



Managing Mentor Graphics Systems Software

LP Wizard 10.5: Installation and Licensing

August 2012

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Table of Contents

Chapter 1	
Licensing	5
Types of Licenses Available	6
Configuring Licensing on Windows	8
Determining What Kind of Licenses You Need	8
Installing Mobile Compute Licenses	11
Installing Floating and Nodelocked Counted Licenses on Windows	19
Chapter 2	
Installing Mentor Graphics Software	29
Before You Begin Installation	29
Downloading Software on Windows Platforms	30
Installing on Windows	31
Installing Other Products After Initial Installation	32
Selecting an Alternate Location for the Install Program	32
Uninstalling Products	33
Chapter 3	
Managing Environment Settings	35
Setting Environment Variables	35
Setting MGLS_LICENSE_FILE	35
Chapter 4	
Troubleshooting	37
Hardware and Operating System Requirements	37
Mentor Graphics SupportNet	37
Troubleshooting Common Errors	38
Troubleshooting Common Problems	39
Troubleshooting X	40
Index	
End-User License Agreement	

Note



Mentor Graphics recommends installing licensing before installing application software.

This chapter contains the following sections:

Types of Licenses Available	6
Configuring Licensing on Windows.....	8
Determining What Kind of Licenses You Need.....	8
Installing Mobile Compute Licenses	11
Installing Floating and Nodelocked Counted Licenses on Windows.....	19

Mentor Graphics software uses the Mentor Graphics licensing system to administer software licenses. This software is based on FlexNet™ licensing and uses the FlexNet license file format. If your network already contains software from other vendors that are licensed using FlexNet, you can integrate Mentor Graphics licenses into your current licensing strategy.

The software and related documentation, which is enabled by the authorization code(s) and licensed to you for the period set forth in the authorization code(s), is subject to license restrictions.

Installation of the authorization code(s) and use of the enabled software, indicates your complete and unconditional acceptance of the terms and conditions set forth in the License Agreement between you and Mentor Graphics Corporation.

If you do not have a signed agreement with Mentor Graphics Corporation, the terms of our standard End User License Agreement apply. You can view the agreement at the end of this manual.

For more detailed information about FlexNet, refer to the *License Administration Guide*. This manual is available in PDF format as part of the documentation set shipped on the application DVD or you can view it on SupportNet:

<http://supportnet.mentor.com/>

For more detailed information about planning for licensing, customizing licensing, and other basic licensing administration activities, refer to the *Licensing Mentor Graphics Software* manual available in the release_documents directory on the DVD or from SupportNet.

Types of Licenses Available

Note



Mentor Graphics issues Authorization Code Files that are referred to here as license files.

Mentor Graphics sells the following kinds of Windows systems licenses:

- Floating Licenses
- Nodelocked Counted Licenses
- Mobile Compute (nodelocked uncounted) Licenses

Floating licenses

Floating licenses can be issued for Windows systems.

- Can be used by any user on a network.
- Allow sharing of licenses among users, and are tied to a server hostid provided by an Ethernet card, or FlexNet hardware key.
- In order for the floating licenses to work, the licenses must be served from the computer whose hostid matches that listed on the server line in the license file.
- The license file contains both a SERVER and a DAEMON line and the quantity on each INCREMENT line is greater than zero (0).
- A license server is required. The license server tracks how many licenses are available and how many are currently in use. Optionally, license servers can be configured to allow access to only certain groups or individuals (via the Options file).
- These licenses are available on Windows.

Below is an example of a Floating license:

```
SERVER put_server_name_here 016E47093DBB 1717
DAEMON mgcld path_to_mgcld
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 1 AF3E21750551F8EBDD80 \
VENDOR_STRING=5ED6BC09 SN=9898977 SIGN2="1EA7 4E1D \
FB97 D3EE 8275 71E2 6925 5584 5A96 92FF CB3F 3B62 3169 A9EF 8C84 03A9 \
4A28 287E 35ED 8EF1 E021 539C D0B7 BEDA 572A 5C99 3B87 5A25 BB98 1F9C"
```

Installation of floating licenses is described in [“Installing Floating and Nodelocked Counted Licenses on Windows”](#) on page 19

Nodelocked counted licenses

Nodelocked counted licenses can be issued for Windows systems.

- Are locked to a specific piece of hardware, either an Ethernet card or a hardware key.
- These devices provide a unique identifier for the license.
- The software runs only on the system that has that particular piece of hardware installed.
- In order for the nodelocked counted licenses to work, the licenses must be served from the computer whose hostid matches that listed on the server line in the license file.
- The license file contains both a SERVER and a DAEMON line and the quantity on each INCREMENT line is greater than zero (0).
- A license server is required. The license server tracks how many licenses are available and how many are currently in use. Optionally, license servers can be configured to allow access to only certain groups or individuals (via the Options file).
- Note that the way you can differentiate between floating and nodelocked counted is that nodelocked counted licenses also have a HOSTID field on each INCREMENT line.
- These licenses are available on Windows.

Below is an example of a Nodelocked counted license:

```
SERVER put_server_name_here 00AE4701ED4A 1717
DAEMON mgcld path_to_mgcld
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 1 682D2158600DF8EBDDE1 \
VENDOR_STRING=4636BC99 HOSTID=FLEXID=6-a4833590 SN=9898970 SIGN2="01B7 \
671B 9016 B850 460F 9A92 9BA6 29C2 7769 F3FD 6E55 890B D84E 1C2C 5071 \
171824 97 A2D7 A83D E1BE C3FA C2EB 1A15 1001 A28B 35AD B6C7 D0ED 124B \
F394"
```

Installation of nodelocked counted licenses is described in [“Installing Floating and Nodelocked Counted Licenses on Windows”](#) on page 19

Mobile Compute (nodelocked uncoun ted):

Mobile compute licenses are issued for Windows systems only.

- The license file contains no SERVER or DAEMON lines and the quantity on each INCREMENT line is zero (0). Note that zero does not mean that there are no licenses available; it is simply the identifier of this special kind of license.
- A license server is not required.
- These licenses are locked to a particular piece of hardware (ethernet address or FLEXID hardware key) and the hardware needs to be installed and working for the licenses to work.

Below is an example of a mobile compute license:

```
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 0 5803F1652ED732F69572 \
VENDOR_STRING=38061DE1 HOSTID=FLEXID=9-a619e532 SN=9898968 SIGN2="1F72 \
6B7A C2FF 1777 8DBC B3FF 5C88 D64A B21A A4CB 3EA4 5C70 4D01 19AF 8187 \
0B56 2C9C 3C5E BC59 F5EA BCDC 6FC0 642A 6E56 9FAC 42A6 FABE 5FCC 39E7 \
C1CC"
```

Installation of mobile compute licenses is described in [“Installing Mobile Compute Licenses”](#) on page 11.

Configuring Licensing on Windows

This section applies to Windows-based workstations and servers.

Note



You must use an account with administrator privileges to install PCLS.

Note



You must install the licensing software on each machine that will run a license server.

This section explains how to setup and use mobile compute, floating and nodelocked counted licenses. It covers:

- [“Determining What Kind of Licenses You Need”](#) on page 8
- [“Installing Mobile Compute Licenses”](#) on page 11
- [“Installing Floating and Nodelocked Counted Licenses on Windows”](#) on page 19

Determining What Kind of Licenses You Need

Note



Mentor Graphics issues Authorization Code Files that are referred to here as license files.

Mentor Graphics provides three different types of licenses for products running in the Windows environment.

- Floating licenses require a license server in operation somewhere on the network.
- Nodelocked counted licenses require a license server.

- Mobile compute (nodelocked uncounted) licenses are issued to a specific workstation and require no server.

This section explains how to set up and use these types of licenses. All three require that you create a license file. An environment variable, MGLS_LICENSE_FILE or LM_LICENSE_FILE, is required, but may be provided by a registry value.

Floating Licenses (Server Required)

Requirements:

- You must log on with administrator privileges or contact the network administrator to install the PCLS software for you.
- Install licensing on the computer that will act as the license server for the application software. The computer does not have to be a network server. You do not need to install the application software on the license server.
- Make sure the computer you use for a license server has a static IP address on the network. MGLS does not support DHCP or dynamic IP addresses.
- Make sure the license server computer and the client computers support TCP/IP.

A license file requires a server if it contains lines that start with the words SERVER and DAEMON, and each INCREMENT line has a quantity greater than zero. These licenses are available on Windows. The licenses in the example below require a license server. In this example, the expiration date is 31-may-2012 and the quantity for each license is 4.

```
SERVER umbrella 00188BCCD07C 1717
DAEMON mgcld C:\MentorGraphics\Licensing\mgcld.exe
INCREMENT ces mgcld 2012.050 31-may-2012 4 5D1720DB8156471920C3 \
  VENDOR_STRING=D5806CD3 SN=9220623 SIGN2="06A4 B296 2311 52F6 DEB6 7D60
\
  C0CF 1FD6 9133 A59D 4E37 00D7 EC0A F614 3F00 1938 08EE 7554 7ED0 421A \
  BABD 2859 20AA A2C2 42EE 0D95 852D 1153 AB00 B9DD"
INCREMENT pcblayout mgcld 2012.050 31-may-2012 4 AD0780ABB7C879028876 \
  VENDOR_STRING=2ED26BB6 SN=9220621 SIGN2="1C99 1A24 9878 FFC6 721E F84B
\
  C18B 09E9 CB76 6AF8 76CD 975E 94ED 6D05 057B 0617 7CE2 35D9 F9C4 5D75 \
  2807 E581 D51B 6D13 8B12 D45D 531F EE4D 8542 B01D"
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 4 7DE7905B502576265F63 \
  VENDOR_STRING=61CC3270 SN=9220669 SIGN2="1DA7 47BE F0B2 DC21 226E CEF0
\
  3E33 4CBA 83C7 C1F0 FE67 21B0 FAA7 7D95 6DD7 107E 0FEF 30B8 AECA 8DB5 \
  8B06 5F10 6DBE D3CF 2BBE 1CC5 6EA4 866C FDBE 51F3"
```

Nodelocked Counted Licenses (Server Required)

These licenses are locked to a specific piece of hardware, either an Ethernet card or a hardware key. These devices provide a unique identifier for the license. The software will run only on the system that has that particular piece of hardware installed. The license file contains both a SERVER and a DAEMON line and the quantity on each INCREMENT line is greater than zero

(0); a license server is required. Nodelocked counted licenses have a HOSTID field in each INCREMENT line that identifies which computer can check out a license. These licenses are available on Windows.

Mobile Compute (nodelocked uncounted) Licenses (No Server Required)

A license file does not require a server if it does not contain lines that start with the words SERVER or DAEMON, and the quantity listed for each INCREMENT is zero. The quantity is found immediately to the right of the expiration date of the license. Note that zero does not mean that there are no licenses available; it is simply the identifier of this special kind of license.

An example is provided below of mobile compute (nodelocked uncounted) licenses. The expiration date in these examples is 31-may-2012 and the quantity is 0.

```
INCREMENT pcblayout mgcld 2012.050 31-may-2012 0 1D7705441D89F4B1F999 \
  VENDOR_STRING=99004A9A HOSTID=00087441c4eb SN=9770549 SIGN2="11D3 D0C3
E883 \
  D501 C7E4 0621 90F4 1EF3 2C53 8DDE F357 5092 11F2 ED6F A2F6 15C5 ED84
9BBE \
  1B4D F964 F16F E24E 2F04 DAFA 5AD2 35C2 991B 65E9 0F98 E535"
INCREMENT ces mgcld 2012.050 31-may-2012 0 8DB7A504A7E7355ACCC2 \
  VENDOR_STRING=135715B3 HOSTID=00087441c4eb SN=9770550 SIGN2="0139 E86D
907A \
  B241 58D6 80E9 B7C5 E19D 1AB4 CC45 6AA2 BC04 B671 F56D E405 1B1B E320
6C0C \
  02F1 0BEF 2B5D 39D6 5353 43C6 C37B F6FB C7BE 6DE5 8FE1 6033"
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 0 CD7755B4B4626F6A8B2E \
  VENDOR_STRING=4E5C37EC HOSTID=00087441c4eb SN=9770548 SIGN2="10A0 8E5A
AB18 \
  13C8 AAA3 35C2 C42A 0324 D948 3CD0 8030 73AF A8D5 382B 139E 1B21 D5AC
3550 \
  54FF EEFC 0D6D 8301 AA32 0975 35B2 9F6E A12F FAA2 AB7F EF9B"
```

Mobile compute (nodelocked uncounted) licenses are issued to a unique system identifier, either the Ethernet address or an ID provided by a hardware key (dongle). The HOSTID field may appear different from the example depending on the type of identifier specified when the features were generated. [Table 1-1](#) lists several types of HOSTIDs.

Table 1-1. Example HOSTIDs

Type	Example HOSTID	Description
Parallel Port Hardware Key	HOSTID=FLEXID=8-5E7000123ABC	Dallas Dongle
Parallel Port Hardware Key	HOSTID=FLEXID=7-bc2409fd or HOSTID=FLEXID=6-a6309832	Rainbow Sentinel Dongle
USB Port Hardware Key	HOSTID=FLEXID=9-36a6dfd6	Alladin USB Dongle

Table 1-1. Example HOSTIDs (cont.)

Type	Example HOSTID	Description
Ethernet Address	HOSTID=000cf41a42bc	NIC physical address

If you require assistance with this step, contact Customer Support or consult SupportNet.

Installing Mobile Compute Licenses

Mentor Graphics provides mobile compute (or nodelocked uncounted) licenses for Windows systems.

[Figure 1-1](#) illustrates the basic flow for installing and configuring mobile compute licenses.

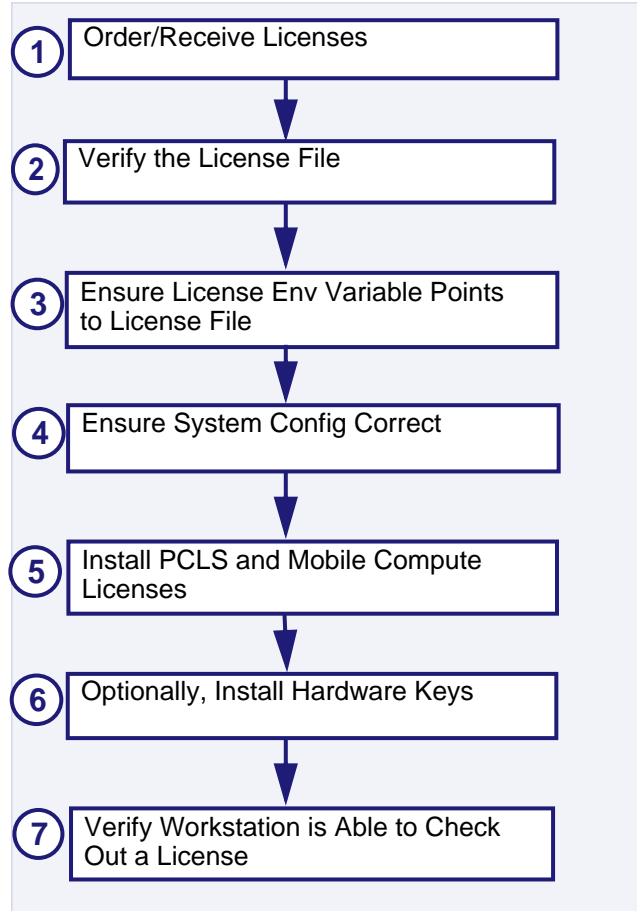
This section covers how to setup and use mobile compute licenses. It covers:

- [“Ordering Your Mentor Graphics Licenses”](#) on page 13
- [“Verifying the License File”](#) on page 14
- [“Ensuring Licensing Environment Variable Points to License File”](#) on page 15
- [“Ensuring Proper System Configuration”](#) on page 15
- [“Downloading and Installing PCLS and Mobile Compute Licenses”](#) on page 16
- [“Installing Hardware Key Device Drivers”](#) on page 16
- [“Verifying a Workstation Can Check Out a License”](#) on page 17


Figure 1-1. Basic Flow for Installing Mobile Compute Licenses

This figure illustrates the basic steps for installing and configuring mobile compute licenses on Windows platforms.

NOTE: Mentor Graphics recommends installing licensing before installing application software.



Ordering Your Mentor Graphics Licenses

 **Note** Mentor Graphics issues Authorization Code Files that are referred to here as license files.

At this point you should know what type of licenses you need.


To order and receive Mentor Graphics Licenses:

1. New users must order software licenses prior to using Mentor Graphics software. To order licenses, contact your local Mentor Graphics sales office. The sales office can provide you with information on any licenses your company purchased and any current license sever configurations you may have. When purchasing new licenses, you need to provide the sales office with:
 - o Any new license server configuration information
 - o The hostID(s) of client and license server computers for nodelocked licenses
 - o The hostID(s) of the license server computers for all floating licenses

 **Tip:** To determine your hostID:
On Windows: **ipconfig /all** returns a Physical Address similar to: **00087441c4eb** (remove the hyphens for the hostID)

Licensing reports are available for existing customers at the Customer Support website:

<http://supportnet.mentor.com/myaccount/index.cfm?fa=user.licenses>

 **Note** The Customer Support website requires a login and password. To register and obtain a password, go to <http://supportnet.mentor.com/user/register.cfm>. If you have difficulties, email csd_registration@mentor.com. Use http://supportnet.mentor.com/user/forgot_password.cfm for assistance if you are registered but have forgotten your password.

2. Save your licenses in a file on your local harddrive. If the license file was sent as an attachment to email, detach the file and save it to a directory which will permit you to make edits to the file. If the licensing information is embedded in an email, copy the contents of the email to a file you are permitted to edit. Edit the file to remove any email header information. The license file must
 - be plain-text only
 - not contain any spaces

- end in *.dat*, *.lic* or *.txt*

There are no restrictions on the name of the file or where you put it; however, you should keep a copy of each file in a safe location for backup purposes.

Verifying the License File

In the previous procedure, you ordered your Mentor Graphics licensing and saved it to a file on your local harddrive. No editing is required with mobile compute licenses. In fact, editing these licenses is not recommended and may invalidate your licenses.

The following is an example of a mobile compute license file. The license file does not contain SERVER or DAEMON lines and the quantity on each INCREMENT line is zero (0).

```
INCREMENT pcblayout mgcld 2012.050 31-may-2012 0 1D7705441D89F4B1F999 \
  VENDOR_STRING=99004A9A HOSTID=00087441c4eb SN=9770549 SIGN2="11D3 \
D0C3 E883 \
  D501 C7E4 0621 90F4 1EF3 2C53 8DDE F357 5092 11F2 ED6F A2F6 15C5 ED84
9BBE \
  1B4D F964 F16F E24E 2F04 DAFA 5AD2 35C2 991B 65E9 0F98 E535"
INCREMENT ces mgcld 2012.050 31-may-2012 0 8DB7A504A7E7355ACCC2 \
  VENDOR_STRING=135715B3 HOSTID=00087441c4eb SN=9770550 SIGN2="0139 E86D
907A \
  B241 58D6 80E9 B7C5 E19D 1AB4 CC45 6AA2 BC04 B671 F56D E405 1B1B E320
6C0C \
  02F1 0BEF 2B5D 39D6 5353 43C6 C37B F6FB C7BE 6DE5 8FE1 6033"
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 0 CD7755B4B4626F6A8B2E \
  VENDOR_STRING=4E5C37EC HOSTID=00087441c4eb SN=9770548 SIGN2="10A0 8E5A
AB18 \
  13C8 AAA3 35C2 C42A 0324 D948 3CD0 8030 73AF A8D5 382B 139E 1B21 D5AC
3550 \
  54FF EEFC 0D6D 8301 AA32 0975 35B2 9F6E A12F FAA2 AB7F EF9B"
```

To verify your license file, do the following:

1. Open the license file in a text editor (for example, NotePad or WordPad).
2. Determine the hostid of the computer. Find this value with the hostname command:

```
C:\> ipconfig /all
```

The command returns something similar to the following:

```
Windows 2000 IP Configuration
Host Name .....:MACHINENAME
Node Type .....:Hybrid
IP Routing Enabled...:No

Ethernet adapter Local Area Connection
DNS Suffix .....:domain.com
Description .....:Intel(R) PRO/100
Physical Address...:00-08-74-41-c4-eb
DHCP Enabled .....:Yes
```

```
Autoconf Enabled...:Yes
IP Address.....:141.11.11.150
Subnet Mask.....:255.255.255.0
```

In the above example, the hostid of the system is found in the Ethernet adapter section of the information returned from the **ipconfig** command. The hostid is the Physical Address, without the hyphens: 00087441c4eb. This hostid indicates the machine to which the license is locked. There is no license server dependency with the mobile compute license. Uncounted licenses are not valid for usage via Microsoft Remote Desktop or Terminal Server sessions.

3. Make sure the correct hostid is present for every INCREMENT string.
4. **Save** and **Close** the license file. Keep a copy of the license file in a safe location for backup purposes.

Ensuring Licensing Environment Variable Points to License File

1. Navigate to System Properties. Right-click on the **My Computer** icon and select **Properties** or go to **Control Panel > System**.
2. Go to Environment Variables. Select the **Advanced** tab and click the **Environment Variables** button.
3. Check the variable MGLS_LICENSE_FILE. If you have mobile compute (nodelocked uncounted) licenses, define the variable as the path to the license file starting with the drive letter and ending with the license file name. For example: *C:\flexnet\license.dat*.

i **Tip:** MGLS_LICENSE_FILE can be created as a System Variable (defined as the path to the license file), available to all users that log in to this system, or it can be created as a User Variable, available only to the current user. A user with Administrator privileges may create a System Variable. Be sure that only one variable points to your license file. Duplicate pointers can slow down performance and may cause other technical problems.

4. Click **OK** and **OK** to save and close your new Properties setting.

Ensuring Proper System Configuration

You need to ensure that the proper networking components are installed and configured correctly.

In order for Mentor Graphics 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.

Also, you must configure TCP/IP on your network for licensing to work properly.

Downloading and Installing PCLS and Mobile Compute Licenses

Note



This is an optional step. PC Licensing software ships with LP Wizard 10.3.1. Using the Mentor Install Program, on the Product Selection window you must select **License Server** to install licensing.

1. Click the URL below to access the licensing download page on SupportNet:

<http://supportnet.mentor.com/downloads/index.cfm?product=C106-S128-G159-P11292>

2. Click in the Licensing download box.
3. Scroll to the bottom of the Licensing Agreement and select **I Agree**.
4. From the list of Licensing Software, select **PCLS for Windows**.
5. Save the download file to a temporary location on the license server hard drive and click **Close** when download completes.
6. Extract the download and run the **setup.exe** contained therein.

After the Mentor Graphics Licensing installation is launched, the Welcome to Licensing screen appears.

7. Click **Next**. The Choose Destination Location screen appears.
8. The default (and recommended) installation location for the Mentor Graphics licensing software is C:\MentorGraphics\Licensing. Click **Next**. The installation progress bar appears followed by the Configure Licensing screen. The default Typical configuration box is selected.
9. Click **Next**.

Several windows will display consecutively. Click **Next** on all of them.

10. Click **OK** when license setup is complete. It is not necessary to reboot your computer.

Installing Hardware Key Device Drivers

At this point, you are still in the process of installing PCLS on your computer. It is while still in the PCLS install mode that you can install hardware key device drivers. This is an optional step.

1. In the Select configuration options dialog box, check **2. Load hardware key device driver(s)**.

Note



Hardware keys are optional hardware identifiers. The following steps only need to be completed if you are using a hardware key.

Mentor Graphics provides hardware keys, also known as *dongles*. A hardware key is a device you plug into your parallel printer port or into your USB port. It provides a unique host identification (host ID) for the licensing system.

A hardware key is not necessarily required to run Mentor Graphics software. Hardware keys can be used as a HOSTID provider for any of the three types of licenses (floating, nodelocked counted, and mobile compute), or you don't have to use a hardware key at all.

Note



You must have administrator privileges to install hardware key drivers.

Caution



Mentor Graphics assumes no liability for hardware damage related to the use of hardware keys. "Hot-swapping" hardware keys is not recommended.

2. Click **Next**.

Several windows will display consecutively. Click **OK** on all of them. The restart information dialog appears only if the dongle/hardware key drivers were installed.

3. Click **OK** when license setup is complete. Reboot your machine.

For more information on loading hardware key device drivers and hardware keys, refer to the *Licensing Mentor Graphics Software* manual available from the release_documents directory on the DVD or from SupportNet.

Verifying a Workstation Can Check Out a License

An application called **pcls_ok** is used to test license checkout on computers running Windows operating systems. Typically, **pcls_ok** is found from the Start Menu at **Start > Programs > Mentor Graphics Licensing**. If you do not see it there, search the computer harddrive for the file name **pcls_ok.exe**. This verification method works with all types of Mentor Graphics provided licenses.

1. Invoke **pcls_ok** from the Start Menu or by double-clicking on the executable.
2. Test checkout of a specific license. Type the license name into the Feature box and click the **Apply** button.



Tip: You can identify license names by looking in the license file. The field to the right of the word INCREMENT is the license name.

3. Verify the license is successfully checked out. A success or failure message is displayed. If you receive a success message, that indicates licenses can be checked out successfully from that workstation. If you receive a failure message, click [[>>>Details](#)] for more information. At this point, you may want to search the Knowledgebase or open a Service Request on SupportNet.

Installing Floating and Nodelocked Counted Licenses on Windows

Mentor Graphics provides floating and nodelocked counted licenses for Windows systems.

[Figure 1-1](#) illustrates the basic flow for installing and configuring floating and nodelocked counted licenses.

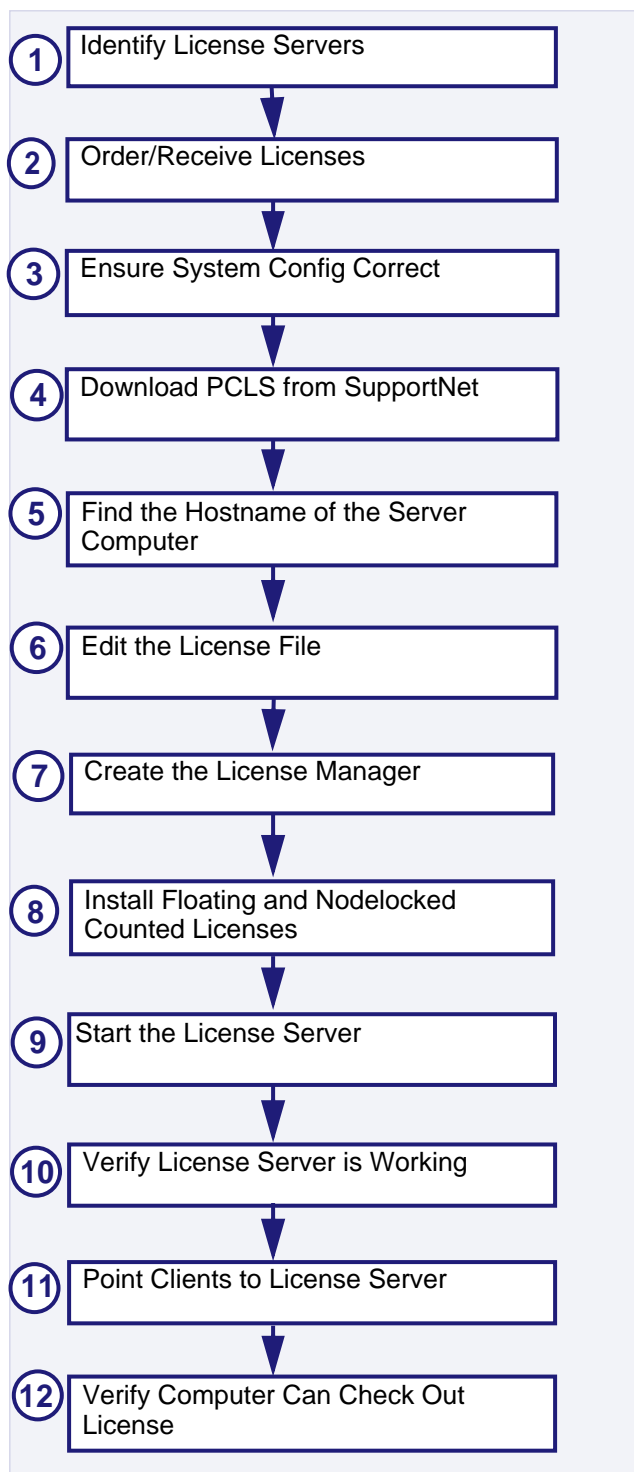
This section covers how to setup and use floating and nodelocked counted licenses. It covers:

- [“Identifying the License Servers”](#) on page 21
- [“Ordering Your Mentor Graphics Licenses”](#) on page 21
- [“Ensuring System Configuration is Correct”](#) on page 22
- [“Downloading the PC Licensing Software from SupportNet”](#) on page 23
- [“Finding the Hostname of the Server Computer”](#) on page 23
- [“Editing the License File”](#) on page 24
- [“Creating the License Manager Service in LMTOOLS”](#) on page 25
- [“Installing Floating and Nodelocked Counted Licenses”](#) on page 25
- [“Starting the License Server”](#) on page 26
- [“Verifying License Server is Working”](#) on page 26
- [“Pointing Clients to the License Server”](#) on page 26
- [“Verifying a Computer Can Check Out a License”](#) on page 27

Figure 1-2. Basic Flow for Installing Floating/Node-locked Counted Licenses

This figure illustrates the basic steps for installing and configuring floating and node-locked counted licenses on Windows platforms.

NOTE: Mentor Graphics recommends installing licensing before installing application software.



Identifying the License Servers

Determine which machine(s), if any, you will use as license servers and determine their host IDs.

Mentor Graphics licenses are administered by one or more workstations that function as license servers. A license server stores the license file, contains a local copy of the licensing software, and runs the license daemon. A license server must be accessible from any workstation running a Mentor Graphics application using basic TCP/IP communication protocols.

License servers can be configured to operate independently or in a redundant group of three. If your site is large and you usually have many people using Mentor Graphics applications simultaneously, you might have several multiple independent servers, several groups of redundant servers, or a combination of the two types.

For more information on determining the types of licensing servers you have, refer to “Planning for Licensing” in the *Licensing Mentor Graphics Software* manual available from the release_documents directory on the DVD or from SupportNet.

Ordering Your Mentor Graphics Licenses

Note



Mentor Graphics issues Authorization Code Files that are referred to here as license files.

At this point you should know what type of licenses you need and what machine will serve as your license server.

1. New customers should order new licenses; existing customers can download a copy of your current licenses.
 - If you are ordering new licenses

New users must order software licenses prior to using Mentor Graphics software. To order licenses, contact your local Mentor Graphics sales office. The sales office can provide you with information on any licenses your company purchased and any current license server configurations you may have. When purchasing new licenses, you need to provide the sales office with:

- Any new license server configuration information
- The hostID(s) of client and license server computers for nodelocked licenses
- The hostID(s) of the license server computers for all floating licenses



Tip: To determine your hostID:

On Windows: **ipconfig /all** returns a Physical Address similar to: **00087441c4eb** (remove the hyphens for the hostID)

- If you want to download a copy of your current licenses

Existing customers can download a copy of their current licenses or view Licensing reports at the Customer Support website:

<http://supportnet.mentor.com/myaccount/index.cfm?fa=user.licenses>



Note

The Customer Support website requires a login and password.

To register and obtain a password, go to

<http://supportnet.mentor.com/user/register.cfm>

If you have difficulties, email csd_registration@mentor.com. Use

http://supportnet.mentor.com/user/forgot_password.cfm

for assistance if you are registered but have forgotten your password.

2. Save your licenses in a file on your local harddrive. If the license file was sent as an attachment to email, detach the file and save it to a directory which will permit you to make edits to the file. If the licensing information is embedded in an email, copy the contents of the email to a file you are permitted to edit. Edit the file to remove any email header information. The license file must

- be plain-text only
- have a name that does not contain any spaces
- end in *.dat*, *.lic* or *.txt*

There are no restrictions on the name of the file or where you put it. It is good practice to keep a copy of each file in a safe location for backup purposes.


Ensuring System Configuration is Correct

Ensure that the proper networking components are installed and configured correctly.

In order for Mentor Graphics 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.

Also, you must configure TCP/IP on your network for licensing to work properly.

Downloading the PC Licensing Software from SupportNet

 **Note** This is an optional step. PC Licensing software ships with LP Wizard 10.3.1. Using the Mentor Install Program, on the Product Selection window you must select License Server to install licensing.

1. Click the URL below to access the licensing download page on SupportNet:

<http://supportnet.mentor.com/downloads/index.cfm?product=C106-S128-G159-P11292>

2. Click in the Licensing download box.
3. Scroll to the bottom of the Licensing Agreement and select **I Agree**.
4. From the list of Licensing Software, select **PCLS for Windows**.
5. Save the download file to a temporary location on the license server hard drive and click **Close** when download completes.
6. Extract the download and run the **setup.exe** contained therein.

After the Mentor Graphics Licensing installation is launched, the Welcome to Licensing screen appears

7. Click **Next**. The Choose Destination Location screen appears.
8. The default (and recommended) installation location for the Mentor Graphics licensing software is C:\MentorGraphics\Licensing. Click **Next**. The installation progress bar appears followed by the Configure Licensing screen. The default Typical configuration box is selected.
9. Click **Next**.
Several windows will display consecutively. Click **Next** on all of them.
10. Click **OK** when license setup is complete. It is not necessary to reboot your computer.

Finding the Hostname of the Server Computer

1. Click the **Start > All Programs > Mentor Graphics Licensing > lmtools**. The LMTOOLS screen appears.
2. Select the **System Settings** tab.
3. Highlight the Computer/Hostname field with the mouse. Type **Ctrl-C** to save the value (so you can paste it into the license file).

Editing the License File

1. Now, open the license file. Scroll past the header section and locate the line that begins with **SERVER**.

```
SERVER put_server_name_here 00188BCCD07C 1717
DAEMON mgcld path_to_mgcld
INCREMENT ces mgcld 2012.050 31-may-2012 4 5D1720DB8156471920C3 \
  VENDOR_STRING=D5806CD3 SN=9220623 SIGN2="06A4 B296 2311 52F6 DEB6 7D60
\
  C0CF 1FD6 9133 A59D 4E37 00D7 EC0A F614 3F00 1938 08EE 7554 7ED0 421A \
  BABD 2859 20AA A2C2 42EE 0D95 852D 1153 AB00 B9DD"
INCREMENT pcblayout mgcld 2012.050 31-may-2012 4 AD0780ABB7C879028876 \
  VENDOR_STRING=2ED26BB6 SN=9220621 SIGN2="1C99 1A24 9878 FFC6 721E F84B
\
  C18B 09E9 CB76 6AF8 76CD 975E 94ED 6D05 057B 0617 7CE2 35D9 F9C4 5D75 \
  2807 E581 D51B 6D13 8B12 D45D 531F EE4D 8542 B01D"
INCREMENT xefablinkpro mgcld 2012.050 31-may-2012 4 7DE7905B502576265F63 \
  VENDOR_STRING=61CC3270 SN=9220669 SIGN2="1DA7 47BE F0B2 DC21 226E CEF0
\
  3E33 4CBA 83C7 C1F0 FE67 21B0 FAA7 7D95 6DD7 107E 0FEF 30B8 AECA 8DB5 \
  8B06 5F10 6DBE D3CF 2BBE 1CC5 6EA4 866C FDBE 51F3"
```

2. Highlight the **put_server_name_here** field with the mouse and type **Ctrl-V** to paste the hostname that was copied from LMTTOOLS. Take note of the completed **SERVER** line. For example:

```
Before:
SERVER put_server_name_here 00188BCCD07C 1717
After:
SERVER umbrella 00188BCCD07C 1717
```

3. Verify the port number. The fourth field of the **SERVER** line is the communication port number. The default value is 1717. This number can be set to any other port number which is currently not in use.



Tip: If the IPX/SPX protocol is present on the license server, specify TCP communication by placing **TCP:** before the port number. This keyword forces communication through TCP rather than the less reliable UDP.

In this example, here is the **SERVER** line after editing:

```
SERVER umbrella 00188BCCD07C TCP:1717
```

4. The **path_to_mgcld** must be replaced with the location of the **mgcld** file, which is found in the folder where the licensing software is installed. For example:

```
Before:
DAEMON mgcld path_to_mgcld
After:
DAEMON mgcld C:\MentorGraphics\Licensing\mgcld.exe
```


Take note of the completed DAEMON line.

5. Select **File > Save** to save the license file and close the text editor window.

Creating the License Manager Service in LMTOOLS

1. Click the **Start > All Programs > Mentor Graphics Licensing > lmtools**. The LMTOOLS screen appears.
2. In the LMTOOLS window, **Service/License File** tab, click **Configuration using Services** radio button, if it isn't already selected.
3. Select the **Config Services** tab.
4. Select the **Service Name** text box and change the name as desired. For example: Mentor license service.

Installing Floating and Nodelocked Counted Licenses

1. Click the **Start > All Programs > Mentor Graphics Licensing > lmtools**. The LMTOOLS screen appears.
2. In the LMTOOLS window, select the **Browse** button beside the field named **Path to the lmgrd.exe file**.

Note



By default this folder should be the location where the licensing software was installed. If not, navigate to the location. The default location is C:\MentorGraphics\Licensing.

3. Select **lmgrd.exe** and click the **Open** button.
4. On the Config Services window, click the **Browse** button beside the field named **Path to the license file**.
5. Navigate to the location of the license file. On the Open window, change **Files of type:** to **All Files (*.*)**.
6. Select the license file and click the **Open** button.
7. On the Config Services window, select the field named **Path to the debug log file** and type the path to a log file. This file doesn't exist yet (it gets created when the service is started). An example log file name is: C:\MentorGraphics\license.log.
8. Select the **Use Services** check box.
9. To ensure the license manager service starts again after a reboot, select the **Start Server at Power Up** check box.
10. Save the license manager service by clicking the **Save Service** button.
11. Click **Yes** to confirm the save.

Starting the License Server

1. Click the **Start > All Programs > Mentor Graphics Licensing > lmtools**. The LMTOOLS screen appears.
2. In the LMTOOLS window, select the **Start/Stop/Reread** tab.
3. Click the **Start Server** button to start the license manager service. The Server Start Successful message should appear (in the bottom left of screen).

Verifying License Server is Working

1. Click the **Start > All Programs > Mentor Graphics Licensing > lmtools**. The LMTOOLS screen appears.
2. In the LMTOOLS window, select the **Server Status** tab.
3. Click the **Perform Status Enquiry** button. The first section of the output identifies the port@host value which clients should set in their MGLS_LICENSE_FILE environment variable. For example:

1717@umbrella

A little further down the output, the license server UP v11.6.1 message indicates the lmgrd (FlexNet daemon) is up and running, and in this case the version is 11.6.1. For example:

umbrella: license server UP v11.6.1

A little further down, the Feature usage info: section lists the status of all the features in the license file.

Pointing Clients to the License Server

Note



The following steps are for use with Floating and Nodelocked Counted licenses only. They do not apply to Mobile Compute licenses.

On each client computer, define an environment variable to point to the license server. The clients must have a pointer to the server in order to check out a license.

Note



A computer can be a server and a client: you can run applications on the same system where you run the license service. If this is the case, you still need to perform the following steps to define the license file variable.

1. Navigate to System Properties. Right-click on the **My Computer** icon and select **Properties** or go to **Control Panel > System**.

2. Go to Environment Variables. Select the **Advanced** tab and click the **Environment Variables** button.
3. Create or edit the variable `MGLS_LICENSE_FILE`. Define the variable using the port number and host name of the license server. For example: `1717@umbrella`.
4. Select **OK** a couple of times to get back to the Properties window or Control Panel. No reboot is required on Win2000/XP.

i **Tip:** `MGLS_LICENSE_FILE` can be created as a System Variable, available to all users that log in to this system, or it can be created as a User Variable, available only to the current user. A user with Administrator privileges may create a System Variable. Be sure that only one variable points to your license server. Duplicate pointers and unreachable servers can slow down performance and may cause other technical problems.

Verifying a Computer Can Check Out a License

An application called **pcls_ok** is used to test license checkout on computers running Windows operating systems. Typically, **pcls_ok** is found from the Start Menu at **Start > Programs > Mentor Graphics Licensing**. If you do not see it there, search the computer harddrive for the file name **pcls_ok.exe**. This verification method works with all types of Mentor Graphics provided licenses.

1. Invoke **pcls_ok** from the Start Menu or by double-clicking on the executable.
2. Test checkout of a specific license. Type the license name into the Feature box and click the **Apply** button.

i **Tip:** You can identify license names by looking in the license file. The field to the right of the word **INCREMENT** is the license name.

3. Verify the license is successfully checked out. A success or failure message is displayed. If you receive a success message, that indicates licenses can be checked out successfully from that workstation. If you receive a failure message, click [**>>>Details**] for more information. At this point, you may want to search the Knowledgebase or open a Service Request on SupportNet.

Chapter 2

Installing Mentor Graphics Software

This chapter covers the following:

Before You Begin Installation.....	29
Downloading Software on Windows Platforms	30
Installing on Windows.....	31
Installing Other Products After Initial Installation	32
Selecting an Alternate Location for the Install Program.....	32
Uninstalling Products	33

Before You Begin Installation

The following are pre-requisites to the Mentor Graphics product installation.

1. Order software licenses from Mentor Graphics. Licensing should be installed prior to installing application software.

Note



To make full use of the Mentor Install Program's automatic product selection by licenses, set up your software licensing environment before running the Install program. For additional information, refer to "[Licensing](#)" on page 5.

2. LP Wizard requires .NET Framework Version 3.5 to function. You must install .NET 3.5 before or after installing the LP Wizard software. Later versions of .NET (v4.0) are not compatible. .NET Framework Version 3.5 is available from the Microsoft web site.
3. Check system requirements. For current system requirements, refer to the *Release Highlights* document. These documents are located in the `release_documents` directory on the application DVD or from SupportNet. Additionally, the following website on SupportNet lists all supported system configurations:

<http://supportnet.mentor.com/systemreqs/>

Downloading Software on Windows Platforms

Note



The following instructions use WinZip as the extraction utility. If you use a different extraction utility, make appropriate selections to ensure that the directory structure of the Mentor Graphics software is preserved.

1. Using a web browser, log on to the Mentor Graphics SupportNet website.
2. In the **My Products** field, choose **LP Wizard**.
3. Click the **Downloads** tab.
4. In the **Selected Release** pull-down, select **LP Wizard 10.5**.
5. Read the Software Terms and Conditions and select **I Agree** at the bottom before downloading the software.
6. In the Product Download window, select the **FTP Download** button associated with **LP Wizard LP 10.5**.
7. In the File Download pop-up, click **Save** to save the .zip file to your machine.
8. In Windows Explorer, right-click the .zip file.
9. From the pop-up menu, select **WinZip > Extract to...**
10. Navigate to the folder to uncompress to (for example, C:\MentorGraphics\LP Wizard).
11. Select **Use folder names** and click **Extract**.
The data are extracted to the selected location.
12. Follow the instructions listed in [Installing on Windows](#).

Installing on Windows

Note



By default, the Mentor Install Program is installed to C:\MentorGraphics\Install on Windows. If you need to install the Mentor Install Program to an alternate location, see [“Selecting an Alternate Location for the Install Program”](#) on page 32.

1. Navigate to the directory where you downloaded the release to. Double-click **LPWizard_mib.exe** to start the install program.

Alternatively, if you are installing from DVD, insert the disk into your CD-ROM drive. If the installation does not automatically start, select **Start > Run**, specify the CD-ROM drive and install executable (for example D:\LPWizard_mib.exe) and click **OK**.

Note



Mentor Graphics recommends you have Administrator privileges to install the software products from DVD on Windows systems.

Note



Mentor Graphics highly recommends that you stop all other programs before installing Mentor products.

2. In the Mentor Graphics Install window, click **Install Products**.



Tip: After the Mentor Install Program invokes, instructions for performing each of the following tasks are available in the online help.

3. Specify the source location by typing the source path in the source location field or click **Browse** to select the source directory. The default source location is the path where you invoked LPWizard_mib.exe in Windows.

Note



You should not have to change the source; the default is correct.

4. Type the target path in the target location field or click **Browse** to select the target directory.
5. Click **Next** to display the Product Selection screen.
6. Select the **LP Wizard 10.5** check box and click **Next** to display the License Agreement window.
7. Read the licensing agreement and click **Agree** to accept. The Confirm Selections window displays.

8. Confirm the product selections by clicking **Install**.
9. Click **Done** when the installation is complete.

Caution



Some software installations launch post-installation processes that may include separate dialogs and command shells. Do not dismiss these dialogs or shells; they will either complete automatically or certain dialogs will require input. If any reboot requests occur during the installation process, respond **No** and reboot after the installation has completed. Once all the post-install processes are complete, the install wizard indicates the overall install process is complete.

Caution



If you choose to run verification on the install, run it immediately after installation and prior to running any of the products as the products can modify the installed files. These modified files could return unsatisfactory installation verification results.

Installing Other Products After Initial Installation

Additional products may be installed after you have performed the initial product installation. Simply invoke the Mentor Install Program and proceed with the instructions provided earlier in this chapter.

On Windows systems, go to **Start > Programs > Mentor Graphics > Mentor Install**.

Selecting an Alternate Location for the Install Program


To select a different install location for the Mentor Install Program, do the following:

On Windows systems, the default location is C:\MentorGraphics\Install. To change the location:

Launch the Mentor Install Program from a shell using **LPWizard_mib.exe** with the **-msiloc** switch. For example:

```
LPWizard_mib.exe -msiloc C:\alternatePath
```

This installs the Mentor Install Program to C:\alternatePath instead of C:\MentorGraphics\Install.

 **Tip:** If you run into a situation where you already have the Mentor Install Program installed and need to either install a newer version or install to a new location, you can force the install by using the command **LPWizard_mib.exe -force**. The **-force** option enables you to install a newer version of the Mentor Install Program to another location or install an older version of the install program over the top of a newer version.


Uninstalling Products

To remove any or all products installed with the Mentor Install Program, do the following:

1. From the **Start** Menu, select **Programs > Mentor Graphics > Mentor Uninstall > Uninstall Mentor Products**. This launches the Mentor Install Program in Remove mode automatically where you can select the products to remove.
2. In the Product Removal Selection window, select from:
 - **Sort by Target** — Choose this sort option to list all targets you have installed to.
 - **Sort by Product** — Choose this sort option to list all installed products.
3. Select individual, multiple, or **Select All** products to be removed.
4. Click **Next** to proceed to the Confirm Removal Selection window.
5. Click **Remove**.

The Mentor Install Program will offer to remove itself after the last product is removed.

6. Click **Done**.

 **Note** You can also use **Start > Settings > Control Panel > Add or Remove Programs** to uninstall the Mentor Install Program or Mentor products.

Chapter 3

Managing Environment Settings

This chapter includes the following sections:

Setting Environment Variables	35
Setting MGLS_LICENSE_FILE	35

Setting Environment Variables


This section contains a description of the environment variable that should be set for each user. Other environment variables that are specific to Mentor Graphics applications are listed in product-specific configuration manuals or release notes.

To set environment variables on Windows, go to **Start > Settings > Control Panel > System > Advanced > Environment Variables**.

- Click **New** to add a new variable name and value.
- Click **Edit** to change an existing variable name and value.

Setting MGLS_LICENSE_FILE

Mentor Graphics supports two licensing environment variables, MGLS_LICENSE_FILE and LM_LICENSE_FILE.

 **Note** MGLS_LICENSE_FILE should be used as the default licensing environment variable for Mentor Graphics products.

You are encouraged to use MGLS_LICENSE_FILE for optimum performance of Mentor Graphics applications. Only Mentor Graphics software recognizes MGLS_LICENSE_FILE; software from other vendors that use FlexNet will ignore it and use their own custom variable or LM_LICENSE_FILE instead. Using MGLS_LICENSE_FILE to point only to licenses for your Mentor Graphics tools speeds the license checkout process and other licensing-related activity. The standard FlexNet Licensing commands such as **lmutil**, **lmstat** and **lmreread** do not recognize the MGLS_LICENSE_FILE variable. Those commands should be explicitly pointed to the license location using a “-c” switch.

On Windows, use a semicolon (;) rather than a colon (:) as the path separator for independent servers. For example:

license_file_pathname1;license_file_pathnameN;port@host1;port@hostN

LM_LICENSE_FILE is the FlexNet Licensing standard environment variable used by the license server and application to determine the location of license data files.

LM_LICENSE_FILE is the FlexNet default, although **MGLS_LICENSE_FILE** is the recommended variable. You can use **LM_LICENSE_FILE** on client workstations to allow applications invoked on those workstations to use a license file not stored in the default location or to point to one or more license servers.

In some environments, you may combine the FlexNet licensing information for several vendors into a single license file. The default location is:

C:\flexlm\license.dat

For additional information on these variables or redundant license server configurations, refer to the *Licensing Mentor Graphics Software* manual available from the release_documents directory on the DVD or from SupportNet.

Chapter 4

Troubleshooting

This section covers some frequently encountered problems, with their possible causes and solutions. This section includes:

Mentor Graphics SupportNet.....	37
Troubleshooting Common Errors	38
Troubleshooting Common Problems	39
Troubleshooting X.....	40

Hardware and Operating System Requirements

For information about the hardware and operating system requirements necessary to execute Mentor Graphics software, refer to the product-specific documentation or the Mentor Graphics SupportNet website:

http://supportnet.mentor.com/spt_configs/index.html

Mentor Graphics SupportNet

Mentor Graphics software support includes software enhancements, technical support, access to comprehensive online services with SupportNet, and the optional On-Site Mentoring service. For details, see:

<http://supportnet.mentor.com/about/>

If you have questions about this software release, please log in to SupportNet. You may search thousands of technical solutions, view documentation, or open a Service Request online at:

<http://supportnet.mentor.com/>

If your site is under current support and you do not have a SupportNet login, you may easily register for SupportNet by filling out the short form at:

<http://supportnet.mentor.com/user/register.cfm>

All Customer Support contact information can be found on our web site at:

<http://supportnet.mentor.com/contacts/supportcenters/>

Troubleshooting Common Errors

Table 4-1 lists some of the more common errors encountered during installation.

Table 4-1. Troubleshooting Common Errors

Error #	Problem	Result	Solution
CP0008	The current version of the Mentor Install Program on your system is out of date. There is a newer version of the Mentor Install Program available on the latest installation media.	You must update your version of the Mentor Install Program from the latest installation media.	Exit the Mentor Install Program and refer to the web-based “Installation Instructions” on the SupportNet download web page.
CP00030	The Mentor Install Program encountered an error while trying to read the startup data.	The Install program will not proceed further.	The installData.xml.gz file needs to be in the Mentor Graphics Install data directory.
IPW112 IPW113	An error occurred when the Mentor Install Program tried to open a script archive file.	The Installation script archive could not be found, therefore the Mentor Install Program will not proceed.	If you are installing from DVD, make sure the Volume 1 is available and click Retry . Selecting Cancel will cancel the installation.
IPW114	A file write error occurred.	The Mentor Install Program cannot write to the specified file.	The file (or directory the file is in) may not have write permissions. Verify that permissions are open on the file/directory and select Retry to continue the installation. Selecting Cancel will cancel the installation.
IPW116	An error occurred while attempting to write to a file.	The Mentor Install Program could not write to the specified file and installation is being cancelled.	Verify the path to the file. If the path was correct, contact Customer Support and provide them with the Details and Error #IPW116.
IPW118	An error occurred while attempting to write to a file.	The Mentor Install Program could not write to the specified file and installation is being cancelled.	Verify the path to the file. If the path was correct, contact Customer Support and provide them with the Details and Error #IPW118.

Table 4-1. Troubleshooting Common Errors (cont.)

Error #	Problem	Result	Solution
IPW122 IPW123	A file write/read error occurred.	The Mentor Install Program cannot write/read to the specified file.	The file (or directory the file is in) may not have write permissions. Verify that permissions are open on the file/directory and select Retry to continue the installation. Selecting Cancel will cancel the installation.

Troubleshooting Common Problems

Table 4-2 shows some frequently encountered problems, with their possible causes and solutions. For additional help, consult applicable vendor manuals or consult SupportNet.

Table 4-2. Troubleshooting Common Problems

Problem	Platform	Possible Cause	Solution
During Product Removal, Product or Release is not visible in the Mentor Install Program.	Windows	May not be pointing at the appropriate Target location.	Verify the correct Target location has been indicated in the Product Removal Selection window. If not pointing at the correct Target location, exit the Remove Products function. Select Tools > Set Target List and add the appropriate Target location. Select Done . Now, select Products > Remove Products and proceed with product removal.
Unable to click in a checkbox.	Windows	The sensitivity setting for your mouse is set incorrectly for this Java application.	Decrease the sensitivity of your mouse (so the mouse moves slower) in your Control Panel.
Unable to install the Mentor Install Program in a new directory.	Windows	A version of the Mentor Install Program already exists.	Run LPWizard_mib.exe -force . The -force option enables you to install a newer version of the Mentor Install Program to another location or install an older version of the Install program over top of a newer version.

Troubleshooting X

Table 4-3 shows some frequently encountered problems, with their possible causes and solutions. For additional help, consult your X vendor manuals or consult SupportNet.

Table 4-3. Troubleshooting X Display/X Host Setup

Problem	Platform	Possible Cause	Solution
“Can’t open display” or similar message received on attempt to execute first remote client.	Windows	Display machine not permitting access.	Run xhost command. Refer to the xhost(1) manual page for workstations and the vendor’s documentation for terminals and PCs.
	Windows	X display’s name not known to X host.	Add name to host database.
Failed to connect server. XDS error: Socket connection failed to address	Windows	For XtremePCB, the firewall is enabled.	Disable the firewall. Search SupportNet for information on disabling the firewall.
XtremeDesignClient has failed to start	Windows	For XtremePCB, the firewall is enabled.	Disable the firewall. Search SupportNet for information on disabling the firewall.

— A —

Alladin USB Dongle, [10](#)

— C —

colon as path separator, [36](#)

Commands

lmreread, [35](#)

lmsstat, [35](#)

lmutil, [35](#)

communication port number, [24](#)

configuring licensing on UNIX, [8](#)

CP00030, [38](#)

CP0008, [38](#)

Customer Support website, [13](#), [22](#)

— D —

DAEMON, [9](#)

Licensing

DAEMON, [10](#)

Dallas Dongle, [10](#)

determining what kind of licenses you have, [26](#)

DHCP address, [9](#)

disabling the firewall, [40](#)

Dongle

see Hardware keys

dongle, [10](#)

Dongles

Alladin USB Dongle, [10](#)

Dallas Dongle, [10](#)

Rainbow Sentinel Dongle, [10](#)

downloading software on UNIX/Linux

platforms, [32](#)

downloading software on Windows platforms,
[30](#)

dynamic IP address, [9](#)

— E —

Environment Variables

MGLS_LICENSE_FILE, [35](#)

environment variables

LM_LICENSE_FILE, [35](#), [36](#)

MGLS_LICENSE_FILE, [15](#)

Error #CP0006, [39](#)

Ethernet Address, [11](#)

Ethernet card, [6](#), [7](#), [9](#)

Ethernet network interface controller (NIC), [10](#)

— F —

firewall is enabled, [40](#)

FLEXnet

LM_LICENSE_FILE, [36](#)

FLEXnet hardware, [6](#)

Floating licenses, [6](#)

floating licenses

communication port number, [24](#)

Frequently encountered problems, [39](#)

— H —

hardware key, [7](#), [9](#), [10](#)

Hardware keys, [17](#)

HOSTID, [10](#)

— I —

INCREMENT, [9](#), [10](#)

independent servers, [36](#)

installing

other products after initial installation, [32](#)

IPW112, [38](#)

IPW113, [38](#)

IPW114, [38](#)

IPW116, [38](#)

IPW118, [38](#)

IPW122, [39](#)

IPW123, [39](#)

IPX/SPX protocol, [24](#)

— L —

license file

communication port number, [24](#)

license server

IPX/SPX protocol, [24](#)

- UDP, [24](#)
- Licensing
 - Alladin USB Dongle, [10](#)
 - communication port number, [24](#)
 - configuring licensing on UNIX, [8](#)
 - configuring on Windows, [8](#)
 - Dallas Dongle, [10](#)
 - determining what kind of licenses you have, [26](#)
 - DHCP address not supported, [9](#)
 - dongle, [10](#)
 - dynamic IP address not supported, [9](#)
 - Ethernet Address, [11](#)
 - Ethernet card, [7](#), [9](#)
 - Ethernet network interface controller on Windows, [10](#)
 - FLEXnet hardware, [6](#)
 - Floating licenses, [6](#)
 - hardware key, [7](#), [9](#), [10](#)
 - HOSTID on Windows, [10](#)
 - INCREMENT, [10](#)
 - independent servers, [36](#)
 - IPX/SPX protocol, [24](#)
 - LM_LICENSE_FILE, [36](#)
 - lmreread command, [35](#)
 - lmstat command, [35](#)
 - lmutil command, [35](#)
 - MGLS_LICENSE_FILE, [15](#)
 - NIC, [10](#)
 - NIC physical address, [11](#)
 - node-locked licenses, [7](#)
 - Options file, [6](#), [7](#)
 - ordering licenses, [6](#)
 - overview overview, [7](#)
 - Parallel Port Hardware Key, [10](#)
 - Rainbow Sentinel Dongle, [10](#)
 - redundant license server configurations, [36](#)
 - semicolon as path separator, [36](#)
 - SERVER, [10](#)
 - TCP/IP, [9](#)
 - UDP, [24](#)
 - USB Port Hardware Key, [10](#)
 - verifying a workstation can check out a license, [27](#)
 - licensing path separator for independent servers, [36](#)
 - LM_LICENSE_FILE, [36](#)
 - setting, [35](#)
 - lmreread command, [35](#)
 - lmstat command, [35](#)
 - lmutil command, [35](#)
- M —
- MGLS_LICENSE_FILE, [15](#), [35](#)
- Mobile Compute, [7](#)
- N —
- NIC - Ethernet network interface controller, [10](#)
- NIC physical address, [11](#)
- node-locked licenses, [7](#)
- node-locked uncounted, [7](#)
- O —
- Options file, [6](#), [7](#)
- ordering licenses, [6](#)
- P —
- Parallel Port Hardware Key, [10](#)
- path separator for independent servers, [36](#)
- R —
- Rainbow Sentinel Dongle, [10](#)
- redundant license server configurations, [36](#)
- S —
- semicolon as path separator, [36](#)
- SERVER, [9](#), [10](#)
- T —
- TCP/IP, [9](#)
- Troubleshooting Common Errors, [37](#)
- Troubleshooting X, [40](#)
- U —
- UDP, [24](#)
- UNIX
 - configuring licensing on, [8](#)
- USB Port Hardware Key, [10](#)
- V —
- Variables
 - System

Environment

User, [35](#)

verifying a workstation can check out a license,
[27](#)

— W —

Windows

Alladin USB Dongle, [10](#)

communication port number, [24](#)

configuring licensing, [8](#)

Dallas Dongle, [10](#)

determining what kind of licensing you
have, [26](#)

DHCP address not supported, [9](#)

dongle, [10](#)

dynamic IP address not supported, [9](#)

Ethernet Address, [11](#)

Ethernet network interface controller, [10](#)

hardware key, [10](#)

HOSTID, [10](#)

IPX/SPX protocol, [24](#)

MGLS_LICENSE_FILE, [15](#)

NIC physical address, [11](#)

Parallel Port Hardware Key, [10](#)

Rainbow Sentinel Dongle, [10](#)

TCP/IP, [9](#)

USB Port Hardware Key, [10](#)

verifying a workstation can check out a
license, [27](#)

— X —

XtremeDesignClient, [40](#)

XtremePCB, [40](#)

End-User License Agreement

The latest version of the End-User License Agreement is available on-line at:
www.mentor.com/eula

IMPORTANT INFORMATION

USE OF ALL SOFTWARE IS SUBJECT TO LICENSE RESTRICTIONS. CAREFULLY READ THIS LICENSE AGREEMENT BEFORE USING THE PRODUCTS. USE OF SOFTWARE INDICATES CUSTOMER'S COMPLETE AND UNCONDITIONAL ACCEPTANCE OF THE TERMS AND CONDITIONS SET FORTH IN THIS AGREEMENT. ANY ADDITIONAL OR DIFFERENT PURCHASE ORDER TERMS AND CONDITIONS SHALL NOT APPLY.

END-USER LICENSE AGREEMENT ("Agreement")

This is a legal agreement concerning the use of Software (as defined in Section 2) and hardware (collectively "Products") between the company acquiring the Products ("Customer"), and the Mentor Graphics entity that issued the corresponding quotation or, if no quotation was issued, the applicable local Mentor Graphics entity ("Mentor Graphics"). Except for license agreements related to the subject matter of this license agreement which are physically signed by Customer and an authorized representative of Mentor Graphics, this Agreement and the applicable quotation contain the parties' entire understanding relating to the subject matter and supersede all prior or contemporaneous agreements. If Customer does not agree to these terms and conditions, promptly return or, in the case of Software received electronically, certify destruction of Software and all accompanying items within five days after receipt of Software and receive a full refund of any license fee paid.

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5.4. The provisions of this Section 5 shall survive the termination of this Agreement.

6. **SUPPORT SERVICES.** To the extent Customer purchases support services, Mentor Graphics will provide Customer updates and technical support for the Products, at the Customer site(s) for which support is purchased, in accordance with Mentor Graphics' then current End-User Support Terms located at <http://supportnet.mentor.com/about/legal/>.
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 - 12.1. Mentor Graphics will defend or settle, at its option and expense, any action brought against Customer in the United States, Canada, Japan, or member state of the European Union which alleges that any standard, generally supported Product acquired by Customer hereunder infringes a patent or copyright or misappropriates a trade secret in such jurisdiction. Mentor Graphics will pay costs and damages finally awarded against Customer that are attributable to the action. Customer understands and agrees that as conditions to Mentor Graphics' obligations under this section Customer must: (a) notify Mentor Graphics promptly in writing of the action; (b) provide Mentor Graphics all reasonable information and assistance to settle or defend the action; and (c) grant Mentor Graphics sole authority and control of the defense or settlement of the action.

- 12.2. If a claim is made under Subsection 12.1 Mentor Graphics may, at its option and expense, (a) replace or modify the Product so that it becomes noninfringing; (b) procure for Customer the right to continue using the Product; or (c) require the return of the Product and refund to Customer any purchase price or license fee paid, less a reasonable allowance for use.
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14. **EXPORT.** The Products provided hereunder are subject to regulation by local laws and United States government agencies, which prohibit export or diversion of certain products and information about the products to certain countries and certain persons. Customer agrees that it will not export Products in any manner without first obtaining all necessary approval from appropriate local and United States government agencies.
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17. **REVIEW OF LICENSE USAGE.** Customer will monitor the access to and use of Software. With prior written notice and during Customer's normal business hours, Mentor Graphics may engage an internationally recognized accounting firm to review Customer's software monitoring system and records deemed relevant by the internationally recognized accounting firm to confirm Customer's compliance with the terms of this Agreement or U.S. or other local export laws. Such review may include FLEXlm or FLEXnet (or successor product) report log files that Customer shall capture and provide at Mentor Graphics' request. Customer shall make records available in electronic format and shall fully cooperate with data gathering to support the license review. Mentor Graphics shall bear the expense of any such review unless a material non-compliance is revealed. Mentor Graphics shall treat as confidential information all information gained as a result of any request or review and shall only use or disclose such information as required by law or to enforce its rights under this Agreement. The provisions of this Section 17 shall survive the termination of this Agreement.
18. **CONTROLLING LAW, JURISDICTION AND DISPUTE RESOLUTION.** The owners of certain Mentor Graphics intellectual property licensed under this Agreement are located in Ireland and the United States. To promote consistency around the world, disputes shall be resolved as follows: excluding conflict of laws rules, this Agreement shall be governed by and construed under the laws of the State of Oregon, USA, if Customer is located in North or South America, and the laws of Ireland if Customer is located outside of North or South America. All disputes arising out of or in relation to this Agreement shall be submitted to the exclusive jurisdiction of the courts of Portland, Oregon when the laws of Oregon apply, or Dublin, Ireland when the laws of Ireland apply. Notwithstanding the foregoing, all disputes in Asia arising out of or in relation to this Agreement shall be resolved by arbitration in Singapore before a single arbitrator to be appointed by the chairman of the Singapore International Arbitration Centre ("SIAC") to be conducted in the English language, in accordance with the Arbitration Rules of the SIAC in effect at the time of the dispute, which rules are deemed to be incorporated by reference in this section. This section shall not

restrict Mentor Graphics' right to bring an action against Customer in the jurisdiction where Customer's place of business is located. The United Nations Convention on Contracts for the International Sale of Goods does not apply to this Agreement.

19. **SEVERABILITY.** If any provision of this Agreement is held by a court of competent jurisdiction to be void, invalid, unenforceable or illegal, such provision shall be severed from this Agreement and the remaining provisions will remain in full force and effect.
20. **MISCELLANEOUS.** This Agreement contains the parties' entire understanding relating to its subject matter and supersedes all prior or contemporaneous agreements, including but not limited to any purchase order terms and conditions. Some Software may contain code distributed under a third party license agreement that may provide additional rights to Customer. Please see the applicable Software documentation for details. This Agreement may only be modified in writing by authorized representatives of the parties. Waiver of terms or excuse of breach must be in writing and shall not constitute subsequent consent, waiver or excuse.

Rev. 100615, Part No. 246066