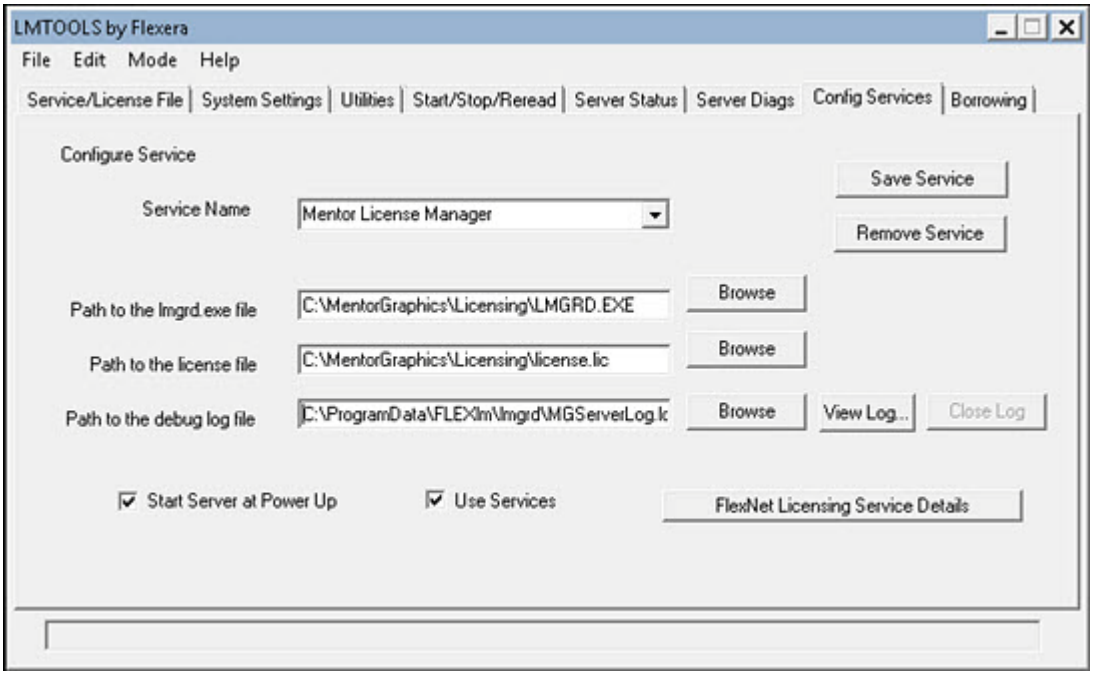
1. From the **Start** menu, choose **Mentor Licensing > lmtools**. The LMTOOLS window opens.
2. Shut down the license manager.
   a. Click the **Start/Stop/Reread** tab.



b. Select the service you want to stop and click the **Stop Server** button.

3. Remove the license service.

a. Click the **Config Services** tab.



b. Select the service you want to remove and click the **Remove Service** button.

4. Close the LMTOOLS window.

5. Remove the licensing software.
   a. From the **Start** menu, choose **Mentor Licensing > Remove Licensing**.
   b. Type Y and press the Enter key.

Related Topics

LMTOOLS

How to Start a License Server Automatically on Windows

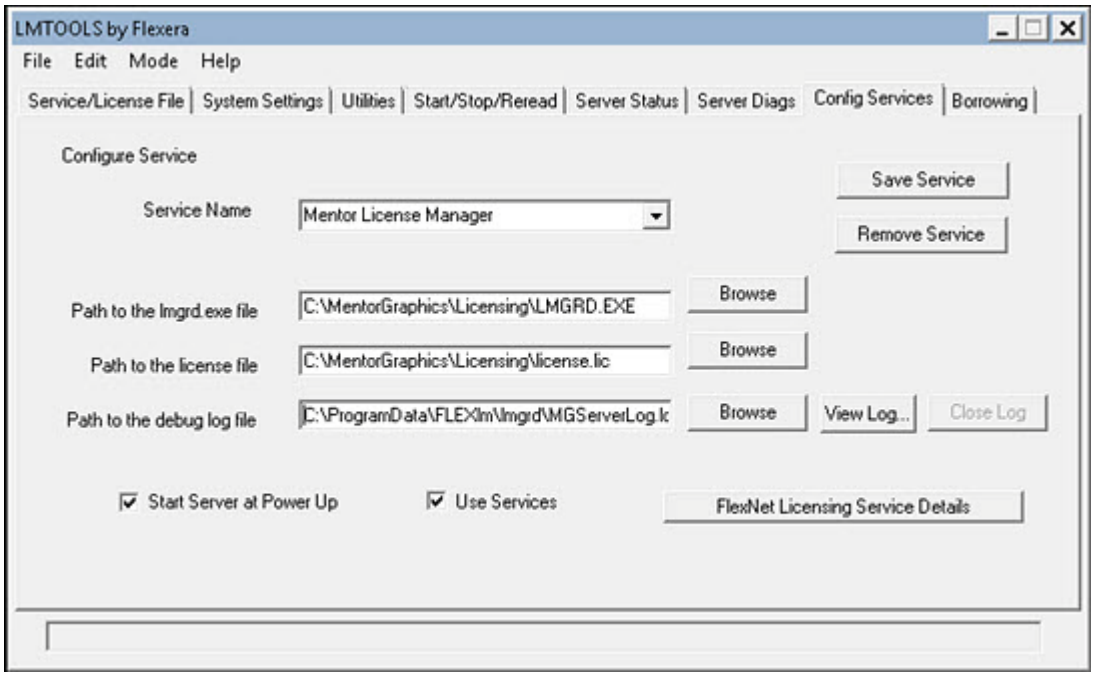
If you use MIP, a license server starts automatically when the system reboots. If you do not use MIP, you can set the license server to start automatically with LMTOOLS.

Prerequisites

- You have an account with administrator privileges.

Procedure

1. From the **Start** menu, choose **Mentor Licensing > lmtools**. The LMTOOLS window opens.
2. On the **Config Services** tab, select the Start Server at Power Up and Use Services check boxes.



3. Click the **Save Service** button and then click **Yes** to save the service settings.

Related Topics

LMTOOLS

Chapter 3
Environment Variables for Licensing

You can control your licensing environment with environment variables, most of which are optional. Either the LM_LICENSE_FILE or MGLS_LICENSE_FILE environment variable is required.

The applications and utilities use the LM_LICENSE_FILE FlexNet environment variable or the MGLS_LICENSE_FILE Mentor environment variable to determine the location of the license files or servers. For Mentor applications, the MGLS_LICENSE_FILE setting overrides the LM_LICENSE_FILE setting.

Note

To add, delete, or edit environment variables on Windows systems, refer to "How to set an environment variable on Windows" on Support Center.

Table 3-1. Environment Variable Summary

Environment Variable	Description
LM_LICENSE_FILE	LM_LICENSE_FILE is the FlexNet client environment variable and, if MGLS_LICENSE_FILE is not set, is the first place Mentor applications check to determine the license file or server location.
MGLS_LICENSE_FILE	MGLS_LICENSE_FILE is a Mentor-specific client environment variable and is the first environment variable Mentor applications check to determine the license file or server location.
MGLS_CONN_TIMEOUT	Use the MGLS_CONN_TIMEOUT environment variable to specify a timeout value, in seconds, for a TCP/IP connection between an application and the license server.
MGLS_DEBUG_LOG_DIR	Use the MGLS_DEBUG_LOG_DIR environment variable to enable Mentor licensing system debugging. Setting this variable creates a client debug log file.
MGLS_EXP_WARN_DAYS	Use the MGLS_EXP_WARN_DAYS environment variable to set the number of days before the license expiration date that warning messages are displayed to stderr.

Table 3-1. Environment Variable Summary (cont.)

Environment Variable	Description
MGLS_HOME	Use the MGLS_HOME environment variable to define the location of the licensing software.
MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES	Use the MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES client-side environment variables to control access to certain licenses.
MGLS_LICENSE_SEARCH	Use the MGLS_LICENSE_SEARCH environment variable to change the license search behavior to emulate the default behavior on Linux.
MGLS_LICENSE_SOURCE	Use the MGLS_LICENSE_SOURCE environment variable to specify the order of the features that licensing considers in license check-out requests.

LM_LICENSE_FILE

OS: Linux, Windows

LM_LICENSE_FILE is the FlexNet client environment variable and, if MGLS_LICENSE_FILE is not set, is the first place Mentor applications check to determine the license file or server location.

Caution

Make sure you specify the server information correctly; pointing to a nonexistent server or unresolvable host name negatively impacts performance.

LM_LICENSE_FILE operates the same as MGLS_LICENSE_FILE, so refer to MGLS_LICENSE_FILE for details.

MGLS_LICENSE_FILE

OS: Linux, Windows

MGLS_LICENSE_FILE is a Mentor-specific client environment variable and is the first environment variable Mentor applications check to determine the license file or server location.

We encourage you to use MGLS_LICENSE_FILE for optimum performance of Mentor applications. Using MGLS_LICENSE_FILE to point to licenses for your Mentor tools speeds the license check-out process and other licensing-related activity.

Caution

Make sure you specify the server information correctly; pointing to a nonexistent server or unresolvable host name negatively impacts performance.

If you have multiple products from different vendors that use FlexNet Licensing, using both the MGLS_LICENSE_FILE and LM_LICENSE_FILE environment variables enable Mentor-licensed products to obtain their licenses from MGLS_LICENSE_FILE and products from other vendors to obtain their licenses from LM_LICENSE_FILE.

Note

Standard FlexNet Licensing commands such as lmutil, lmstat, and lmreread do not recognize the MGLS_LICENSE_FILE variable, so use the -c switch with those commands to explicitly point to the license location. For example:

```
lmutil lmstat -a -c port@host:path_to_license_file
```

The description in this section also pertains to the LM_LICENSE_FILE environment variable, so you can substitute “LM_LICENSE_FILE” wherever you see “MGLS_LICENSE_FILE.”

MGLS_LICENSE_FILE Syntax

On Linux, use a colon (:) to separate independent license sources. For example:

```
license_file_pathname1:license_file_pathnameN:port@host1:port@hostN
```

On Windows, use a semicolon (;) to separate independent license sources. For example:

```
license_file_pathname1;license_file_pathnameN;port@host1;port@hostN
```

When you define multiple servers, the application utilizes the license servers in the order they appear in the license file variable. For example, if you set your environment variable to

```
license_server1:license_server2
```

the application requests a license from license_server1 and, if that license is in use or not available, the application requests the license from license_server2.

MGLS_LICENSE_FILE Length

The total length of the MGLS_LICENSE_FILE is dynamic and depends on the environment. In particular, the number of available file descriptors affects the number of license server or file entries. The basic licensing technology, FlexNet, limits each *port@host* entry to 1024 characters and a license path entry to 4096 characters. Your environment may have additional constraints.

Method to Reference a License Server

You can reference a license server by using the *port@host* syntax. This method enables you to contact a license server without needing to know the pathname to the license file that the license server is using.

The following example references an independent server.

```
MGLS_LICENSE_FILE=1717@host
```

The following example indicates the path to a group of redundant servers.

```
MGLS_LICENSE_FILE=1717@host1,1717@host2,1717@host3
```

Method to Reference a License File (Mobile Compute)

To reference a license file, use the pathname to the license file.

The following example indicates the pathname to the license file.

```
MGLS_LICENSE_FILE=C:\MentorGraphics\License_Files\license.dat
```

Method to Reference Multiple Server Configurations

To point to multiple server configurations, combine any of the syntax in a colon-separated list for Linux or a semicolon-separated list for Windows.

The following example points to multiple server configurations.

Linux:

```
MGLS_LICENSE_FILE=1717@independent:1717@redundant1,1717@redundant2,
   1717@redundant3
```

Windows:

```
MGLS_LICENSE_FILE=1717@independent;1717@redundant1,1717@redundant2,
   1717@redundant3
```

Related Topics

LM_LICENSE_FILE

MGLS_CONN_TIMEOUT

OS: Linux, Windows

Use the MGLS_CONN_TIMEOUT environment variable to specify a timeout value, in seconds, for a TCP/IP connection between an application and the license server.

The MGLS_CONN_TIMEOUT value controls the amount of time the application's initial licensing communication has to reattempt connecting to the license daemon. The value does not remove high latency network delays but may improve the successful acquisition of licenses at invocation.

- Default value = 60 seconds
- Minimum value = 10 seconds

- Maximum value = 600 seconds (10 minutes)

Attempting to set the value outside of the minimum and maximum range results in setting the default value.

MGLS_DEBUG_LOG_DIR

OS: Linux, Windows

Use the MGLS_DEBUG_LOG_DIR environment variable to enable Mentor licensing system debugging. Setting this variable creates a client debug log file.

The client debug log file helps you troubleshoot basic licensing problems with client applications such as improperly installed licensing software, license files that cannot be located, or license files that are defined in multiple locations. The client debug log file does not contain any output from the server-side processes lmgrd or mgcld.

Note

Setting the MGLS_DEBUG_LOG_DIR environment variable negatively impacts performance, so only turn on this variable for debugging purposes. Unset the MGLS_DEBUG_LOG_DIR environment variable when troubleshooting is complete.

The client debug log file contains information about the following:

- Licensing environment variables
- Licensing runtime files (location and version)
- License file search paths
- Licensing errors
- Requested licenses, granted licenses, released (checked in) licenses, and validated licenses

Set the MGLS_DEBUG_LOG_DIR environment variable to a directory where you want the client debug log files written. The directory must exist and be writable by the user invoking the client application, or no log file is generated.

The client debug log file is a text file with the process ID of the application embedded in the log file name (for example: *debug_log.7852.txt*). Each invocation of the application creates a new log file and does not overwrite nor append existing log files.

MGLS_EXP_WARN_DAYS

OS: Linux

Use the MGLS_EXP_WARN_DAYS environment variable to set the number of days before the license expiration date that warning messages are displayed to stderr.

- Maximum value = 90 days
- Minimum value = 1 day
- Default value = 15 days (Your site may require earlier notification.)

Note

Setting the value to zero (0) disables expiring license messages.

MGLS_HOME

OS: Linux

Use the MGLS_HOME environment variable to define the location of the licensing software.

Set MGLS_HOME to the MGLS directory within your application tree. This enables you to run the MGLS licensing utilities (mgls_ok, for example). You do not need to set MGLS_HOME to run Mentor applications.

Related Topics

mgls_ok

MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES

OS: Linux, Windows

Use the MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES client-side environment variables to control access to certain licenses.

These environment variables are similar to the FlexNet options file INCLUDE and EXCLUDE functionality, except that the restriction occurs on the client side instead of the server side.

Caution

Do not mix the use of client-side variables with server-side restrictions (the FlexNet options file), at least for the same feature name. This could result in failure to check out the required licenses.

While the MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES environment variables are useful for controlling whether users can access certain licenses (for example: expadvpack_c), you should be careful when setting these variables. You could unknowingly restrict your machine from accessing any licenses. When possible, set these variables inside a

script that invokes the application (for example: Xpedition® xPCB Layout) so that the restriction does not impact all Mentor applications.

Example 1

The following example specifies to request only the expadvpack_c license.

Linux:

```
#!/bin/sh
MGLS_INCLUDE_LICENSES=expadvpack_c
export MGLS_INCLUDE_LICENSES
$SDD_HOME/common/linux/bin/ExpeditionPCB
```

Windows:

```
SET MGLS_INCLUDE_LICENSES=expadvpack_c
START %SDD_HOME%\common\win32\bin\ExpeditionPCB.exe
```

Caution

When you set the MGLS_INCLUDE_LICENSES environment variable, only the specified feature names can be requested. Set MGLS_INCLUDE_LICENSES inside a script instead of an environment variable so that the value does not impact all Mentor applications.

Example 2

Linux:

The following example specifies to invoke xPCB Layout and have the tool ignore (exclude) the expadvpack_c license.

```
#!/bin/sh
MGLS_EXCLUDE_LICENSES=expadvpack_c
export MGLS_EXCLUDE_LICENSES
$SDD_HOME/common/linux/bin/ExpeditionPCB
```

Windows:

The following example has a mix of atomic xPCB Layout licenses (wgpcb, wgascentl2, wgascentlx, and so on), as well as the expadvpack_c composite. The example specifies to ignore the expadvpack_c composite and request the atomic licenses instead.

```
SET MGLS_EXCLUDE_LICENSES=expadvpack_c
START %SDD_HOME%\common\win32\bin\ExpeditionPCB.exe
```

Caution

When you set the MGLS_EXCLUDE_LICENSES environment variable, the specified feature names cannot be checked out. Set MGLS_EXCLUDE_LICENSES inside a script instead of an environment variable so that the value does not impact all Mentor applications.

Example 3

Linux:

The following example specifies to never request an expadvpack_c or expadvtech_c license.

```
#!/bin/sh
MGLS_EXCLUDE_LICENSES=expadvpack_c:expadvtech_c
export MGLS_EXCLUDE_LICENSES
$SDD_HOME/common/linux/bin/ExpeditionPCB
```

Windows:

The following example specifies to never request a padses_c, padsls_c or dxdesigner040_c license.

```
SET MGLS_EXCLUDE_LICENSES=padses_c;padsls_c;dxdesigner040_c
START %SDD_HOME%\common\win32\bin\ExpeditionPCB.exe
```

Note

When including a list of features, use the colon (Linux) or semi-colon (Windows) as the delimiter.

MGLS_LICENSE_SEARCH

OS: Windows

Use the MGLS_LICENSE_SEARCH environment variable to change the license search behavior to emulate the default behavior on Linux.

When set to 1, this environment variable, which is only applicable to PCLS, restricts Mentor applications from searching for licenses beyond the first defined license location.

Caution

Setting MGLS_LICENSE_SEARCH limits the license search for *all* Mentor applications, so make sure you do not want to search other defined license locations. Setting MGLS_LICENSE_SEARCH is not normally necessary.

Mentor applications on Windows search for the following license locations.

Sequence	Type	Location
1	environment variable	MGLS_LICENSE_FILE
2	registry value	*HKEY_LOCAL_MACHINE\SOFTWARE\MentorGraphics\Licensing\MGLS_LICENSE_FILE*
3	environment variable	LM_LICENSE_FILE

Sequence	Type	Location
4	registry value	*HKEY_LOCAL_MACHINE\SOFTWARE\FLEXLM License Manager\LM_LICENSE_FILE*
5	file	*C:\flexlm\license.dat*

By default, Windows licensing searches through all license locations until either a license is obtained or no licenses are found.

Example

First you set MGLS_LICENSE_FILE and LM_LICENSE_FILE and then set

```
MGLS_LICENSE_SEARCH=1
```

The search stops at the MGLS_LICENSE_FILE environment variable and searches no further; the search does not continue to the LM_LICENSE_FILE environment variable. If the MGLS_LICENSE_FILE environment variable contains multiple servers or paths, all are searched.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

MGLS_LICENSE_SOURCE

OS: Linux, Windows

Use the MGLS_LICENSE_SOURCE environment variable to specify the order of the features that licensing considers in license check-out requests.

For example, you can use MGLS_LICENSE_SOURCE to ensure that a particular license is consumed before any other license. Colons (in Linux) and semicolons (in Windows) separate the feature names in the list, and licensing searches through these names from left to right.

Examples

The following Linux example specifies for the viewdraw040 license and then the padses_c license to be consumed before any other license.

```
MGLS_LICENSE_SOURCE=viewdraw040:padses_c:ANY
```

The following Windows example specifies for the padses_c license to be consumed before any other license.

```
MGLS_LICENSE_SOURCE=padses_c;ANY
```

Chapter 4
Troubleshooting Licensing Issues

If you experience licensing problems, first check that the license is available and that the environment variables are set correctly. Mentor provides additional help through various troubleshooting tools.

Caution

Changing your system's date and time may prevent Mentor applications from checking out a license.

Check License Availability on Linux

Make sure you have the required license in a license file available for use. On Linux systems, running the mgls_ok utility attempts to check out and check back in a specified license and then reports success or failure.

For example:

```
$MGLS_HOME/bin/mgls_ok license_name
```

Related Topics

mgls_ok

Check License Availability on Windows

Make sure you have the required license in a license file available for use. On Windows workstations, running the pcls_ok utility attempts to check out and check back in a specified license and reports any problems.

Related Topics

pcls_ok

Check the License Server Status

Run a status report to see server, daemon, and product usage.

Issue the following command:

```
lmutil lmstat -a [-c {license_file | port@host}]
```

The lmstat command performs the following actions:

- Checks license usage
- Reports the number of installed and available licenses for the specified product
- Lists all active licenses
- Lists all users of the specified feature
- Checks product availability

Caution

The frequency of lmstat requests and the volume of data each request returns can adversely affect the license server performance.

Related Topics

lmstat

Verify That the Environment Variables are Set Correctly

Make sure that the environment variables are set to the correct values. You must set at least the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable.

On Windows, you can use pcls_ok to check your licensing environment variables.

For details about the required and optional environment variables and their correct settings, refer to “Environment Variables for Licensing” on page 39.

Related Topics

pcls_ok

mgls_ok

Debug the Client Licensing Environment With the Client Debug Log File

Use the client debug log file to troubleshoot basic licensing problems with client applications. The license client creates this log file upon exiting if you have set the MGLS_DEBUG_LOG_DIR environment variable to the path of a writable directory.

Related Topics

MGLS_DEBUG_LOG_DIR

Common Client-Side Problems and Solutions

You may have problems starting an application that are related to Licensing. This section describes common issues and their solutions.

Table 4-1. Common Client-Side Problems Summary

Problem	Description
Version Not Supported	The license file/server does not support this version of the feature.
Invalid Host	The host ID of this system does not match the host ID specified in the license file, the license for feature <feature_name> is not valid for this host ID, or an issue exists with the hardware key.
Vendor Daemon is Too Old	The version of the application being run requires a newer license server (lmgrd/mgcld).
No License for the Feature	No license was found for the feature, no such feature exists, or the license server does not support this feature.
Cannot Connect to the License Server	The application cannot connect to the license server.
Application Slow to Launch	The application takes a long time to launch or open a project.
License Request Failure	The license request for a feature failed.
Cannot Acquire a License	Either all licenses for the feature are in use, not enough licenses are available for the feature, all licenses are in use and a request has been entered in all queues, or the license for the feature is not available yet and will return in *nnnn* seconds.
License Expiration Notice	Licenses will expire in *nnn* days.
Server/Client Connection Lost	Lost server/client connection for <feature_name>; attempt *nnn* in progress.
License Request Denial	License request denied because of MGLS include/exclude lists.
Licenses for the Feature are Unavailable	All <feature_name> licenses are in use, and queuing is disabled.
Package Information File Does Not Have the Requested License	The requested license ID is not in the package information file (*mgc.pkginfo*).
(Linux only) Unable to Start mgls_asynch	The mgls_asynch license process could not start.

Version Not Supported

The license file/server does not support this version of the feature.

Causes

The version of the license in the license file is older than the version the application requires.

Solution

Make sure the version (*YYYY.MM*0) on the INCREMENT line of the license file is greater than or equal to the version the application is requesting.

1. Set the MGLS_DEBUG_LOG_DIR environment variable and examine the Transaction section of the client debug log file for information about the version of the license(s) the application requires.
2. Compare that information with the version of the licenses in the license file.

Check Account Center for your latest license file and, if the license file is not current, contact Mentor for a support renewal quote.

Related Topics

MGLS_DEBUG_LOG_DIR

License File Format

Invalid Host

The host ID of this system does not match the host ID specified in the license file, the license for feature <feature_name> is not valid for this host ID, or an issue exists with the hardware key.

Solution

Table 4-2. Causes and Solutions

Cause	Solution
A mismatch exists between the host ID on the INCREMENT line of the license file and the host ID of the system running the application.	To verify whether the host IDs match, use the lmhostid command on Linux and the LMTOOLS utility on Windows. If the host ID does not match the host ID in the license file, contact Mentor to acquire a new license file.
The hardware key driver is not installed or the correct hardware key is not plugged in.	Install the hardware key driver and make sure the correct hardware key is plugged in and working.

Table 4-2. Causes and Solutions (cont.)

Cause	Solution
The license you installed is sufficient for only one machine but not the current machine.	Run the software from the machine whose host ID matches the host ID specified at the server or in the license file. From Account Center, download and install the latest available licenses that are required to run the product software on your machine.

Related Topics

License File Format

lmhostid

LMTOOLS

Vendor Daemon is Too Old

The version of the application being run requires a newer license server (lmgrd/mgcld).

Causes

One or more license servers specified in the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable are not up to date.

Solution

Make sure you are running the latest versions of the licensing software on your license server. For details, refer to Knowledge Base article MG66951 on Support Center.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

No License for the Feature

No license was found for the feature, no such feature exists, or the license server does not support this feature.

```
License request for <feature_name> feature failed
```

Solution

Table 4-3. Causes and Solutions

Cause	Solution
The MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable is not set or is not set correctly.	Set either the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable to reference your license server. For example: `LM_LICENSE_FILE=1700@lic_server` Contact your system administrator for settings information.
The referenced server or license file does not contain the requested license feature.	Make sure the specified license server contains the requested license feature or that the correct license server or license file is specified in the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable. Set the MGLS_DEBUG_LOG_DIR environment variable and examine the client debug log file for more information about licenses that the application is requesting but may not be able to find.
All licenses are in use and the product does not queue for licenses.	Wait for the license to become available before invoking the product.
The specified license file does not exist.	Verify that the license file exists and test the checkout of the feature name with pcls_ok or mgls_ok.
The specified license file is corrupt.	Download and install your licenses from Account Center.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

MGLS_DEBUG_LOG_DIR

mgls_ok

pcls_ok

Cannot Connect to the License Server

The application cannot connect to the license server.

```
FLEXnet Licensing error:-15,10. System Error: 10061 "WinSock: Connection
refused
```

Solution

Table 4-4. Causes and Solutions

Cause	Solution
The license server is down.	Verify that the server is running. Use lmutil lmstat on Linux or LMTOOLS on Windows.
The network is down or mis-configured.	Use standard network commands such as ping to check the network.
The system does not recognize the host name in the license file.	Use the ping and nslookup commands to ensure that the host name resolves to the correct IP address. If the network configuration requires a fully qualified domain name, include this on the SERVER line of the license file.
A firewall is blocking access to the license server.	Refer to “Firewall Considerations” on page 92.
The specified port number is incorrect.	Verify that the port number specified in the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable is the same as the port number defined on the SERVER line of the license file.
The lmgrd process is running on the license server, but the mgcld process failed to start or has exited.	Check the path to mgcld in the license file and restart the license server.

Related Topics

lmstat

LMTOOLS

MGLS_LICENSE_FILE

LM_LICENSE_FILE

License File Format

Application Slow to Launch

The application takes a long time to launch or open a project.

Solution

Table 4-5. Causes and Solutions

Cause	Solution
The MGLS_LICENSE_FILE and/or LM_LICENSE_FILE environment variable includes license servers that are unreachable, not running, or nonexistent.	Verify that all servers in the list are running and reachable through the network. Remove any entries that do not resolve. Remove duplications between the MGLS_LICENSE_FILE and LM_LICENSE_FILE environment variables. On Windows, see "MGLS_LICENSE_SEARCH" on page 46.
The network between the client and server has high latency, resulting in slow response time or a timeout while waiting for a license.	Address the high network latency issue between the client and the license server.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

License Request Failure

The license request for a feature failed.

Solution

Table 4-6. Causes and Solutions

Cause	Solution
The license server is down.	Restart the license server.
The MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable is not set correctly.	Set either the MGLS_LICENSE_FILE or LM_LICENSE_FILE to reference a license server containing the required licenses.
Some or all of the licenses your application requires have not been installed on your license server.	Download and install your licenses from Account Center.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

Cannot Acquire a License

Either all licenses for the feature are in use, not enough licenses are available for the feature, all licenses are in use and a request has been entered in all queues, or the license for the feature is not available yet and will return in *nnnn* seconds.

Causes

Not enough licenses are installed at the referenced server(s) or license file(s).

All available licenses at the server(s) or license file(s) are checked out by other users. If your application allows your request to be queued, you may be placed in a queue for the required license(s), and you will be granted access when the license(s) become available.

Solution

- Download and install the latest available licenses for your products from Account Center.
- More license servers may be available than you are currently referencing; update either MGLS_LICENSE_FILE or LM_LICENSE_FILE to reference all available license servers.
- Purchase more licenses.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

License Expiration Notice

Licenses will expire in *nnn* days.

Causes

The referenced license server(s) or license file(s) have licenses that are within *nnn* days of expiration.

Solution

Download and install the latest available licenses for your products from Account Center.

(Linux only) Set the MGLS_EXP_WARN_DAYS environment variable to zero (0).

Related Topics

MGLS_EXP_WARN_DAYS

Server/Client Connection Lost

Lost server/client connection for <feature_name>; attempt *nnn* in progress.

Causes

The application lost the connection to the referenced license server(s) and is attempting to reconnect.

Solution

If you receive the message “Reconnected to license server for feature <feature_name> after *nnn* retries,” the automatic reconnection attempts resolved the issue.

If the attempts are not successful, ensure that the license server is running and that you have a network connection to it.

License Request Denial

License request denied because of MGLS include/exclude lists.

Causes

Either the MGLS_INCLUDE_LICENSES or MGLS_EXCLUDE_LICENSES environment variable is set in a way that prevents you from acquiring your licenses.

Solution

Unset MGLS_INCLUDE_LICENSES or MGLS_EXCLUDE_LICENSES and restart your application.

Related Topics

MGLS_INCLUDE_LICENSES and MGLS_EXCLUDE_LICENSES

Licenses for the Feature are Unavailable

All <feature_name> licenses are in use, and queuing is disabled.

Causes

The license(s) your application requires are currently in use by other users, and the application has specified that your license requests should not queue.

Solution

Contact Mentor.

Package Information File Does Not Have the Requested License

The requested license ID is not in the package information file (*mgc.pkginfo*).

Causes

The *mgc.pkginfo* file does not have the required information to run your software.

Solution

From Support Center, update the *mgc.pkginfo* file to the latest available version. For more information, refer to KB article MG13664 “Licensing: Where can I find the latest version of the mgc.pkginfo file?”

(Linux only) Unable to Start mgls_asynch

The mgls_asynch license process could not start.

Solution

Table 4-7. Causes and Solutions

Cause	Solution
The mgls_asynch binary does not have execute permissions.	Check the mgls_asynch binary permissions to make sure it has execute permissions.
The mgls_asynch binary has an older version than the application requires.	Update the mgls_asynch binary to the most recent version available.
Out of memory.	Contact Mentor.

Common Server-Side Problems and Solutions

You may have problems with the license server workstation. This section describes common issues and their solutions.

Table 4-8. Common Server-Side Problems Summary

Problem	Description
Incorrect Host	When attempting to start the license server, mgcld returns a message that the server has the wrong host ID.
Inconsistent Encryption Code	The encryption code in the license file is incorrect.
License Server Does Not Support This Feature	UNSUPPORTED message appears in the server debug log file along with the message “License Server does not support this feature.”
(Linux only) License Server Does Not Respond and Complains About File Descriptors	The license server crashes, hangs, or stops serving licenses and complains about file descriptors.
Unable to Find File When Starting a License Server	When starting a license server, the server debug log file reports “File not found.”

Incorrect Host

When attempting to start the license server, mgcld returns a message that the server has the wrong host ID.

Solution

Table 4-9. Causes and Solutions

Cause	Solution
You are running the license server on the wrong machine.	Verify the host ID. On Linux, use lmutil lmhostid, and on Windows, use LMTOOLS. If the host ID does not match the host ID in the license file, contact Mentor to acquire a new license file.
The hardware key driver is not installed or the key is not plugged in.	Install the hardware key driver and make sure the key is plugged in.

Table 4-9. Causes and Solutions (cont.)

Cause	Solution

A file descriptor issue occurred. After the file descriptor error message, the server debug log file reports the following:
`7:01:14 (mgcld) Wrong hostid on SERVER line for license file:`
`7:01:14 (mgcld) SERVER line says 0019b949c1fc, hostid is (Can't get hostid of type 2 [])`
	Do one of the following:
	• Increase the file descriptor limit for the user account that runs the license server processes.
	• Request to have your licenses split, and host some of your licenses on a second license server to reduce the load.

Related Topics

lmhostid

LMTOOLS

Inconsistent Encryption Code

The encryption code in the license file is incorrect.

Solution

Table 4-10. Causes and Solutions

Cause	Solution
A non-editable field in the license file was modified.	Do not modify any host ID fields or INCREMENT lines in the license file. You can download a valid copy of your license file from Account Center.
The license file was generated incorrectly.	Contact Mentor.
The license file has too many SERVER lines.	Make sure that your license file only includes licenses for this server and does not contain unintended SERVER lines.

Related Topics

License File Format

License Server Does Not Support This Feature

UNSUPPORTED message appears in the server debug log file along with the message “License Server does not support this feature.”

Note

This message may be a hard-coded license check for the application. If the application does not show a problem, you can ignore the message.

Causes

A client application requests a license, incorrectly assuming the server has the license.

The MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable is set to a license file that is different from the license file the server is using.

Solution

Set the MGLS_LICENSE_FILE or LM_LICENSE_FILE environment variable to *port@host*.

Related Topics

MGLS_LICENSE_FILE

LM_LICENSE_FILE

(Linux only) License Server Does Not Respond and Complains About File Descriptors

The license server crashes, hangs, or stops serving licenses and complains about file descriptors.

The server debug log file reports the following (or a variation):

```
7:02:11 (mgcld) This license server system can handle no more
7:02:11 (mgcld) concurrent clients since it is out of file descriptors.
```

Causes

The license server has run out of system resources.

Solution

Use the ulimit command to display and increase the number of available file descriptors in the license server environment.

Unable to Find File When Starting a License Server

When starting a license server, the server debug log file reports “File not found.”

Causes

The path to mgcld is incorrect.

Solution

Edit the DAEMON line in the license file to point to the correct mgcld path.

Related Topics

License File Format

Contact Mentor Support

If you still need help solving your licensing problem, other resources are available.

If your site is currently under support, you can search technical solutions on Support Center or open a Service Request online at https://support.mentor.com/en/service-request/open.

If your site is under a current support contract, but you do not have a Support Center login, register today at https://support.mentor.com/register.

For online licensing support, access the Request Help page on Account Center.

Appendix A
Utilities for Licensing

Mentor and FlexNet licensing utilities provide the ability to manage your licenses and license servers.

Syntax Conventions

The Syntax section of each utility's command description uses conventions that help clarify the command's usage.

Table A-1. Conventions for Command-Line Syntax

Convention	Example	Usage
Regular font	lmdown -all	Standard text indicates a literal command or argument that you enter.
Boldface	mgls_ok ***feature_name***	Indicates a required argument.
Italic	-vendor *vendor_daemon*	Indicates a user-supplied argument.
[ ]	lmdown [-force]	Brackets enclose optional arguments. Do not enter the brackets.
{ }	lmreread [-c {*license_file* | *port@host*}]	Braces enclose arguments to show grouping. Do not enter the braces.

Table A-1. Conventions for Command-Line Syntax (cont.)

Convention	Example	Usage
|	lmstat [-c {*license_file* | *port@host*}]	The vertical bar indicates an either/or choice between items. Do not include the bar in the command.

Utilities

Mentor provides command-line and graphical user interface (GUI) utilities for Linux and Windows systems.

This section provides, in alphabetical order, reference information for Mentor and *some* FlexNet command-line and GUI licensing utilities. The beginning of each utility description shows the applicable operating system.

On Linux, find the Mentor commands in the *.../mgls/bin* directory in the application tree or in the *mgls_<version>.<vco>/bin* directory in the licensing tree. For example: */usr1/mgls_v9-13_5-2-0.aol/bin*.

On Windows, access the GUI utilities through the **Start** menu, and find the command-line utilities in the *C:\MentorGraphics\Licensing* directory.

For detailed information about the FlexNet Licensing utilities, refer to the *FlexNet Publisher License Administration Guide* published by Flexera Software.

Note

Mentor Standard Licensing currently does not support the lmadmin command. Use the commands listed in this appendix to manage your license server, and disregard the lmadmin documentation in the *FlexNet Publisher License Administration Guide*.

Table A-2. Utility Summary

Utility	Description
lmdown	(FlexNet) Shuts down selected license daemons on all systems in the license file list. This is useful when you need to make changes or updates to the licensing software.
lmgrd	(FlexNet) Starts a license server. lmgrd is the main license daemon program for FlexNet Licensing and handles requests from the end user's applications.
lmhostid	(FlexNet) Reports the host identification (host ID) number of a system.
lmreread	(FlexNet) Tells the license daemon to reread the license file and start any new vendor daemons that have been added. This command is useful for adding new licenses or for picking up simple changes to the options file such as defining a new LM_PROJECT.
lmstat	(FlexNet) Reports the status of all network licensing activities, including license files, daemons that are running, users of individual features, and users of features served by a specific vendor daemon.

Table A-2. Utility Summary (cont.)

Utility	Description
LMTOOLS	(FlexNet) Starts, stops, and configures FlexNet license servers; retrieves system information, including host IDs; and obtains server status. While LMTOOLS performs other functions, these are the most commonly used.
mgls_admin	(MGLS) Displays version information for the MGLS environment.
mgls_ok	(MGLS/PCLS) Checks out and checks in a specified feature and reports success or failure.
pcls_ok	(PCLS) Checks out and checks in a specified license and reports any problems. This application, which is useful for verifying the license file, reports the version of the licensing software and displays the environment and registry settings for MGLS_LICENSE_FILE and LM_LICENSE_FILE and for the default location *C:\flexlm\license.dat*.
pkgmap	(PCLS) Displays Mentor feature information for a specified product.

lmdown

OS: Linux, Windows

(FlexNet) Shuts down selected license daemons on all systems in the license file list. This is useful when you need to make changes or updates to the licensing software.

Caution

Using the lmdown command shuts down the specified license server and causes users to lose their licenses.

Syntax

lmutil lmdown [-c {*license_file* | *port@host*}] [-vendor *vendor_daemon*] [-q] [-all] [-force] [-help]

Arguments

- -c {*license_file* | *port@host*}

  Uses the specified license file, which is the full path to the license file, or uses the specified license server port (*port@host*). We recommend that you always specify the -c switch. If you specify more than one component, you must separate each with a colon in Linux or a semicolon in Windows.

- -vendor [*vendor_daemon*]

  Shuts down only the specified vendor daemon. The lmgrd daemon continues running.

- -q

  Prevents issuing a prompt or printing a header.

- -all

  Shuts down all servers if multiple servers are specified. The -q argument is implied with -all.

- -force

  If licenses are borrowed, restricts lmdown to run only from the system where the license server is running.

  Note

  Mentor's implementation of FlexNet does not support license borrowing.

- -help

  Displays usage information and exits.

Description

The lmdown command sends a message to every license daemon the LM_LICENSE_FILE environment variable points to requesting them to shut down. The license daemons write their last messages to the log file, close the file, and exit. All licenses that the daemons dispensed are

rescinded. Therefore, the next time a client program attempts to verify the license, the license will not be valid.

Note

Mentor recommends that you use lmdown or LMTOOLS to stop a license server. However, if lmgrd or mgcld fails to exit, use the kill -9 command on Linux systems or use the Task Manager to kill the processes on Windows systems.

You can use the lmdown command to shut down license servers configured for three-server redundancy. The servers shut down after a one-minute delay. To shut down only one of these license servers, you must shut down both the lmgrd and vendor daemon processes on that license server.

Examples

The following example uses the *license.txt* license file to shut down the license daemons.

lmutil lmdown -c license.txt

```
lmdown - Copyright (c) 1989-2013 by Flexera Software LLC.  All Rights
Reserved.

       Port@Host    Vendors
       1) 1700@mgcsrvr mgcld

       Are you sure (y/n)? y
       1 FLEXnet License Server shut down
```

Related Topics

LMTOOLS

lmgrd

OS: Linux, Windows

(FlexNet) Starts a license server. lmgrd is the main license daemon program for FlexNet Licensing and handles requests from the end user's applications.

Syntax

lmgrd [-c *license_file*] [-l [+] *debug_log_path*] [-2 -p] [-local] [-x lmdown] [-x lmremove] [-z] [-v] [-help]

Arguments

- -c *license_file*

  Uses the specified license file, which is the full path to the license file. If you specify more than one license file, you must separate each with a colon in Linux or a semicolon in Windows.

- -l [+] *debug_log_path*

  Writes debugging information to the specified server debug log file. This option uses the letter l. The *debug_log_path* is the full path to the server debug log file. To append the logging entries, prepend the *debug_log_path* with a plus (+) sign.

- -2 -p

  Allows only a FlexNet Licensing administrator who is root by default to use the lmdown, lmread, or lmremove commands. If a privilege group called lmadmin exists, only members of that group can use the commands. The user root must be a member of the lmadmin group to use the commands. Using this option prevents non-privileged users from shutting down the license server with the lmdown command.

Note

We recommend that you do not run license servers as "root."

- -local

  Restricts lmdown to run from the same system as lmgrd.

- -x lmdown

  Disables the lmdown command. If lmdown is disabled, you must stop lmgrd by issuing the **kill** *pid* command on Linux or by pressing Ctrl-Alt-Del on Windows. You also must stop the lmgrd and vendor daemon processes. On Linux, do not use the -9 option with the kill command.

- -x lmremove

  Disables the lmremove command.

- -z

  (Windows only.) Runs lmgrd in the foreground. The machine displays separate windows for lmgrd and each vendor daemon. If you use the -l *debug_log_path* option, no windows are used.

- -v

  Prints lmgrd's version number and copyright and then exits.

- -help

  Displays usage information and exits.

Description

The lmgrd command searches for a license file that contains information about vendors and features and starts a license server. We recommend that you do not run license servers as root.

Examples

The following example uses the *license.txt* license file to start the license server and writes the debugging information to the *debug.log* file.

```
lmgrd -c license.txt -l debug.log
```

Related Topics

lmdown

lmhostid

OS: Linux, Windows

(FlexNet) Reports the host identification (host ID) number of a system.

Syntax

lmutil lmhostid [-n] [*type*] [-utf8]

Arguments

- -n

  Returns as a string only the host ID itself, which is appropriate to use with HOSTID= in the license file. The switch suppresses the header text.

- *type*

  Specifies the host ID type. The default is the host ID for the current platform.

  Valid host ID types are the following:

  - -ether — Ethernet address.
  - -flexid — Parallel or USB FLEXid hardware key identification. This applies only to platforms that support FLEXid hardware keys.

- -utf8

  Returns the host ID as a UTF-8 encoded string rather than as an ASCII string. Use this option if your host ID contains characters other than ASCII A through Z, a through z, or 0 through 9. To view a correct representation of the resulting host ID, use a text editor program that can display UTF-8 encoded strings.

Examples

The following requests the host identification number of the system and shows an example of the type of output you receive.

lmutil lmhostid

```
lmutil - Copyright (c) 1989-2018 Flexera. All Rights Reserved.
The FlexNet host ID of this machine is "0020afe6112a"
```

lmreread

OS: Linux, Windows

(FlexNet) Tells the license daemon to reread the license file and start any new vendor daemons that have been added. This command is useful for adding new licenses or for picking up simple changes to the options file such as defining a new LM_PROJECT.

Caution

If you replace the license file or make changes to the options file that involve restricting access to licenses, we recommend that you use the lmdown command and then restart the license server instead of using the lmreread command. Scheduling a restart helps mitigate problems that may result when you remove access for a user or host that already has the license checked out.

Syntax

lmutil lmreread [-c {*license_file* | *port@host*}] [-vendor *vendor*] [-all]

Arguments

- -c {*license_file* | *port@host*}

  Uses the specified license file, which is the full path to the license file, or uses the license server port (*port@host*). If you specify more than one component, you must separate each with a colon in Linux or a semicolon in Windows.

- -vendor *vendor*

  Specifies only one specific vendor daemon to reread the license file. Use the lmgrd command to restart the vendor daemon, if necessary.

- -all

  Instructs all instances of lmgrd to reread the license file if more than one lmgrd is specified.

Description

The lmreread command enables the system manager to tell the license daemon to reread the license file. If data in the license file has changed, the new data can be loaded into the license daemon without its needing to be shut down and restarted.

The license daemon always rereads the original loaded file. If you need to change the path to the license file, you must shut down and then restart the daemon with the new license file path.

You cannot use lmreread if the server name or port numbers have been changed in the license file. For these changes to take effect, you must shut down and restart the daemon.

If you specify a vendor daemon name, only that vendor's licenses and options file are reread.

Examples

The following example tells the license daemon to reread the *license.txt* license file and shows an example of the command results.

lmutil lmreread -c license.txt

```
lmutil lmreread - Copyright (c) 1989-2013 by Flexera Software LLC. All
Rights Reserved.
lmreread successful
```

Related Topics

lmgrd

lmdown

lmstat

OS: Linux, Windows

(FlexNet) Reports the status of all network licensing activities, including license files, daemons that are running, users of individual features, and users of features served by a specific vendor daemon.

Syntax

lmutil lmstat [-a] [-c {*license_file* | *port@host*}] [-f [*feature_name*]] [-i [*feature_name*]] [-S [*DAEMON*]] [-s [*server_name*]] [-t *timeout_value*] [-v] [-help]

Arguments

- -a

  Displays all information.

- -c {*license_file* | *port@host*}

  Uses the specified license file, which is the full path to the license file, or uses the license server port (*port@host*). If you specify more than one component, you must separate each with a colon in Linux or a semicolon in Windows.

- -f [*feature_name*]

  Displays all users of the specified feature. If you do not specify a feature, the command displays all usage information for all features.

- -i [*feature_name*]

  Displays information from the INCREMENT line for the specified feature. If you do not specify a feature, the command displays information for all features.

- -S [*DAEMON*]

  Lists all users of the specified daemon's features. If you do not specify a daemon, the command lists all users of all daemon's features.

- -s [*server_name*]

  Displays the status of all license files on the specified server. If you do not specify a server name, the command displays this status for all servers.

- -t *timeout_value*

  Sets the connection timeout to the specified value. This limits the amount of time lmstat spends attempting to connect to the specified server(s).

- -v

  Displays the FLEXlm version, revision, and patch.

- -help

  Displays the usage information.

Description

The lmstat command provides information about the status of server systems, vendor daemons, or features and displays information received from the license server. The lmstat command does not provide information about the following:

- Unserved licenses
- Queued users
- Licenses shared due to duplicate grouping

To report on an uncounted license, the license must be added to a served license file and the application must be directed to use the license server for that license file (via *@host*, *port@host* or USE_SERVER).

Examples

The following example shows the results of using lmstat without any arguments; the system returns only the status and version information.

lmutil lmstat

```
lmstat - Copyright (c) 1989-2013 by Flexera Software LLC. All Rights
Reserved.
Flexible License Manager status on Fri 06/05/2015 10:39
License server status: 1700@mgcsrvr
    License file(s) on mgcsrvr: /usr1/mgc/mgc.licenses:

mgcsrvr: license server UP (MASTER) v11.11
Vendor daemon status (on mgcsrvr):
    mgcld: UP v11.11
```

The following example shows the results of using lmstat to request a list of all users of the calibredrc feature.

lmutil lmstat -f calibredrc

```
lmstat - Copyright (c) 1989-2013 by Flexera Software LLC. All Rights
Reserved.
Flexible License Manager status on Fri 06/05/2015 10:42
Users of calibredrc: (Total of 2 licenses issued; Total of 1 license in
use)
   "calibredrc" v2014.08, vendor: mgcld
   floating license
      macd myhost myhost (v2014.08) (mgcsrvr/1700 102), start Fri 06/05
10:42
```

The following example shows the results of using lmstat to request the status of all network licensing activities.

Caution

Be aware that **lmstat -a** generates a large amount of network activity.

lmutil lmstat -a

```
lmstat - Copyright (c) 1989-2013 by Flexera Software LLC. All Rights
Reserved.
Flexible License Manager status on Fri 06/05/2015 10:45
License server status: 1700@mgcsrvr
   License file(s) on mgcsrvr: /usr1/mgc/mgc.licenses:
mgcsrvr: license server UP (MASTER) v11.11
Vendor daemon status (on mgcsrvr):
   mgcld: UP v11.11
Feature usage info:
Users of calibredrc: (Total of 2 licenses issued; Total of 1 license in
use)
   "calibredrc" v2014.08, vendor: mgcld
   floating license
      macd myhost myhost (v2014.08) (mgcsrvr/1700 102), start Fri 06/05
10:42
Users of msimhdlmix: (Total of 2 licenses issued; Total of 0 licenses in
use)
```

LMTOOLS

OS: Windows

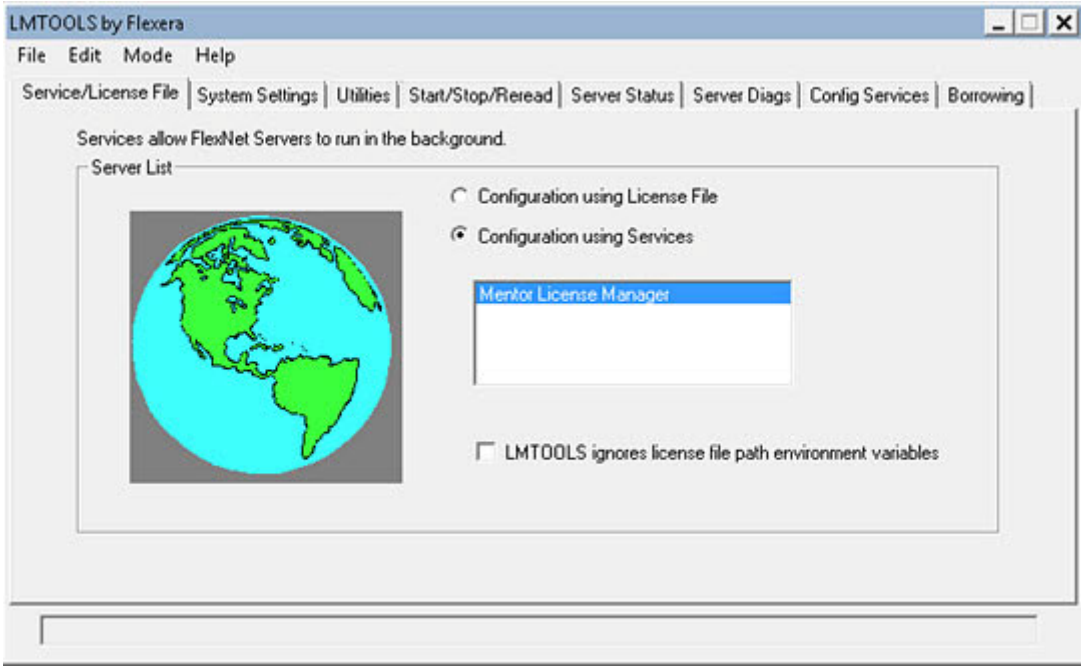
To access: From the **Start** menu, choose **Mentor Licensing > lmtools**

(FlexNet) Starts, stops, and configures FlexNet license servers; retrieves system information, including host IDs; and obtains server status. While LMTOOLS performs other functions, these are the most commonly used.

Description

LMTOOLS opens in the **Service/License File** tab. Select the "Configuration using Services" option.

Figure A-1. LMTOOLS — Service/License File Tab



This section describes the most commonly used tabs:

- System Settings tab
- Start/Stop/Reread tab
- Config Services tab

Note

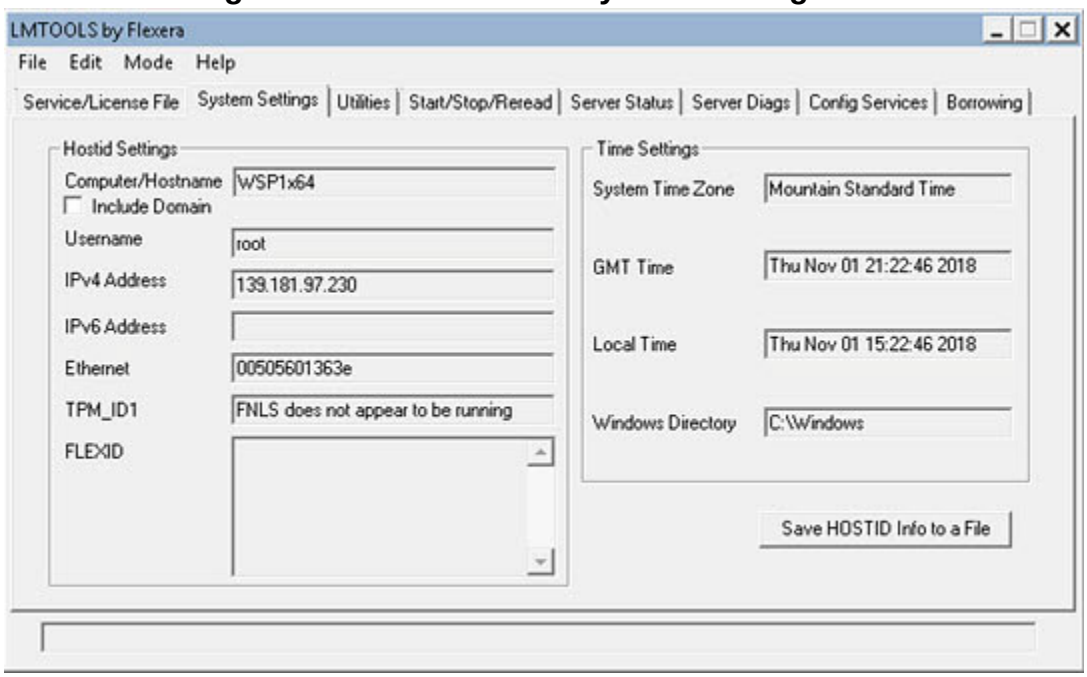
For a complete description of the LMTOOLS functionality, refer to the *FlexNet Publisher License Administration Guide*.

Objects

- **System Settings** tab

  Displays host ID and time settings for the current machine. This information is useful for obtaining host information, including the host id that licensing uses.

Figure A-2. LMTOOLS — System Settings Tab

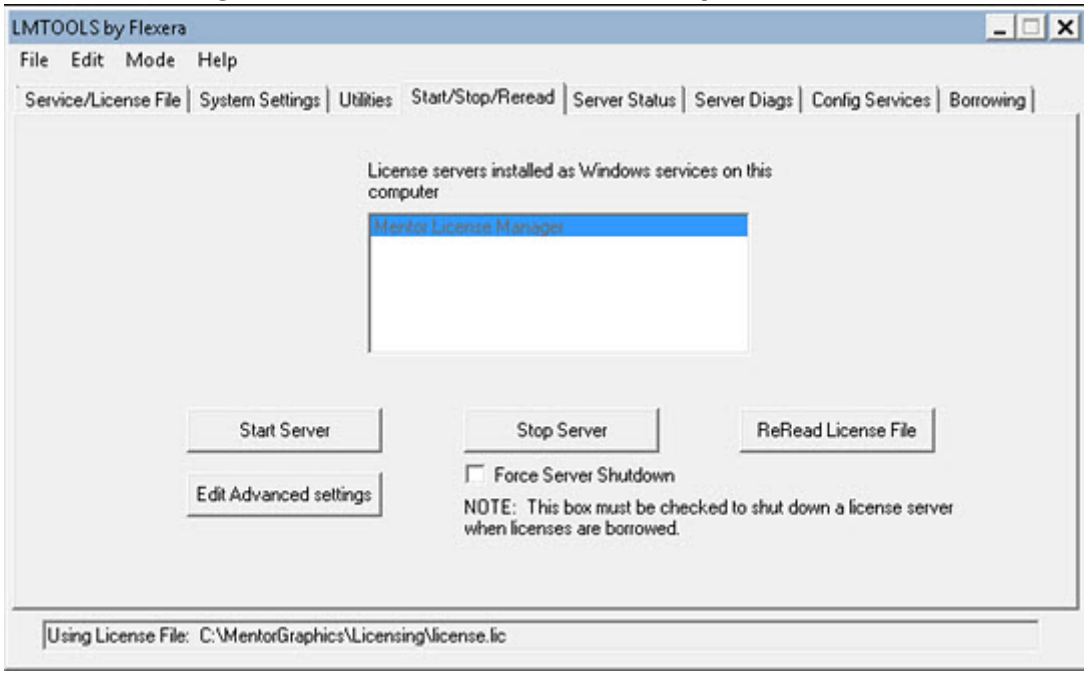


To save the information that appears in this tab, click the **Save HOSTID Info to a File** button and type a path and filename.

- **Start/Stop/Reread** tab

  Enables you to start or stop the server, or reread the license file.

Figure A-3. LMTOOLS — Start/Stop/Reread Tab



If you are adding new licenses or picking up simple changes to the options file such as defining a new LM_PROJECT, we recommend that you use the **ReRead License File** button. If you are replacing complete license files or making changes to the options file that involve restricting access to licenses, we recommend that you use the **Stop Server** and **Start Server** buttons. In the latter case, make sure you schedule the stop and start to mitigate any problems that could result if a user or host already has the license checked out.

- **Config Services** tab

  Configures lmgrd as a Windows service, which starts the license server automatically when you reboot your machine. You must have administrator privileges.

Figure A-4. LMTOOLS — Config ServicesTab

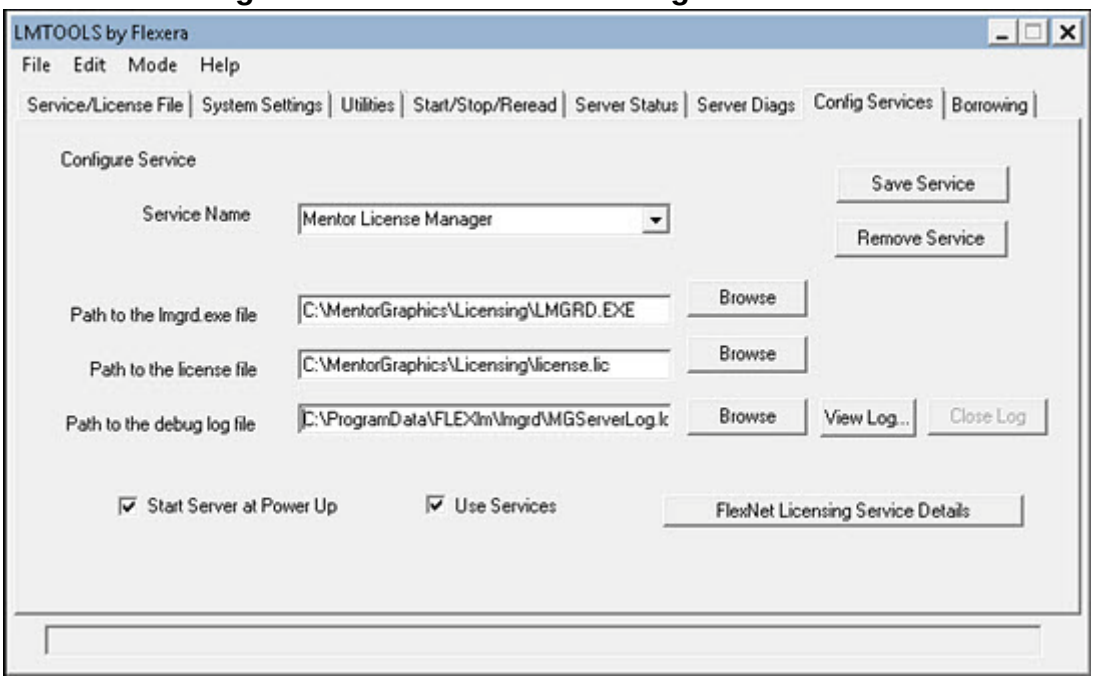


Table A-3. LMTOOLS — Config Services Tab Contents

Object	Description
Service Name field	Specifies the name of the service you want to define. The default name is FlexNet Publisher Service.
Path to the lmgrd.exe file field	Specifies the path and filename of the *lmgrd.exe* for this license server.
Path to the license file field	Specifies the path and filename of the license file for this license server.
Path to debug log file field	Specifies the path and filename of the server debug log file that this license server writes.
View Log button	Displays the server debug log file. On Windows, this is the only way you can view the log file.
Save Service button	Saves the new Windows service you just created.
Remove Service button	Removes the Windows service that is in the Service Name field. Click the down arrow in the Service Name field to select a different service.

Table A-3. LMTOOLS — Config Services Tab Contents (cont.)

Object	Description
Start Server at Power Up check box	Configures the license manager to start automatically as a Windows service at system reboot. This option is selectable only when you enable the Use Services option.
Use Services check box	Makes the license manager a Windows service.
FlexNet Licensing Service Details button	Not applicable to Mentor licensing.

Related Topics

lmdown

lmhostid

lmreread

lmstat

mgls_admin

OS: Linux

(MGLS) Displays version information for the MGLS environment.

Note

To run mgls_admin, you must set MGLS_HOME to the *mgls* directory containing *bin*, *lib*, and *etc* subdirectories.

Syntax

mgls_admin [-v] [-pi *product_name*] [-help]

Arguments

- -v

  Displays version information for the MGLS environment.

- -pi *product_name*

  Displays the Mentor packaging information for the specified product. If *product_name* is an atomic feature name, mgls_admin lists the composites that contain the atomic. If *product_name* is a composite feature, mgls_admin lists the atomics in that composite.

- -help

  Provides additional information about the mgls_admin command. You can also use the shortened form of this switch, -h.

Examples

The following example shows version information for the MGLS environment.

mgls_admin -v

```
mgls_admin: 9.13_3.2 Thu May 21 09:12:01 PDT 2015
mgls_admin: package information version v3.1_2.1v, written Wed May 20
17:01:10 2015
mgls_admin: mgls child version release: v2015_1 version: v9.13_3.2
```

mgls_ok

OS: Linux, Windows

(MGLS/PCLS) Checks out and checks in a specified feature and reports success or failure.

Note

Linux only: To run mgls_ok, you must set MGLS_HOME to the *mgls* directory containing the *bin*, *lib*, and *etc* subdirectories. Find the *mgls* directory in your application tree or in your licensing software location (for example: */usr1/mgls_v9-13_5-2-0.aol*) and set MGLS_HOME to that location.

Syntax

mgls_ok [-v] [-silent] [-h] [-pd *product_date*] ***feature_name***

Arguments

- -v

  Displays the mgls_ok version.

- -silent

  Specifies to not display the results.

- -h

  Displays help text for mgls_ok.

- -pd *product_date*

  Requests a license that has the specified product date (*yyyy.mm*).

- ***feature_name***

  Specifies the name of the feature you want to check out and in. This is a required argument.

Examples

The following example successfully checks out the feature named msimhdlsim.

mgls_ok msimhdlsim

```
checking availability of "msimhdlsim"
license granted through "msimhdlsim"
```

Note

PCLS includes a Win64 version of *mgls_ok.exe* named *mgls_ok64.exe*. You can run this binary only on Win64 machines.

pcls_ok

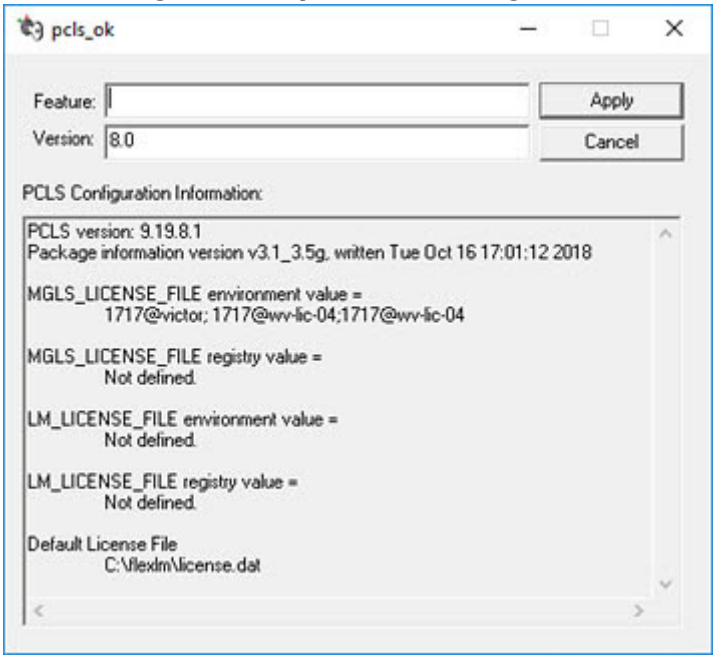
OS: Windows

To access: From the **Start** menu, choose **Mentor Licensing > pcls_ok**

(PCLS) Checks out and checks in a specified license and reports any problems. This application, which is useful for verifying the license file, reports the version of the licensing software and displays the environment and registry settings for MGLS_LICENSE_FILE and LM_LICENSE_FILE and for the default location *C:\flexlm\license.dat*.

Description

Figure A-5. pcls_ok Dialog Box



Fields

- Feature

  The name of the feature. This is the license name of the application you are trying to verify. In your license file, the feature name is to the right of the word INCREMENT.

- Version

  (Optional) The version number of the application you are trying to verify. For more information, see “Exact Access Date” in “License File Format” on page 10.

Usage Notes

The pcls_ok application attempts to check out and check back in the license you specify and generates a success or failure message. If you receive a success message, the licenses can be checked out successfully from that workstation. If the license checkout fails, a dialog appears that provides you with more information about the cause of the failure. In the Mentor Install

Program, use the **Manage Licensing > License Utilities** window and choose **Manual environment editor** to edit or rearrange your license environment settings.

Note

PCLS includes a Win64 version of *pcls_ok.exe* named *pcls_ok64.exe*. You can run this binary only on Win64 machines.

pkgmap

OS: Windows

(PCLS) Displays Mentor feature information for a specified product.

Syntax

pkgmap **-pi *feature*** [-p *path_to_mgc.pkginfo*]

Arguments

- **-pi *feature***

  Displays the Mentor packaging information for the specified product. If *feature* is an atomic feature name, pkgmap lists the composites that contain the atomic. If *feature* is a composite feature, pkgmap lists the atomics in that composite.

- -p *path_to_mgc.pkginfo*

  Specifies the location of the *mgc.pkginfo* file. The default search path is as follows:

Sequence	Search Path
1	Path from the command line
2	%MGLS_PKGINFO_FILE%
3	*%PCLS_HOME%\mgc.pkginfo*
4	Current directory
5	*%MGC_HOME%\lib\mgc.pkginfo*

Examples

The following example shows composite information for an atomic feature.

pkgmap -pi variantmgrpads

```
Package information version v3.1_3.5i, written Sat Nov 03 17:01:12 2018

pkgmap: variantmgrpads
 variantpgrpads is contained in the following composites...
  padses_c
  padsds_c
  padsbr_c
  exppe_c
  exppeat_c
  padspro_c
  padsstdplus_c
  padsams_c
  variantmgrpro_c
  padspropcb_c
```

The following example shows atomic information for a composite feature.

pkgmap -pi padsams_c

```
Package information version v3.1_3.5i, written Sat Nov 03 17:01:12 2018

pkgmap: composite padsms_c
padsams_c {
  dxdatabook
  dxpdf
  visualibis
  hyplsw
  hyplswxtk
  netlistflow
  variantmgrpads
  viewdraw040
  dxdblocal
  cespads
  lmpads
  padsprjint2
} padsams_c composite  ENDS
```

The following example shows composite information for an atomic feature in a specified *mgc.pkginfo* file.

pkgmap -p c:\MentorGraphics\Licensing\mgc.pkginfo -pi pdq

```
Package information version v3.1_3.5i, written Sat Nov 03 17:01:12 2018

pkgmap: pdq
 pdq is contained in the following composites...
  ttraces_c
  xtraces_c
  xtraces3d_c
  sclin0003ln_c
  bsdall_c
```

Note

PCLS includes a Win64 version of *pkgmap.exe* named *pkgmap64.exe*. You can run this binary only on Win64 machines.

Appendix B
Advanced Topics

You may have need to restrict or customize license usage, determine the order of license checkout, make accommodations so that your company's firewall does not interfere with licensing communications, or manually remove expired licenses from your license file.

Vendor Daemon Options File

Use the vendor daemon options file to restrict or customize license usage.

You can perform activities such as the following:

- Exclude an individual, group, or IP address range from using one particular INCREMENT line.
- Reserve an INCREMENT for an individual.

Note

You can enable simple changes to the options file, such as defining a new LM_PROJECT, with the lmutil lmreread command. However, if you make changes to the options file that involve restricting access to licenses, such as using RESERVE, you should shut down the license server with the lmutil lmdown command and then restart the license server. Scheduling a restart helps mitigate problems that may result when you remove access for a user or host that already has the license checked out.

The vendor daemon options file is a text file usually located in the same directory as your license file. This file contains FlexNet Licensing-specific options.

If you want to use the vendor daemon options file, type the pathname as the fourth field on a DAEMON line in your license file. Otherwise, omit the fourth field.

For descriptions of the keywords in the vendor daemon options file and the requirements for their use as well as options file examples, refer to the *FlexNet Publisher License Administration Guide* published by Flexera Software.

Related Topics

License File Format

lmreread

lmdown

License Ordering in a License File

The order of licenses in a license file can affect the order of license checkout.

For example, if Feature2 appears before Feature1 in the license file and both licenses can satisfy the license request, Feature2 would usually be checked out first, if available.

If multiple licenses are for the same feature name and each has different license attributes, the licensing software automatically sorts the licenses according to the following criteria:

- Node-locked before floating
- Earlier versions before later versions

You can override this order by adding the *sort=* attribute. For more information, refer to the *FlexNet Publisher License Administration Guide* published by Flexera Software.

Related Topics

License File Format

Firewall Considerations

Firewalls can interfere with licensing communication.

On Linux systems, we recommend that you specify a static port number for the mgcld vendor daemon. You can do this by specifying PORT=*keyword* on the DAEMON line in your license file. For example:

```
DAEMON mgcld /opt/mgls/bin/mgcld PORT=4000
```

After you set the mgcld to run on a specific port, open that port on your firewall. For instructions on opening ports, refer to your firewall documentation.

On Windows systems, we recommend that you make exceptions for the licensing processes *lmgrd.exe* and *mgcld.exe* as well as any other vendor daemons that might be running. To make exceptions to processes, consult your Network Administrator.

Removing Expired Licenses From Your License File

If you replace your license file with a renewed license file, you may need to manually edit the file to remove expired or soon-to-expire licenses.

This avoids receiving warning messages about expired licenses. Also, some applications error out if they detect expired licenses.

Procedure

1. Open your license file in a text editor.
2. Either select and delete the expired or soon-to-expire INCREMENT lines or comment them out with the pound sign (#).

   For example:

```
SERVER server1 abcd1234abcd 1717
DAEMON mgcld C:\MentorGraphics\Licensing\mgcld
#INCREMENT padses_c mgcld 2014.090 2-oct-2014 5 7E87F1468739DBB03968 \
#    VENDOR_STRING=A651CC29 SN=50387478 SIGN2="1FA7 FB2E 8DD6 B287 C11A \
#    2E21 1A99 B3C5 9A71 61F0 7C26 FC88 79BC E952 09CC 0248 CB29 0DE0 C288 \
#    B47D BBF7 5CC6 6A23 2F9C 691B DEE0 3DE6 8830 595E D6CB"
INCREMENT padses_c mgcld 2015.090 3-oct-2016 5 FE27C1D70CBBBE7903DE \
    VENDOR_STRING=6CD68B71 SN=50401278 SIGN2="1021 98B8 46A0 E391 CEB1 \
    AF07 873B 30ED 4D02 3B98 D5B3 4817 253A 1B40 BE50 03B3 8DB7 3CA0 5779 \
    8B4D 787C 7F9D 8D7B 8D54 46D7 6F1A 6416 59EC 222B 8D99"
```

3. Save your license file.
4. If you are using a mobile compute license, restart your application. If you are running a license server, use the lmutil lmreread command.

Related Topics

License File Format

lmreread

Glossary

atomic license
A type of license that authorizes the use of a single function or a single application. A composite license contains atomic licenses.

authorization code
The license that enables the Mentor software and related documentation for a certain period of time. *See also* INCREMENT line

client
The host requesting a license from a server.

cluster servers
see redundant servers

composite license
A type of license that groups atomic licenses and usually ends in either an "_c" or "_s" suffix. A composite license typically authorizes a set of functionality within an application or across multiple applications.

counted (served) license
A license configuration that uses a license manager. Counted licenses can be floating, where they can be checked out from any host on the network, or they can be node-locked, where they are generated for use by a specific computer. The server can be either redundant or independent.

Exact Access Date
The date encoded in an INCREMENT line. Allows access to software updates for existing licensed software released prior to a support contract expiration date.

feature name
The name of the license that the application checks out at runtime. The feature name is a field on the INCREMENT line in a license file. Feature names are either composite or atomic licenses.

Flexera
The software company that produces FlexNet Licensing.

FlexNet Licensing
The license manager that Flexera Software provides. The Mentor licensing software uses FlexNet Licensing as the basis for the licensing system.

floating license
A type of license that any workstation can check out.

hardware key/dongle
A device that plugs into a USB port and provides a unique host ID for the licensing system (Windows only).

host ID
A unique hardware-based number for each machine. The host ID ties licenses to a specified server or workstation.

INCREMENT line
The actual license that enables a product in the license file. The INCREMENT line includes fields that provide license feature information. *See also* authorization code

independent server
A type of server that contains a unique set of license data. If an independent server is off the network, all licenses associated with the server are unavailable.

license manager daemon
A generic term for one of two processes that runs on a license server and waits for requests from client applications. Mentor licensing includes two daemons: lmgrd and mgcld.

license file
A text file that contains the customer site identification, license server and daemon information, and one or more INCREMENT line, which is the actual license for the supported products.

license manager
see license server

license server
A workstation that runs the license daemons and provides licenses to client workstations.

lmgrd
The FlexNet license manager daemon.

mgcld
The Mentor vendor daemon and a child of the lmgrd parent. The lmgrd and mgcld daemons run the license server and handle requests from the end-user's applications.

mgc.pkginfo
The file that defines the mapping between atomic licenses and composite licenses. This mapping is what creates bundles of license features in the form of a composite license that can be checked out as a complete set of product functionality. For added detail, set the MGLS_DEBUG_LOG_DIR environment variable.

MGLS
Mentor licensing system. This software contains the lmgrd, mgcld, and other utilities and programs to assist the system administrator with the license server setup.

mobile compute license
see node-locked uncounted license

node-locked license

A type of license that is tied to a particular system.

node-locked uncounted license

A type of license (Windows only) that is locked to a hardware key or Ethernet address of a workstation. This type of license, sometimes referred to as a mobile compute license, does not require a license server or network connection.

PCLS

PC licensing system, which is essentially MGLS on Windows.

redundant servers

Types of servers that are configured in a group of three license servers that contain the same license data. Redundant servers, also called cluster or triad servers, enable access to all licenses on the servers as long as at least two of the three servers are operational.

server ID

The host ID of the license server machine.

triad servers

see redundant servers

vendor daemon

The daemon that dispenses licenses for the requested feature. The Mentor vendor daemon is mgcld.

Third-Party Information

Open source and third-party software may be included in the Mentor Graphics Licensing product.

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