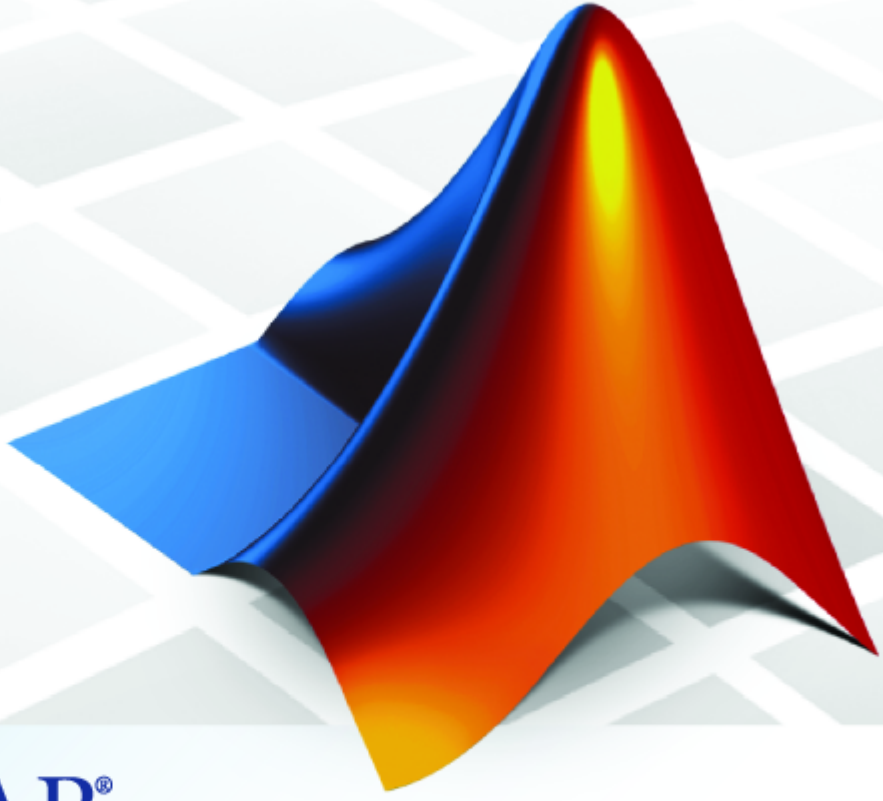
MATLAB® & Simulink® Release 2007a
Installation Guide for Windows



MATLAB®

The MathWorks
Accelerating the pace of engineering and science

How to Contact The MathWorks

`www.mathworks.com`	Web
`comp.soft-sys.matlab`	Newsgroup
`www.mathworks.com/contact_TS.html`	Technical Support

`suggest@mathworks.com`	Product enhancement suggestions
`bugs@mathworks.com`	Bug reports
`doc@mathworks.com`	Documentation error reports
`service@mathworks.com`	Order status, license renewals, passcodes
`info@mathworks.com`	Sales, pricing, and general information

508-647-7000 (Phone)

508-647-7001 (Fax)

The MathWorks, Inc.
3 Apple Hill Drive
Natick, MA 01760-2098

For contact information about worldwide offices, see the MathWorks Web site.

Installation Guide for Windows

© COPYRIGHT 1996–2007 by The MathWorks, Inc.

The software described in this document is furnished under a license agreement. The software may be used or copied only under the terms of the license agreement. No part of this manual may be photocopied or reproduced in any form without prior written consent from The MathWorks, Inc.

FEDERAL ACQUISITION: This provision applies to all acquisitions of the Program and Documentation by, for, or through the federal government of the United States. By accepting delivery of the Program or Documentation, the government hereby agrees that this software or documentation qualifies as commercial computer software or commercial computer software documentation as such terms are used or defined in FAR 12.212, DFARS Part 227.72, and DFARS 252.227-7014. Accordingly, the terms and conditions of this Agreement and only those rights specified in this Agreement, shall pertain to and govern the use, modification, reproduction, release, performance, display, and disclosure of the Program and Documentation by the federal government (or other entity acquiring for or through the federal government) and shall supersede any conflicting contractual terms or conditions. If this License fails to meet the government's needs or is inconsistent in any respect with federal procurement law, the government agrees to return the Program and Documentation, unused, to The MathWorks, Inc.

Trademarks

MATLAB, Simulink, Stateflow, Handle Graphics, Real-Time Workshop, and xPC TargetBox are registered trademarks, and SimBiology, SimEvents, and SimHydraulics are trademarks of The MathWorks, Inc.

Other product or brand names are trademarks or registered trademarks of their respective holders.

Patents

The MathWorks products are protected by one or more U.S. patents. Please see `www.mathworks.com/patents` for more information.

Revision History

December 1996	First printing	New for MATLAB 5.0 (Release 8)
May 1997	Second printing	Revised for MATLAB 5.1 (Release 9)
March 1998	Third printing	Revised for MATLAB 5.2 (Release 10)
January 1999	Fourth printing	Revised for MATLAB 5.3 (Release 11)
November 1999	Fifth printing	Revised for MATLAB 5.3.1 (Release 11.1)
November 2000	Sixth printing	Revised for MATLAB 6.0 (Release 12)
June 2001	Seventh printing	Revised for MATLAB 6.1 (Release 12.1)
July 2002	Eighth printing	Revised for MATLAB 6.5 (Release 13) Renamed as *Installation Guide for Windows*
June 2004	Ninth printing	Revised for MATLAB 7.0 (Release 14)
October 2004	Tenth printing	Revised for MATLAB 7.0.1 (Release 14SP1)
March 2005	Eleventh printing	Revised for MATLAB 7.0.4 (Release 14SP2)
September 2005	Twelfth printing	Revised for MATLAB 7.1 (Release 14SP3)
March 2006	Thirteenth printing	Revised for MATLAB 7.2 (Release 2006a)
September 2006	Fourteenth printing	Revised for MATLAB 7.3 (Release 2006b)
March 2007	Online only	Revised for MATLAB 7.4 (Release 2007a)

Contents

1 Standard Installation Procedure

Overview of Steps in Standard Installation Procedure **1-2**
Step 1: Before You Install **1-3**
Step 2: Start the Installer **1-5**
Step 3: Enter Identification and License Information **1-6**
Step 4: Review the Software Licensing Agreement **1-8**
Step 5: Choose Installation Type **1-9**
Step 6: Specify Installation Folder **1-11**
Step 7: Specify the Products to Install (Custom Only) **1-12**
Step 8: Specify Installation Options (Custom Only) **1-14**
Step 9: Confirm Your Choices **1-15**
Step 10: Read Product Configuration Notes **1-16**
Step 11: Complete the Installation **1-17**
Step 12: After You Install **1-19**

Updating a License **1-22**

Installing Additional Products **1-25**

Obtaining Your Licenses **1-27**
Finding the Host ID on a Windows System **1-28**

System Requirements **1-29**
General Requirements **1-29**
Supported Platforms **1-29**
Graphics **1-30**
Other Requirements and Recommendations **1-30**
Compilers (for MEX-Files) **1-30**

2 Network Installation Procedure

Setting Up a Network Installation **2-2**
Network Configuration Options **2-2**

Overview of Steps in Network Installation Procedure **2-5**
Step 1: Before You Install **2-6**
Step 2: Start the Installer **2-7**
Step 3: Enter Identification and License Information **2-8**
Step 4: Specify Location of License File **2-11**
Step 5: Review the Software Licensing Agreement **2-12**
Step 6: Specify Type of Installation **2-13**
Step 7: Specify Installation Folder **2-15**
Step 8: Specify Products to Install **2-15**
Step 9: Configure the License Manager Service **2-18**
Step 10: Specify Installation Options **2-19**
Step 11: Confirm Your Choices **2-20**
Step 12: Read Product Configuration Notes **2-21**
Step 13: Complete the Installation **2-22**
Step 14: After You Install **2-24**
Setting Up Network Named User Licensing **2-24**
Allowing Access to License Manager Daemons **2-26**

Installing MATLAB on a Client System **2-27**
License File Location **2-28**

3 License Management

Licensing Components **3-2**
License Management Daemons **3-3**
Applications **3-3**
Personal License Passwords (PLPs) and License Files **3-4**
License File Processing on a License Server **3-6**
License File Processing on Client Systems **3-8**
License File Search Path **3-8**

FLEXnet License Management Utilities **3-10**
Using the FLEXnet Command Line Utilities (lmutil.exe) . . **3-10**
Using the FLEXnet Utilities Graphical User Interface (LMTOOLS) **3-12**

Viewing the License Manager Log File **3-15**

Using Time-Outs to Free Idle License Keys **3-16**
Enabling License Time-Outs **3-16**
Experiencing a License Time-Out **3-18**
Reacquiring License Keys After a Time-Out **3-18**

Creating Advanced Configurations **3-19**
Running Multiple Versions of MATLAB **3-19**
Using Products in a Concurrent Installation from a Stand-Alone Installation **3-20**
Running MATLAB with Other FLEXnet Applications **3-22**
Configuring Redundant License Servers **3-22**

Running the Installer Noninteractively **3-26**
Using an Installer Initialization File **3-26**

Removing (Uninstalling) an Installation **3-28**
Using the Uninstaller **3-28**
Running the Uninstaller Noninteractively **3-31**
Removing Installations That Use Dongles **3-32**

4 Troubleshooting

Problems During Installation **4-2**
Installer Does Not Start Automatically **4-2**
Invalid Personal License Password **4-3**
License File Could Not Be Updated **4-3**
Failure Overwriting an Existing Toolbox **4-4**
Product Dependencies **4-4**

Problems After Installation **4-5**

Getting Help with License Manager Problems **4-5**
License Manager Error Messages **4-6**

Index

1

Standard Installation Procedure

This chapter describes how to install the MathWorks Release 2007a (R2007a) family of products on a 32-bit or 64-bit computer running the Microsoft Windows operating system. Use this procedure if you have an Individual license. With an Individual license, you can install MATLAB® on any system to which you have access, such as your office, home, and laboratory systems, or your laptop. For information about setting up the network license options, see Chapter 2, "Network Installation Procedure".

Overview of Steps in Standard Installation Procedure (p. 1-2)	Detailed, step-by-step installation instructions
Updating a License (p. 1-22)	Update your license from a demo license without having to reinstall MathWorks products
Installing Additional Products (p. 1-25)	Add products to an existing installation
Obtaining Your Licenses (p. 1-27)	Getting license information needed for installation, if you don't already have it
System Requirements (p. 1-29)	Minimum system requirements to run MathWorks products

Overview of Steps in Standard Installation Procedure

The following table summarizes the steps required to install MathWorks products on your computer. The sections that follow provide more detailed information about each step. If you encounter any problems during installation, see Chapter 4, "Troubleshooting" for possible solutions.

Instead of performing this procedure and answering the questions posed by each dialog box, you can run the installer noninteractively. In this mode, all the information that you would normally provide using the installer dialog boxes you enter in an installer initialization file. For more information, see "Running the Installer Noninteractively" on page 3-26.

Installation Steps
Step 1: Before you install
Step 2: Start the installer
Step 3: Enter identification and license information
Step 4: Review the software licensing agreement
Step 5: Choose the installation type (Typical or Custom)
Step 6: Specify installation folder
Step 7: Specify the products to install (Custom installations only)
Step 8: Specify installation options (Custom installations only)
Step 9: Confirm your choices
Step 10: Read product configuration notes
Step 11: Complete the installation
Step 12: After you install

Step 1: Before You Install

Before you run the MathWorks Installer program:

- Have your Personal License Password (PLP) handy.

  A PLP is a series of five-digit numbers prefixed with a two-digit code, such as `17-12345-12345-12345-12345-12345`. Your PLP identifies the products that you are licensed to install. When you purchase products, The MathWorks sends you a PLP by e-mail or fax. If you don't have your PLP, you can get it by clicking the **Get my PLP** button on the License Information dialog box, or by contacting The MathWorks. See "Obtaining Your Licenses" on page 1-27 for more information.

- Exit any existing copies of MATLAB you have running.
- Make sure your system satisfies the requirements of the software you intend to install. For more information, see "System Requirements" on page 1-29.
- Get administrator privileges.
- Consider disabling virus checking software and internet security applications on your system for the duration of the installation process. These applications can slow down or hang the installation process.

64-Bit Availability

The MathWorks offers both 32-bit and 64-bit versions of MATLAB. To determine whether your system is a 32-bit or 64-bit system, right-click on the **My Computer** icon on your desktop, select **Properties**, and look at the System information on the **General** tab.

Upgrade Installations

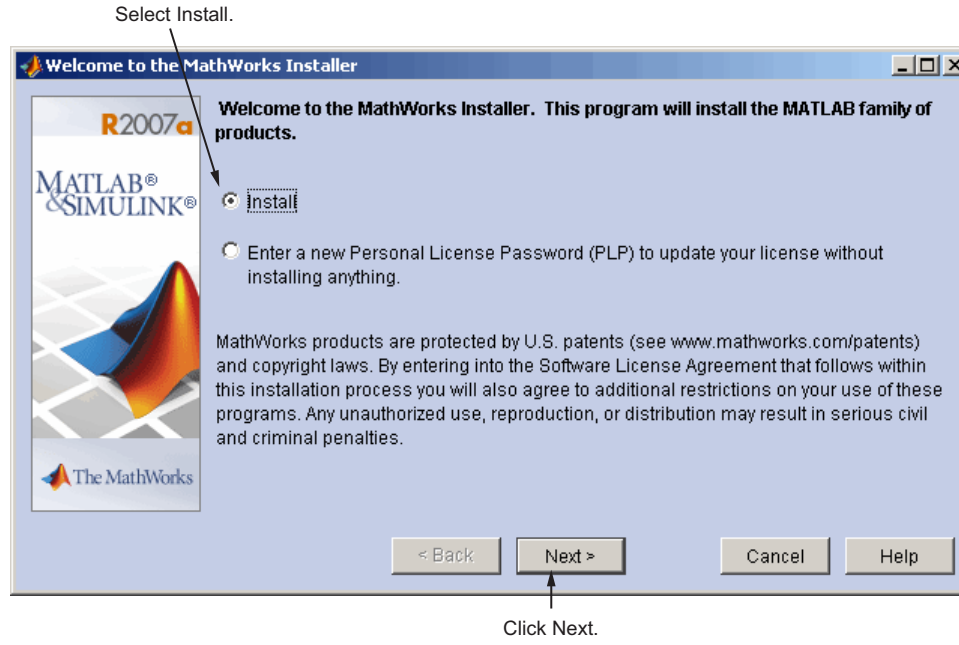
If you are upgrading your MATLAB installation to the latest release, The MathWorks recommends that you install the new version in a new installation folder. You do not need to delete an existing MATLAB installation before installing this release. You can run multiple versions of MATLAB on the same system—see “Running Multiple Versions of MATLAB” on page 3-19. For information about adding an additional toolbox to an existing MATLAB installation, see “Installing Additional Products” on page 1-25.

Note If you choose to overwrite an existing installation from a prior release, the installer deletes all the products in your installation folder and installs only those products included in your current license, to avoid potential product incompatibilities. For example, if your existing installation includes 10 products, but your current PLP only includes 9 of those products, your MATLAB installation will only include the 9 products included in your current PLP.

Step 2: Start the Installer

Insert the DVD into the DVD drive connected to your system or double-click the installer file you downloaded from the MathWorks Web site. The MathWorks Installer starts automatically, displaying the Welcome to the MathWorks Installer dialog box.

Select the **Install** option and click **Next**. (The update license option is useful when you purchase a product after a trial and just want to update your license without reinstalling products—see “Updating a License” on page 1-22.)



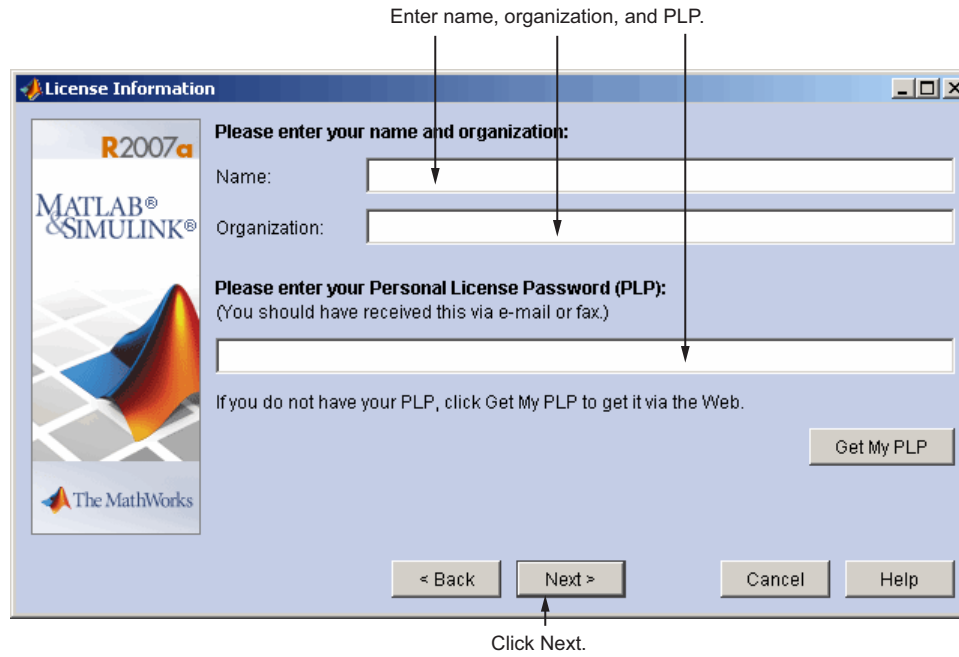
Note During installation, the installer attempts to contact the MathWorks Web site to determine if newer versions of products are available. The installer does not send any personal information from your computer to The MathWorks.

Step 3: Enter Identification and License Information

Enter your name, organization name, and Personal License Password (PLP) in the License Information dialog box and click **Next**. To avoid typing errors, copy the PLP from the license e-mail and paste it into this dialog box. If your e-mail program has caused the PLP to wrap onto two lines, make sure you copy the entire PLP.

Note Do not confuse your PLP with your License Number. A PLP is a series of five-digit numbers prefixed with a two-digit code, such as 17-12345-12345-12345-12345-12345.

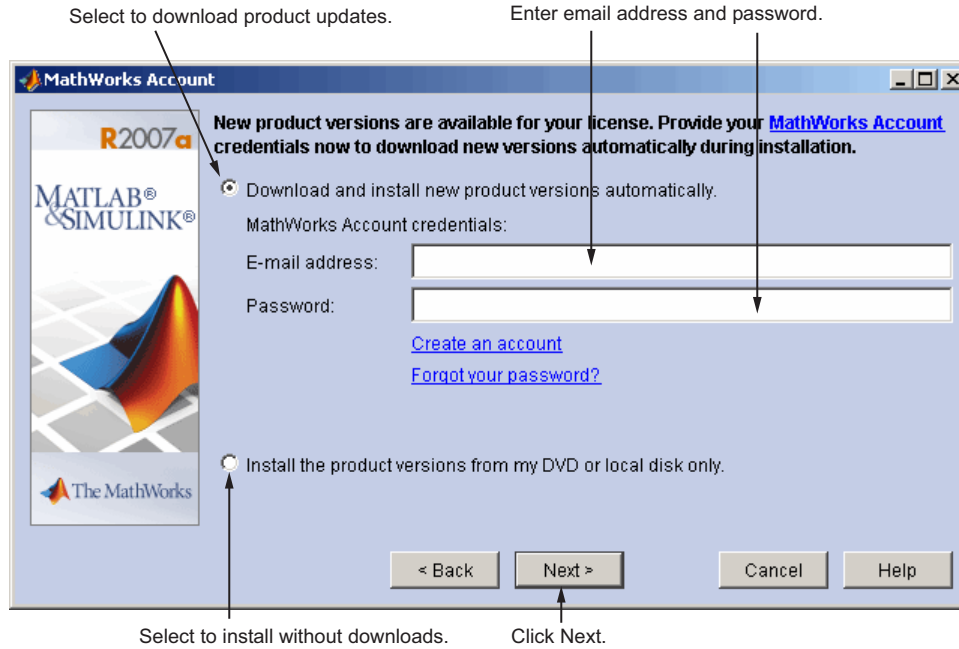
If you do not have your PLP, you can click the **Get my PLP** button to obtain it. To get your PLP this way, you must have an Internet connection and a MathWorks Account. If you do not already have an account, you can create an account at the MathWorks Web site.



Checking for Product Updates

After you enter your PLP, the installer contacts The MathWorks to see if newer versions of the products identified in your PLP are available for download. If it finds that newer versions are available, the installer displays the MathWorks Account dialog box. If you want the installer to download the latest product updates during installation, enter your e-mail address and the password for your MathWorks Account. If you do not have an account and want to learn more about setting one up, click **Create an account**.

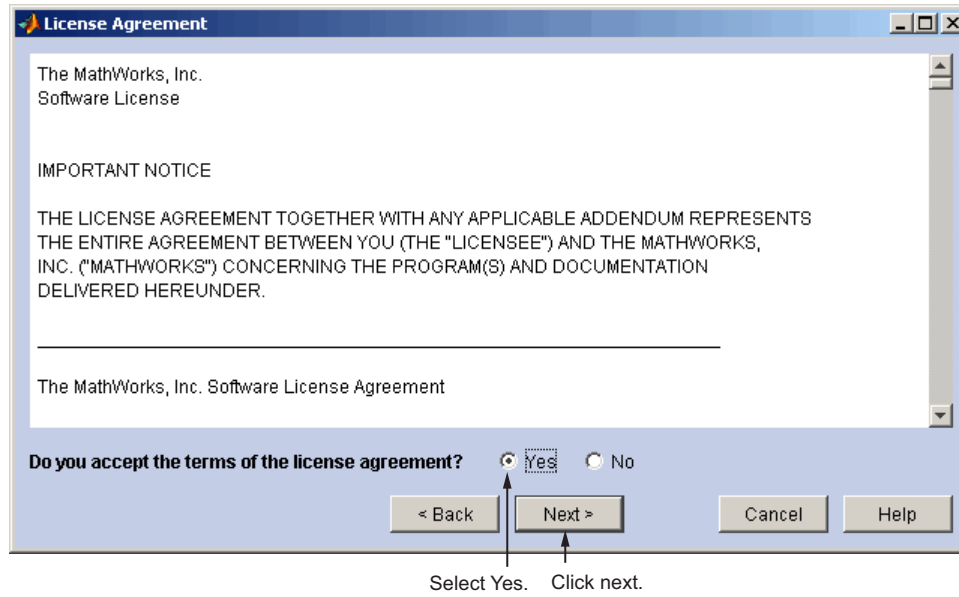
If you do not want to download these new versions and instead install only the products available on the product DVD, select the **Install the product versions from my DVD or local disk only** option.



Step 4: Review the Software Licensing Agreement

Review the software licensing agreement and, if you agree with the terms, select **Yes** and click **Next**.

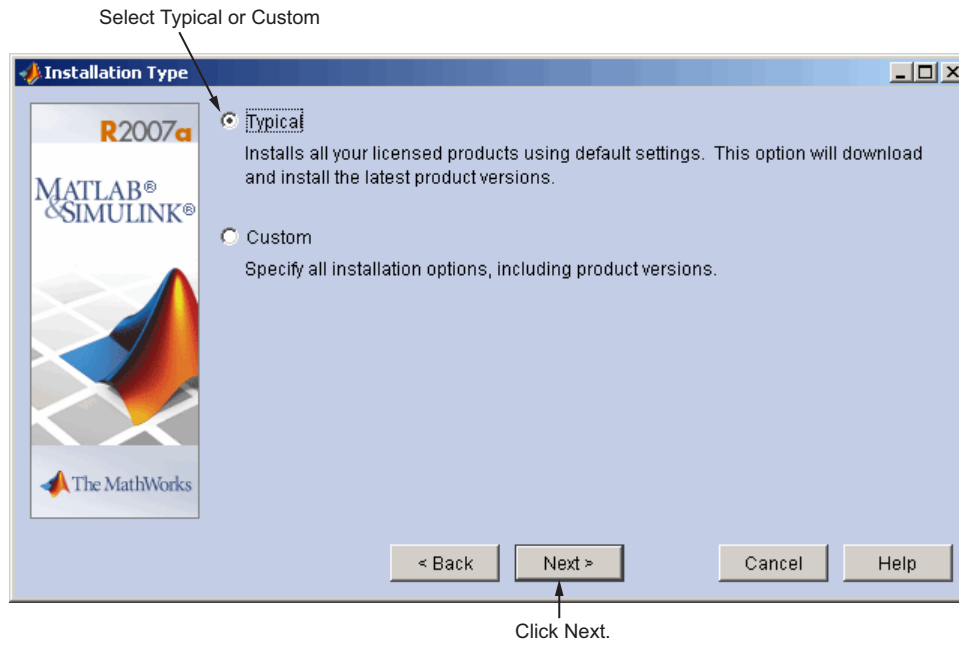
After the installation is complete, you can view or print the license agreement using the file `license.txt` located in the top-level MATLAB installation folder.



Step 5: Choose Installation Type

In the Installation Type dialog box, specify whether you want to perform a Typical or Custom installation and click **Next**.

- **Typical** — Designed to simplify the installation, choose a Typical installation if you:
  - Have an Individual license.
  - Do not need to specify which products you want to install.
  - Do not need to access any installation options, such as setting the access permissions of installed files.
- **Custom** — Choose a Custom installation if you
  - Need to specify which products to install.
  - Need access to installation options.
  - Need to install the license manager.



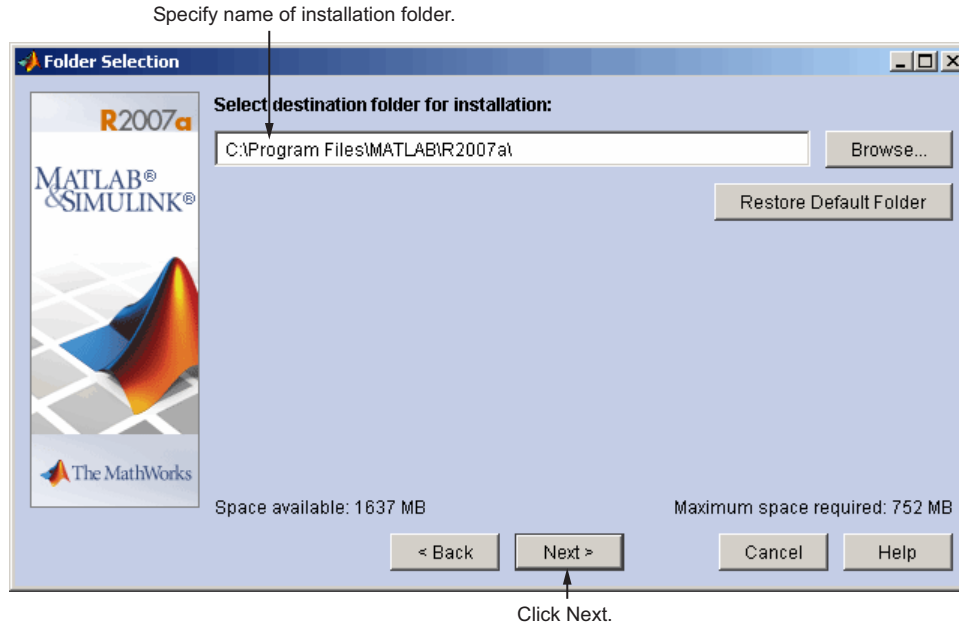
Product Update Information

If your PLP identifies products that are not on the DVD, and you are not currently connected to the Internet or you chose not to download product updates, the installer displays the Product Update Notification dialog box. This dialog box lists the names of the new or updated products that are available at the MathWorks Web site. The installer also includes this information in the Product Configuration Notes dialog box. To download these products, go to the MathWorks Web site after installation is complete.

Click **Next** to continue with the installation.

Step 6: Specify Installation Folder

Specify the name of the folder where you want to install MATLAB in the Folder Selection dialog box. You can accept the default destination folder or specify the name of a different installation folder. If the folder doesn't exist, the installer creates it. Do not specify a folder name that contains an at (@) sign or a dollar ($) sign, and the full path of the installation folder must not include a folder named `private`. If you make a mistake while entering a folder name and want to start over using the default folder name, click **Restore Default Folder**. Click **Next** to continue with the installation.

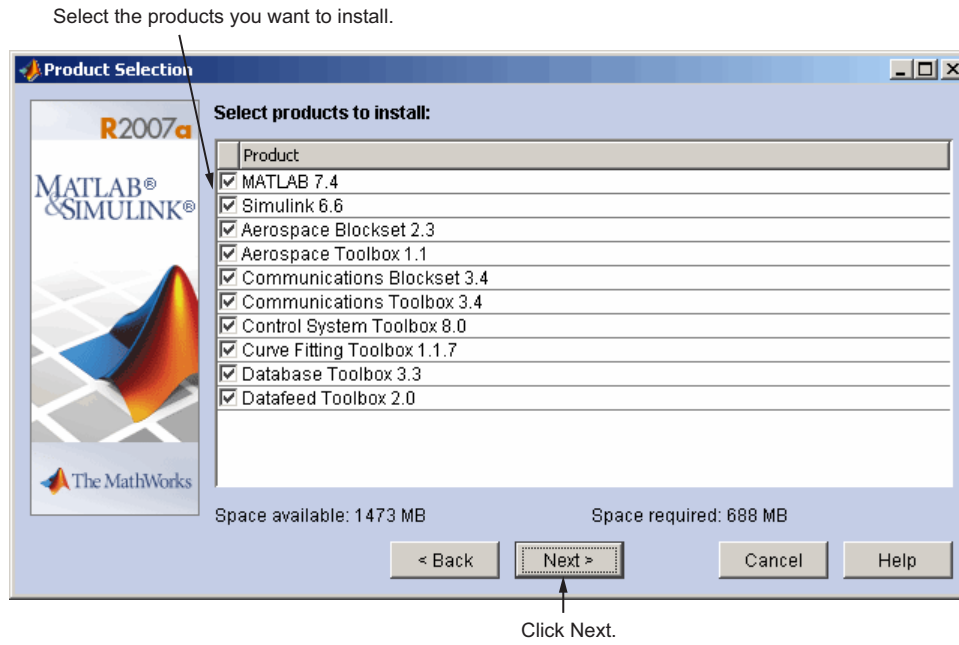


Step 7: Specify the Products to Install (Custom Only)

If you are performing a custom installation, you can specify which products you want to install in the Product Selection dialog box. This dialog box lists all the products you are licensed to install as identified by your PLP. Each product includes the online documentation, in compressed form. PDF documentation is only available at the MathWorks Web site. If you chose to download product updates, see "Product Selection When Updates Are Available" on page 1-13.

In the dialog box, all the products are preselected for installation. If you do not want to install a particular product, clear the check box next to its name. You can always install a product later—see "Installing Additional Products" on page 1-25.

After selecting the products you want to install, click **Next** to continue with the installation. After clicking **Next**, you might receive a message telling you that one or more of the products you selected depend on other products. See "Product Dependencies" on page 4-4 for more information.

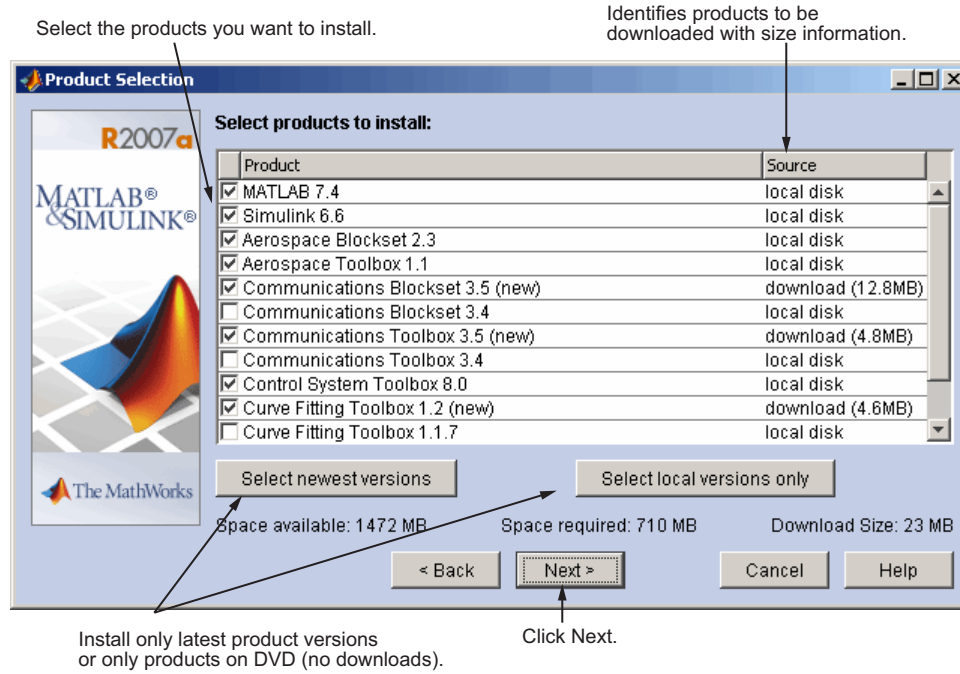


Product Selection When Updates Are Available

If you chose to download product updates, the installer displays both the version that exists on the DVD and the new version of the product in the product list. The updates in the product list are identified with the label **(new)**. The Product Selection dialog box also includes a column, called Source, that identifies whether the product is going to be downloaded during installation and provides information about the size of product download file. The dialog box also provides information about the total size of all the products to be downloaded.

By default, the latest version is preselected for installation, but you can choose which products you want to install. If you do not want to download any product updates, click the **Select local versions only** button; this deselects all the product downloads in the product list. If you want to install only the latest versions of all products, click **Select newest versions**.

After selecting the products you want to install, click **Next** to continue with the installation.

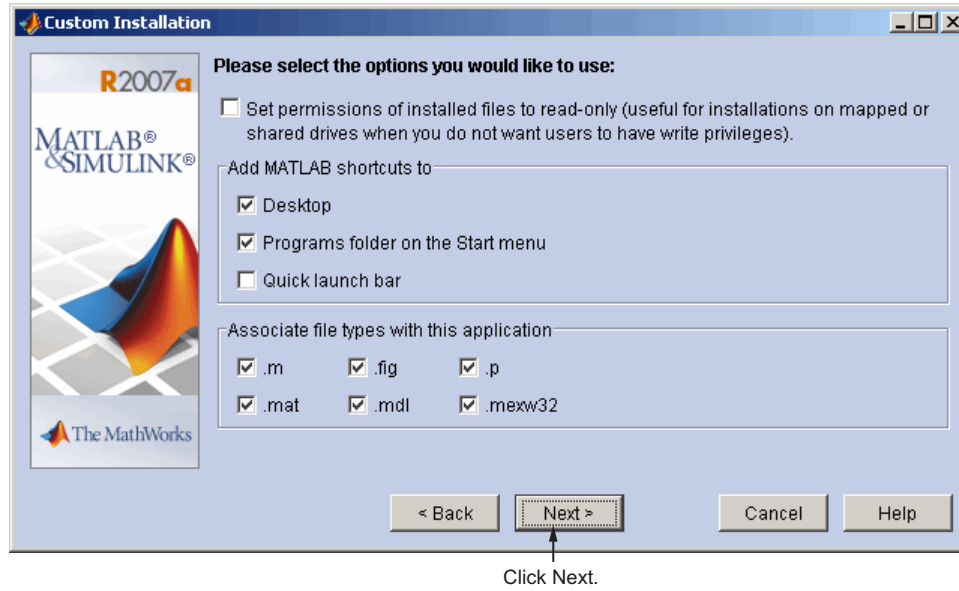


Step 8: Specify Installation Options (Custom Only)

For Custom installations, you can specify several installation options in the Custom Installation dialog box, including

- Setting the permissions of all installed files to read only. This option is more commonly used in network installations— see step 10 in the Network installation procedure.
- Determining whether the MathWorks Installer puts shortcuts for MATLAB in the **Start** menu, the **Quick launch bar**, and on the desktop.
- Specifying which files the Windows operating system associates with MATLAB, based on their file extension. For example, if you associate files with the `.m` file extension with MATLAB, Windows displays `MATLAB M-file` as the type in the Window Explorer window.

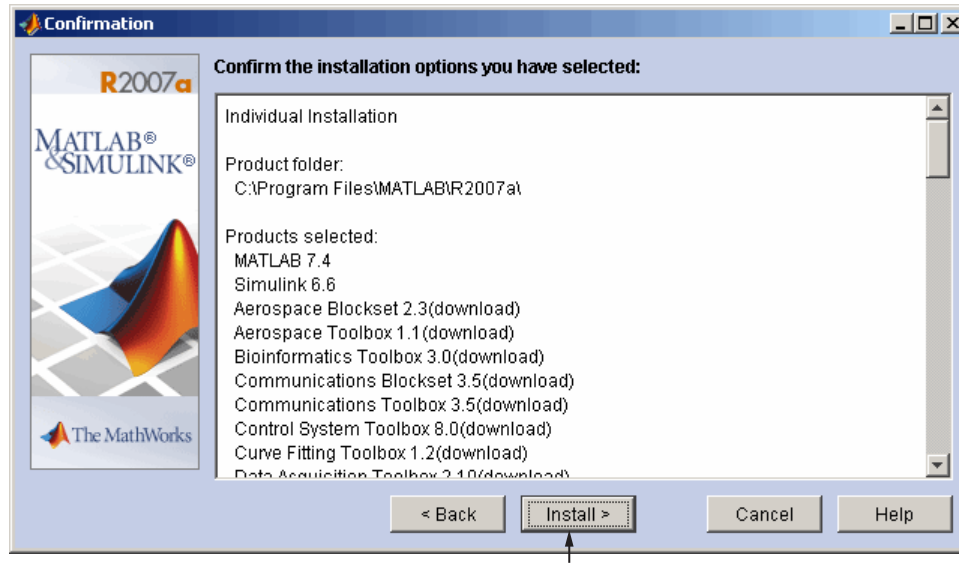
After selecting installation options, click **Next** to proceed with the installation.



Step 9: Confirm Your Choices

Before copying files to your hard disk, the MathWorks Installer displays a summary of the installation. To change a setting, click the **Back** button. The following example shows the confirmation dialog box for an installation that includes downloaded versions.

To proceed with the installation, click **Install**. As it copies files to your hard drive, the installer displays a status dialog box to show the progress of the installation.

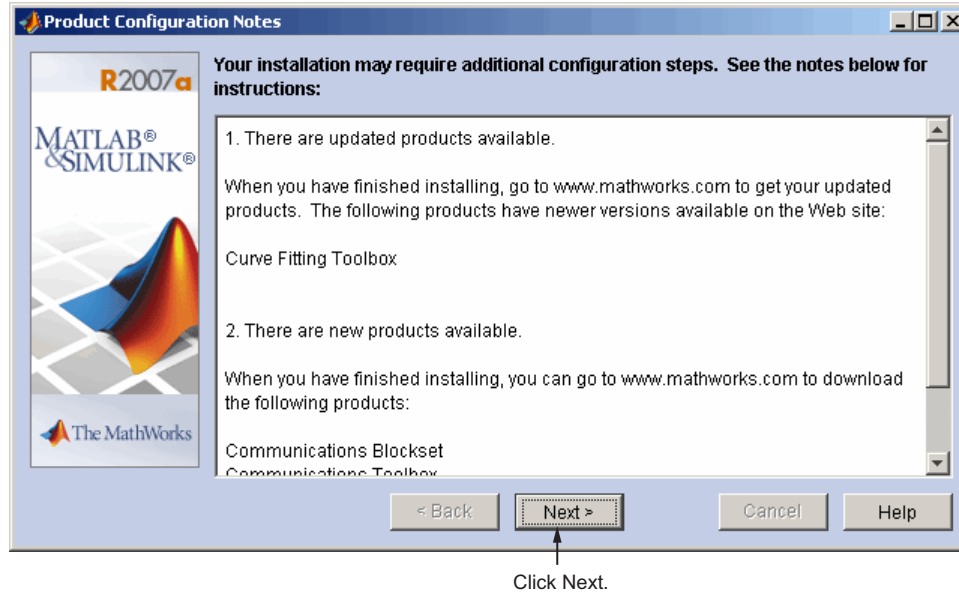


Step 10: Read Product Configuration Notes

Depending upon which products you install, the MathWorks Installer might display a dialog box containing several types of information:

- **Product configuration information** — Certain products require additional configuration. If you installed one of these products, the installer lists the configuration commands in this dialog box. You can copy this command to your system clipboard for use after the installation is completed—see "Configuring Certain Products" on page 1-20.
- **Available product updates** — If your PLP identifies products that are not on the DVD, and you are not currently connected to the Internet or you chose not to download product updates, the installer lists them in this dialog box. After installation is complete, you can go to the MathWorks Web site to download these products.

Click **Next** to proceed with the installation.

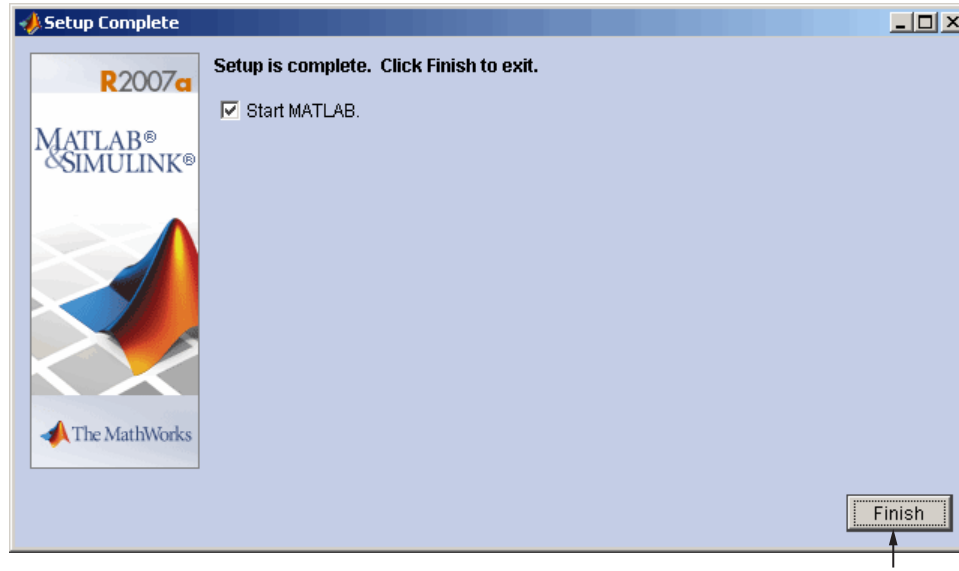


Step 11: Complete the Installation

When the MathWorks Installer finishes, it displays the Setup Complete dialog box. In this dialog box, you can choose to start MATLAB as you exit the installer. If you do not want to start MATLAB, clear this check box. For information about how to start MATLAB after exiting the installer, see “Starting MATLAB” on page 1-19.

If the installation included product downloads, this dialog box contains a second option that lets you delete the archive files that were used for the download operation.

Select your option (or options) and click **Finish** to exit the installer.



MATLAB Top-Level Folder Structure

After a successful installation, your MATLAB installation folder contains a folder for this release. This folder contains the folders listed in the following table. (Your installation might include additional folders, depending on which products you installed.)

Folder	Description
`\bin`	The MATLAB executable and associated files
`\extern`	Tools for building external interfaces to MATLAB
`\help`	Help system
`\ja`	MATLAB internationalization files
`\java`	MATLAB Java JAR files
`\notebook`	MATLAB Notebook
`\sys`	Tools and operating system libraries that MATLAB depends on
`\toolbox`	The MathWorks toolboxes
`\uninstall`	The MATLAB Uninstaller program
`\work`	Default initial current folder

Step 12: After You Install

The following are some optional tasks you can perform after a successful installation:

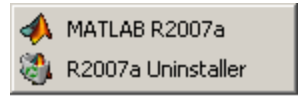
- "Starting MATLAB" on page 1-19
- "Setting Your Initial Current Folder" on page 1-20
- "Setting Up MATLAB Environment Options" on page 1-20
- "Configuring Certain Products" on page 1-20
- "Finding Information About MATLAB" on page 1-21

Starting MATLAB

To start MATLAB, you can use any of these methods.

- Double-click the MATLAB icon (called a *shortcut*) that the MathWorks Installer creates on your desktop.

- Click the **Start** button, select **Programs**, and move the cursor over the MATLAB entry. Select the version of MATLAB you want to start and, on the application menu that appears, click the MATLAB entry.



- Using Windows Explorer, navigate to your MATLAB installation folder. Expand the MATLAB folder, expand the R2007a folder, and then double-click the shortcut to the MATLAB executable, `MATLAB R2007a`.

Setting Your Initial Current Folder

By default, when you start MATLAB using the shortcut the installer puts on your desktop, the initial current folder is the *matlabroot*\work folder, where *matlabroot* represents the name of your installation folder. You can, however, use any folder as your MATLAB initial current folder. To specify another folder as your initial current folder, right-click the MATLAB shortcut that the installer creates on your desktop and select the **Properties** option. Specify the name of the folder in the **Start in** field.

Setting Up MATLAB Environment Options

To include welcome messages, default definitions, or any MATLAB expressions that you want executed every time MATLAB is invoked, create a file named `startup.m` in the *matlab*\toolbox\local folder. Every time you start MATLAB, it executes the commands in the `startup.m` file. A sample startup file, named `startupsav.m`, that you can rename and use as a starting point is included in this folder.

Configuring Certain Products

Certain products require additional configuration. The following table lists some of these products and the commands used to configure them. If you installed any of these products, see the documentation for that product for detailed configuration information.

Product	Command
MATLAB Notebook	`notebook -setup`
Real-Time Windows Target	`rtwintgt -install`

Finding Information About MATLAB

After successfully installing MATLAB, you are probably eager to get started using it. The following list provides pointers to sources of information and other features you may find helpful in getting started with MATLAB.

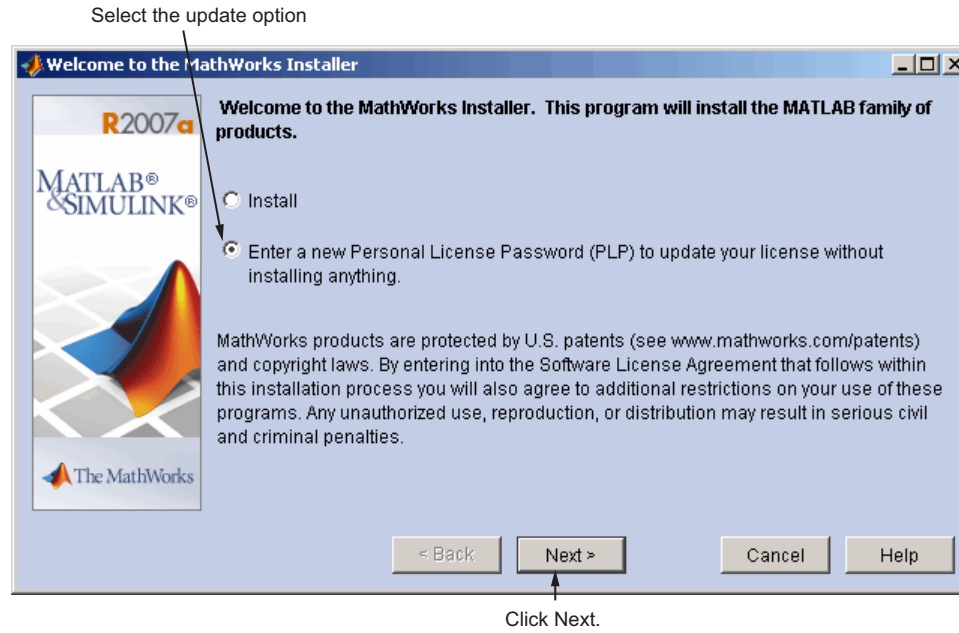
Task	Description
To get an overview of MATLAB and its capabilities	Read the MATLAB Getting Started documentation.
To find out what's new in this release	Read the Release Notes documentation.
To start a product or access product demonstration programs	Use the **Start** button in the MATLAB desktop.
To get information about specific MATLAB features	Choose the **Help** item in the MATLAB menu bar to view reference and tutorial information in hyperlinked HTML form.
To get help with specific questions you can't find answered in the documentation	Go to the MathWorks Web site (`www.mathworks.com`), click **Support**, and use the Technical Support solution search area to find more information.

Updating a License

When you extend the expiration date of a demo license or convert a demo license to a standard license, The MathWorks sends you a new PLP. You must use the MathWorks Installer to update your existing installation with this new license. The installer lets you update your license without having to reinstall any products.

This section briefly outlines the procedure to update a license. For more detailed information about any step, refer to the corresponding step in "Overview of Steps in Standard Installation Procedure" on page 1-2.

1. Before you install
   - Have your new PLP handy.
   - Exit any existing copies of MATLAB you might have running.
2. Insert the MathWorks DVD into the DVD drive connected to your system or double-click the installer file you downloaded from the MathWorks Web site. The MathWorks Installer starts automatically, displaying the Welcome to the MathWorks Installer dialog box. To update a license, select the **Enter a new Personal License Password...** option and click **Next**.



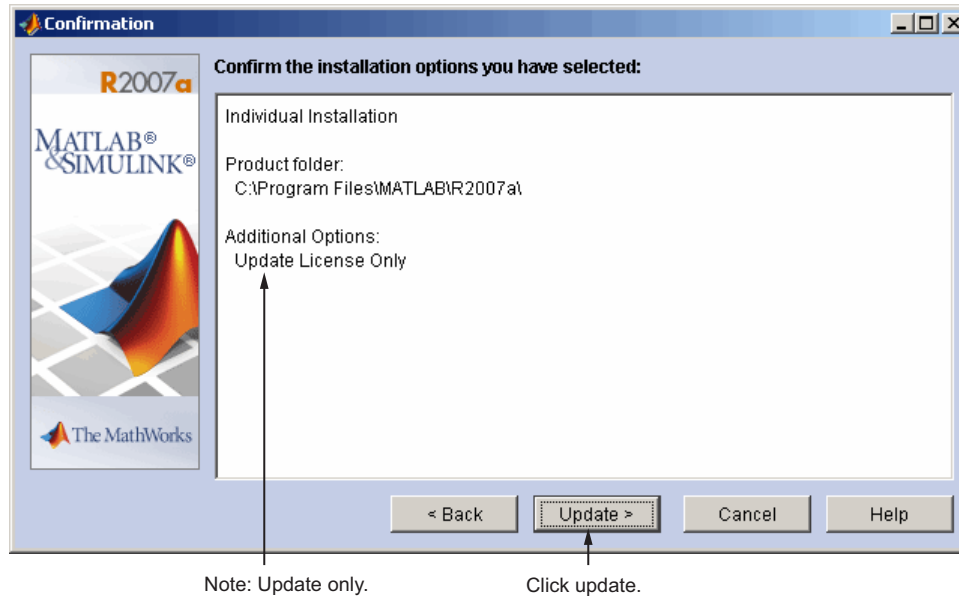
3 Enter your new Personal License Password (PLP) in the License Information dialog box and click **Next**. You cannot edit the **Name** and **Company** fields when updating a license.

4 Review the software licensing agreement and, if you agree with the terms, select **Yes** and click **Next**.

5 Specify the location of your existing MATLAB installation in the Folder Selection dialog box and click **Next.**

6 Verify your choices in the Confirmation dialog box. Note that the **Additional Options** section specifies **Update License Only**. To proceed with the license update, click **Update**.

Note When you click **Update**, the installer updates your license, but does not install any products.



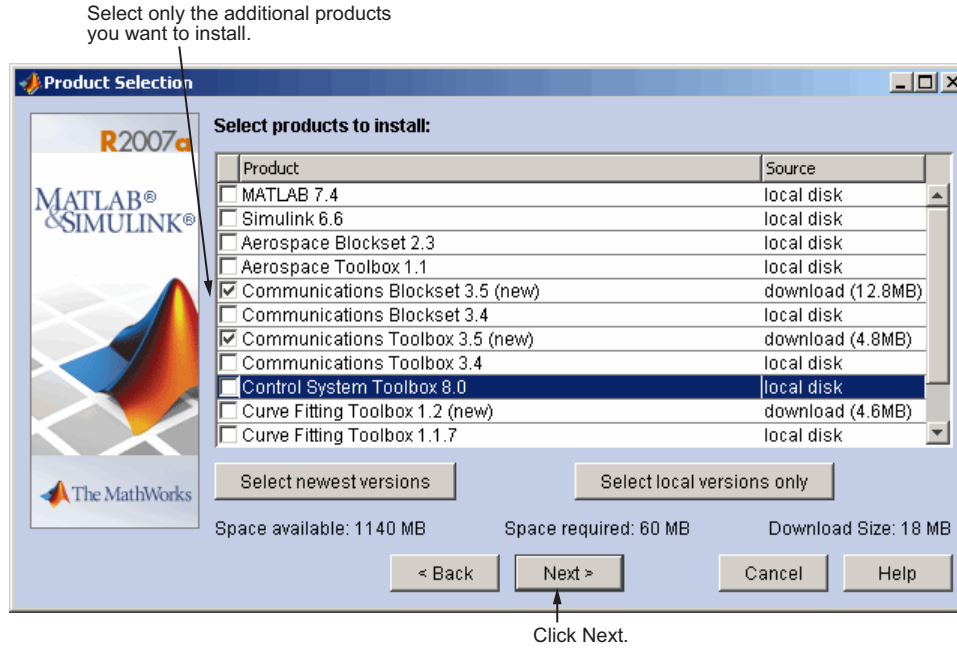
7 When the installer finishes, it displays the Setup Complete dialog box. In this dialog box, you can choose to start MATLAB as you exit the installer. Click **Finish** to exit the installer.

Installing Additional Products

When you order additional products, The MathWorks sends you a new Personal License Password (PLP). You must use this new PLP when you install your new products.

This section briefly outlines the procedure to install an additional product. For more detailed information about any step, see “Overview of Steps in Standard Installation Procedure” on page 1-2.

1. Before you install:
   - Have your new PLP handy.
   - Exit any existing copies of MATLAB you might have running.
2. Insert the MathWorks DVD into your DVD drive or double-click the `installer.exe` file you downloaded from the MathWorks Web site. The installer starts automatically, displaying the Welcome to the MathWorks Installer dialog box. Select the **Install** option and click **Next**.
3. Enter your new Personal License Password (PLP) in the License Information dialog box and click **Next**.
4. Review the software licensing agreement and, if you agree with the terms, select **Yes** and click **Next**.
5. Select the **Custom** option on the Installation Type dialog box. If you want to install only your new products, you must choose the **Custom** option because it enables you to select which products you want to install. Click **Next** to continue.
6. Specify the location of your existing MATLAB installation in the Folder Selection dialog box. By default, the MathWorks Installer lists all the products you are licensed to install and preselects them for installation. To only install the new products, clear the check boxes next to the names of the products that you do not want to install.



7 If you are not installing MATLAB, you can ignore the Custom Installation dialog box. Click **Next** to proceed.

8 Verify your choices in the **Confirmation** dialog box. To proceed with the installation, click **Install**.

As it copies files to your hard drive, the installer displays a status dialog box to show the progress of the installation.

9 Depending on which products you installed, the installer might display the Product Configuration Notes dialog box. Copy any configuration commands for later use. See “Configuring Certain Products” on page 1-20 for more information.

10 Click **Finish** in the Setup Complete dialog box to exit the installer.

Obtaining Your Licenses

If you need to

- Obtain your licenses
- Transfer a license to another system
- Combine licenses
- Move toolboxes from one license to another
- Change a license registration
- Update your contact information

go to the MathWorks Web site at `www.mathworks.com` and click **Support**. On the support page, under **Installation and Licensing,** click the **Get My Passcode (PLP)/License File** link. To get other kinds of licensing help, click **Customer Service Options** under **My Account**.

You can also obtain your PLP by contacting The MathWorks via telephone at 508-647-7000. Customers outside North America should contact their local office. To find the phone number of one of our international offices, go to the MathWorks Web site at `www.mathworks.com` and click **Contact Us** at the top of the page.

Depending on your request, please have ready, or include in your e-mail or fax, these items:

- Your License Number.

  If you have not previously installed MATLAB at your site, you can find your License Number on the upper-right corner of the packing slip.

  If you have a previous version of MATLAB running at your site, you can obtain your License Number by entering the `license` command or the `ver` command at the MATLAB command prompt.
- Your e-mail address.
- The host ID of the server on which you intend to run the license manager (network installations only). To learn how to get a host ID, see “Finding the Host ID on a Windows System” on page 1-28.

Finding the Host ID on a Windows System

For network installations, you need to supply the host ID of the server on which you intend to run the license manager. On PCs running the Windows operating system, you can use the Ethernet address (Physical Address) or the IP address as the host ID. If you use the Ethernet address remove the dashes (-).

To get this information, open a command prompt window and run the `ipconfig` command.

```
ipconfig /all
```

Note Be sure to get the host ID of the system on which you plan to run the license manager, not the host ID of a client workstation.

System Requirements

Note For the most up-to-date information about system requirements, go to the MathWorks Web site (`www.mathworks.com`) and click **Support**. On the Support page, click **System Requirements**.

General Requirements

- DVD drive (for installation)
- Some license types require a license server running FLEXnet 10.8.2.1, which is provided by the MathWorks Installer.
- TCP/IP is required on all platforms when using a license server.
- An available USB port, for licenses that require a hardware lock.

Supported Platforms

32-bit Windows

Operating System	Processors	Disk Space	RAM
Windows XP (Service Pack 1 or 2) Windows 2000 (Service Pack 3 or 4) Windows Server 2003 Windows Vista	Pentium III Pentium IV Pentium Xeon Pentium M AMD Athlon AMD Athlon MP AMD Athlon XP AMD Athlon 64 AMD Opteron Intel Core Duo Intel Core 2 Duo	500 MB (MATLAB only)	512 MB (1024 recommended)

64-bit Windows

Operating System	Processors	Disk Space	RAM
Windows XP x64 Windows 2003 Server x64 Windows Vista	Intel EM64T processors and Intel Core 2 Duo AMD64 processors	500 MB (MATLAB only)	512 MB (1024 recommended)

Disk space requirements vary depending on size of partition. The MATLAB installer will inform you of the hard disk space requirement for your particular partition. Installation size is determined by the installer and can vary for NTFS and FAT formats.

Graphics

- 16-, 24-, or 32-bit OpenGL capable graphics adapter
- DirectX 9.0c (August 2005) or later

Other Requirements and Recommendations

- Microsoft Windows supported graphics accelerator card, printer, and sound card
- Microsoft Word 2002 or 2003 is required to run MATLAB Notebook
- Microsoft Excel 2002 or 2003 is required to run MATLAB® Builder for Excel® and Excel® Link.

Compilers (for MEX-Files)

For the most up-to-date information about compilers, go to the MathWorks Web site (`www.mathworks.com`) and click **Support**.

2

Network Installation Procedure

This chapter describes how to install the MathWorks Release 2007a (R2007a) family of products on a 32-bit or 64-bit computer running the Microsoft Windows operating system. Use this procedure for license options that can be installed in a network configuration. For information about performing stand-alone installations of MathWorks products for individual licenses, see Chapter 1, “Standard Installation Procedure”.

Setting Up a Network Installation (p. 2-2)	Different types of configurations you can set up with network licenses
Overview of Steps in Network Installation Procedure (p. 2-5)	Detailed, step-by-step installation instructions
Installing MATLAB on a Client System (p. 2-27)	Differences between installing MATLAB on a client system and on a server

Setting Up a Network Installation

For network installations, The MathWorks uses a license manager program, FLEXnet Publisher Licensing Module, a product of Macrovision Corporation. To set up a network installation, you must install the license manager as well as the MathWorks products you purchased. You use the MathWorks Installer to perform both installations.

Before you install MATLAB in a network installation, you must decide what type of configuration you want to set up. This decision determines how many installations you need to perform. This section describes these options.

Using the MathWorks Installer, you can set up a network installation with little knowledge of license management software. However, if you want to integrate the MathWorks products into an already established license management scheme, you may need a more thorough understanding of product licensing. For an overview of how The MathWorks uses FLEXnet, see Chapter 3, “License Management”.

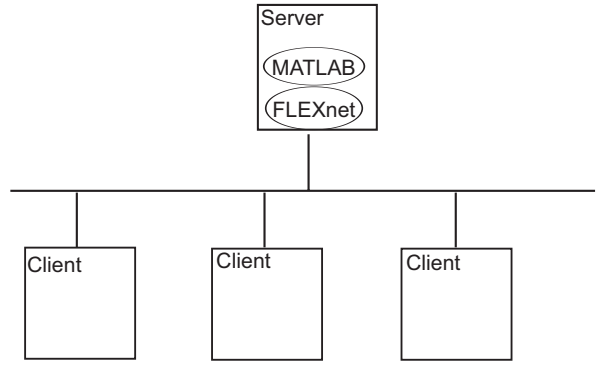
Network Configuration Options

You can set up a MATLAB network installation in two configurations:

- “Remote Client Access Configuration” on page 2-3
- “Local Client Access Configuration” on page 2-4

Remote Client Access Configuration

In a *remote client access* configuration, you install MATLAB and the license manager on a central file server. (These instructions refer to this system as your *license server*.) Users on client systems access MATLAB over the network. This figure shows one possible configuration. The license manager (FLEXnet) and MATLAB can be installed on the same server or on separate servers.

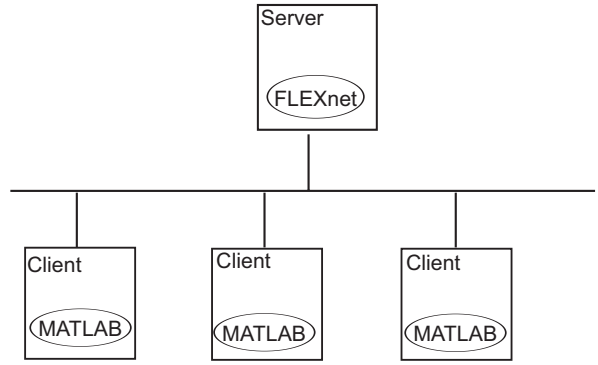


If your license server is a PC, follow the instructions in “Overview of Steps in Network Installation Procedure” on page 2-5. If your license server is a UNIX system, follow the instructions in the installation documentation for UNIX systems. A UNIX license server can serve PC clients and a PC server can serve UNIX clients.

In remote client access configurations, it can be helpful to give clients a script that sets up a shortcut to the network copy of MATLAB and specifies a default startup folder for MATLAB. See “Licensing Components” on page 3-2 for more setup suggestions.

Local Client Access Configuration

In a *local client access* configuration, you install the license manager on a server and you install MATLAB on each client system. When users on client systems start MATLAB, it contacts the license manager over the network to check out a license key. This figure shows one possible configuration.



You use the same basic network installation procedure to install MathWorks products on a client system. However, there are some differences. See “Installing MATLAB on a Client System” on page 2-27 for complete information.

Overview of Steps in Network Installation Procedure

The following table summarizes the steps in the network installation procedure. The sections that follow provide more detailed information about each step. If you encounter any trouble during installation, see Chapter 4, "Troubleshooting" for answers to some common installation problems.

You use this procedure for installations in both remote access and local access configurations. For either configuration, you must first install the license manager on your license server. During this installation, the MathWorks Installer performs some necessary processing of your License File. You will use this processed License File for all subsequent client installations. See "Installing MATLAB on a Client System" on page 2-27 for more information. For remote access configurations, you must also install MATLAB on your license server. You can install MATLAB and the license manager at the same time.

Instead of performing this procedure, and answering the questions posed by each dialog box, you can run the installer noninteractively. In this mode, all the information you would normally provide using the installer dialog boxes you enter in an initialization file. For more information, see "Running the Installer Noninteractively" on page 3-26.

Network Installation Procedure
Step 1: Before you install
Step 2: Start the installer
Step 3: Enter identification and license information
Step 4: Specify location of License File
Step 5: Review the software licensing agreement
Step 6: Specify type of installation (must choose Custom)
Step 7: Specify installation folder
Step 8: Specify the products you want to install
Step 9: Configure the license manager as a service
Step 10: Specify installation options

Network Installation Procedure
Step 11: Confirm your choices
Step 12: Read product configuration notes
Step 13: Complete the installation
Step 14: After you install

Step 1: Before You Install

Before you run the installation program:

- Have your Personal License Password (PLP) and your License File handy. A PLP identifies the products that you are licensed to install; a License File identifies the products you can run. The licensing information you receive varies depending on the type of license option you choose.

  A PLP is a series of five-digit numbers prefixed with a two-digit code, such as `17-12345-12345-12345-12345-12345`. Depending on your license option, you might receive a PLP for stand-alone installations as well as a PLP for network installations.

  A License File is a specially formatted text file that contains an `INCREMENT` line for each licensed product. See “Licensing Components” on page 3-2 for an example.

  If you don’t have your licensing information, see “Obtaining Your Licenses” on page 1-27.
- Exit any existing copies of MATLAB you may have running.
- Shut down the license manager, if it is running. (See“FLEXnet License Management Utilities” on page 3-10 for more information.)
- Make sure your system satisfies the requirements of the software you intend to install. For more information, see “System Requirements” on page 1-29.
- Get administrator privileges for the system on which you plan to install MATLAB.

- Consider disabling virus checking software and internet security applications on your system for the duration of the installation process. These applications can slow down or hang the installation process.

64-Bit Availability

The MathWorks offers both 32-bit and 64-bit versions of MATLAB. To determine whether your system is a 32-bit or 64-bit system, right-click on the **My Computer** icon on your desktop, select **Properties**, and look at the System information on the **General** tab.

Upgrade Installations

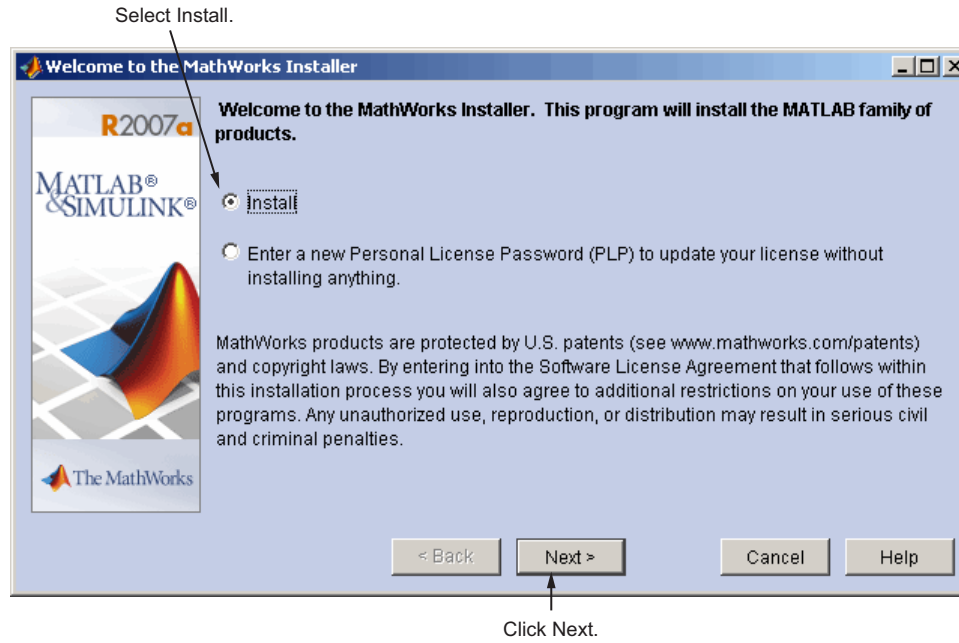
If you are upgrading your MATLAB installation to the latest release, The MathWorks recommends that you install the new version in a new installation folder. You do not need to delete an existing MATLAB installation before installing this release. You can run multiple versions of MATLAB on the same system — see "Running Multiple Versions of MATLAB" on page 3-19. For information about adding an additional toolbox to an existing MATLAB installation, see "Installing Additional Products" on page 1-25.

Note If you choose to overwrite an existing installation from a prior release, the installer deletes all the products in your installation folder and installs only those products included in your current license, to avoid potential product incompatibilities. For example, if your existing installation includes 10 products, but your current PLP only includes 9 of those products, your MATLAB installation will only include the 9 products included in your current PLP.

Step 2: Start the Installer

Insert the MathWorks product DVD into the DVD drive or double-click the installer file you downloaded from the MathWorks Web site. The MathWorks installer starts automatically, displaying the Welcome to the MathWorks Installer dialog box.

Select the **Install** option and click **Next**. (The **Update license** option is useful when you purchase a product after a trial and just want to update your license without reinstalling products. See "Updating a License" on page 1-22.)



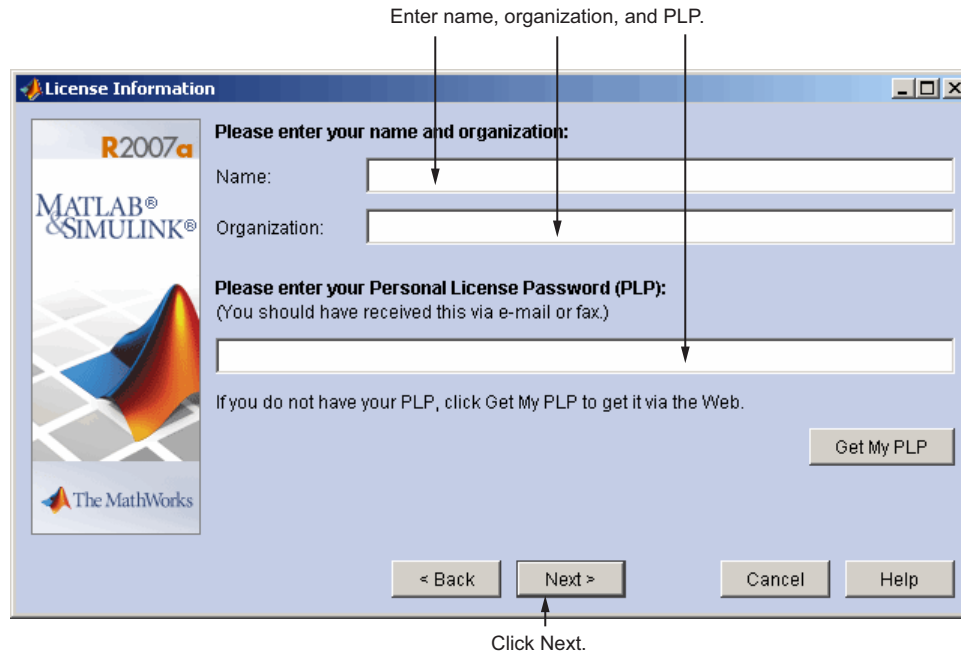
Note During installation, the installer attempts to contact the MathWorks Web site to determine if newer versions of products are available. The installer does not send any personal information from your computer to The MathWorks.

Step 3: Enter Identification and License Information

Enter your name, organization name, and Personal License Password (PLP) in the License Information dialog box and click **Next**. Your PLP identifies the products you are licensed to install. To avoid typing errors, copy the PLP from the license e-mail and paste it into this dialog box. Take care to copy the entire PLP if your e-mail program has caused it to wrap onto two lines.

Note Do not confuse your PLP with your License Number. A PLP is a series of five-digit numbers prefixed with a two-digit code, such as 17-12345-12345-12345-12345-12345.

If you do not have your PLP, you can click the **Get my PLP** button to obtain it. To get your PLP this way, you must have an Internet connection and a MathWorks account. If you do not already have an account, you can create an account at the MathWorks Web site.

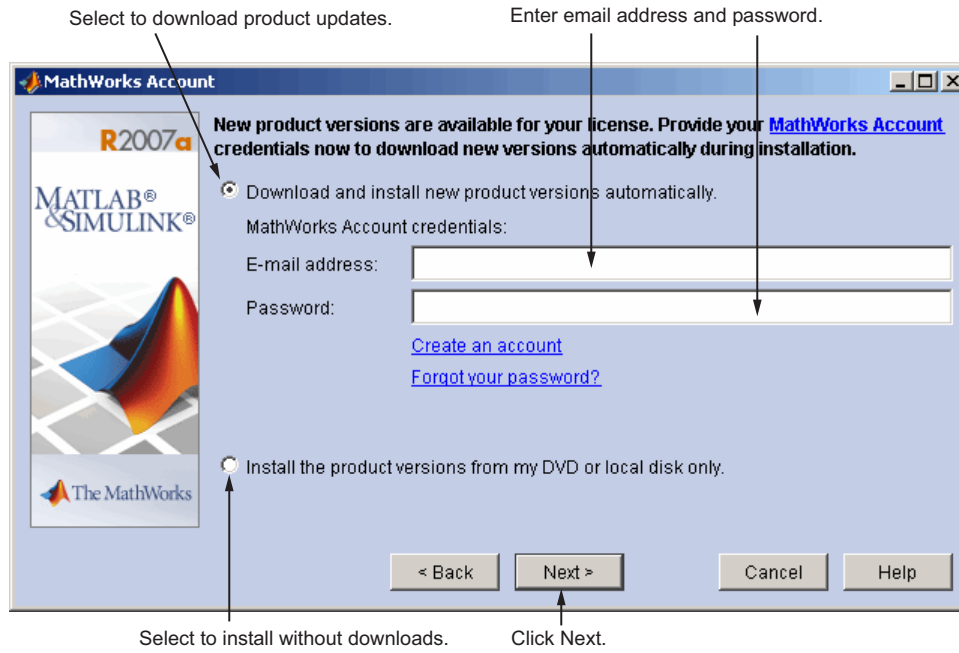


Checking for Product Updates

After you enter your PLP, the installer checks if newer versions of the products identified in your PLP are available for download at The MathWorks Web site. If it finds newer versions, the installer displays the MathWorks Account dialog box. If you want the installer to download the latest product updates during installation, enter your e-mail address and password for your

MathWorks Account. If you do not have an account and want to learn more about setting one up, click **Create an account**.

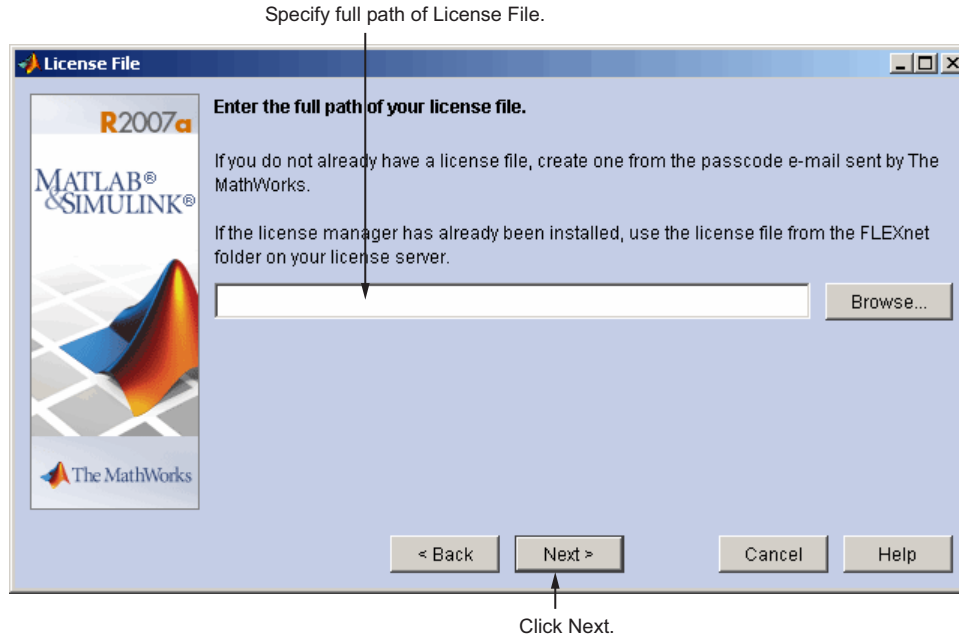
If you do not want to download these new versions and instead install only the products available on the product DVD, select the **Install the product versions from my DVD or local disk only** option.



Step 4: Specify Location of License File

In the License File dialog box, specify the full path of your License File and click **Next**. Your License File identifies the products you are licensed to run.

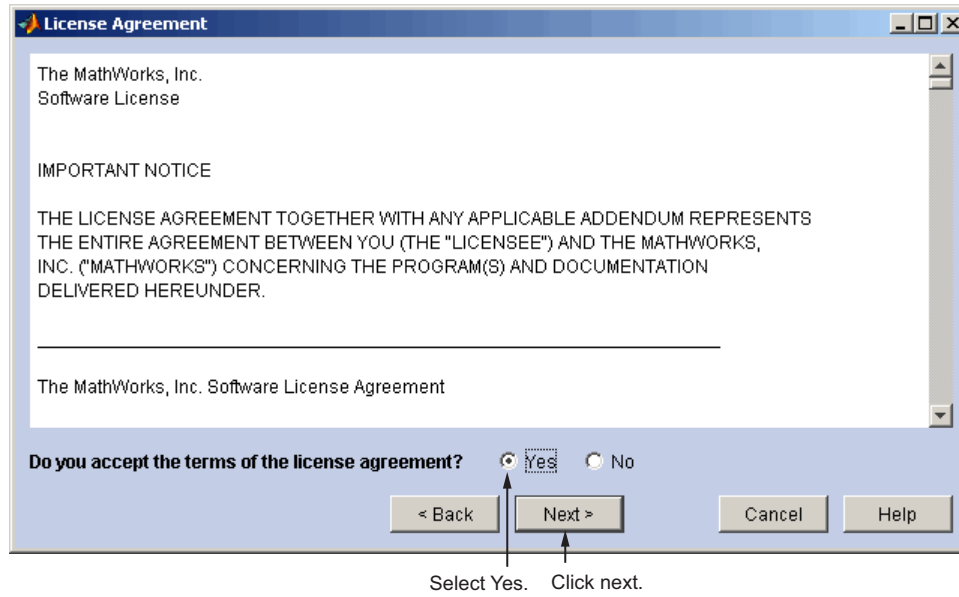
If you are installing the license manager, use the License File you created from the license passcode e-mail. See “Personal License Passwords (PLPs) and License Files” on page 3-4 for more information. If you are installing MATLAB on a client system, see “Installing MATLAB on a Client System” on page 2-27 for instructions.



Step 5: Review the Software Licensing Agreement

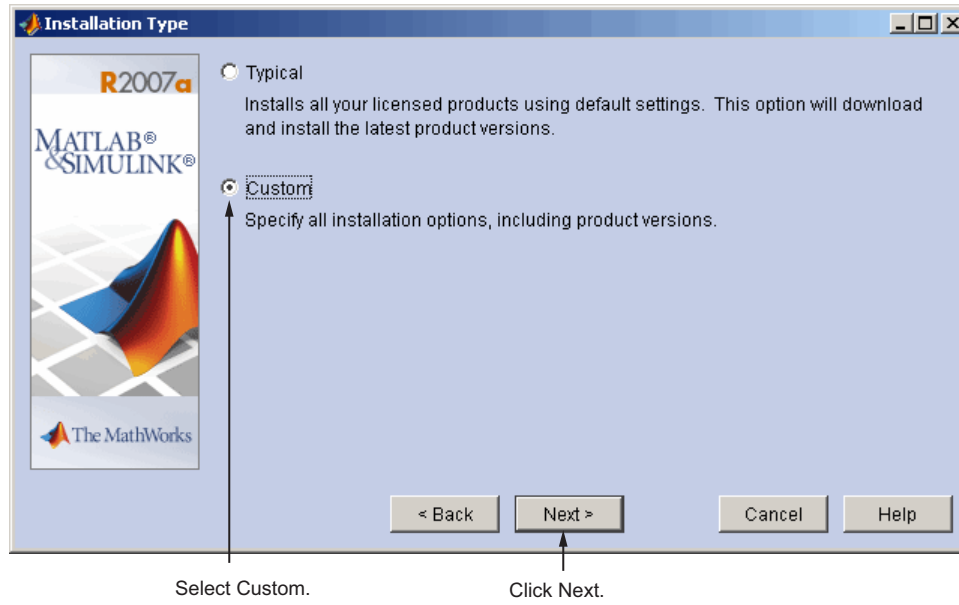
Review the software licensing agreement and, if you agree with the terms, select **Yes** and click **Next**.

After the installation is complete, you can view or print the license agreement using the file `license.txt` located in the top-level MATLAB installation folder.



Step 6: Specify Type of Installation

For network installations that include the license manager, you must choose the **Custom** option. (For information about network installations that do not include the license manager, see “Installing MATLAB on a Client System” on page 2-27.)

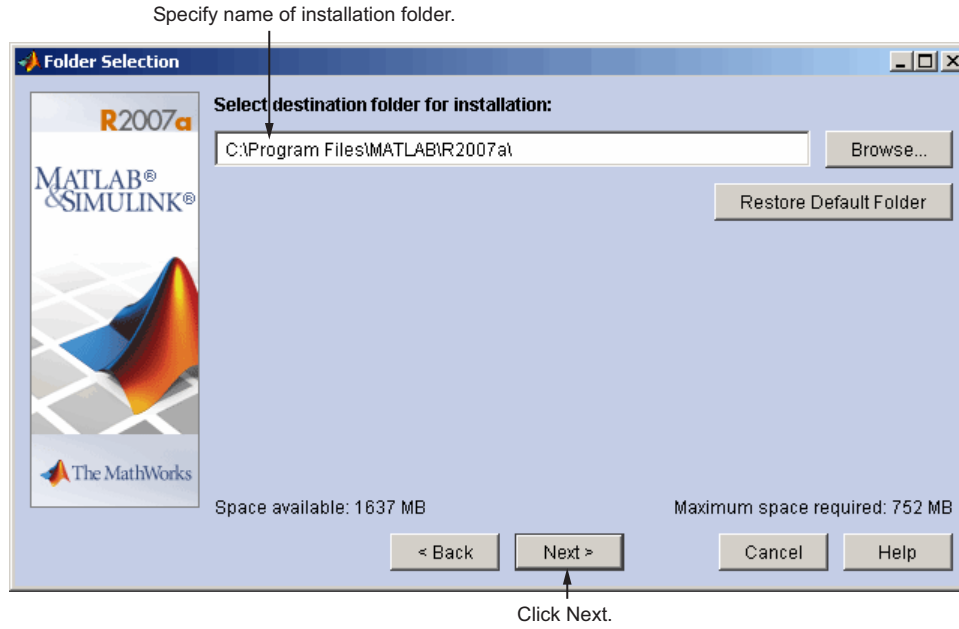


Product Update Information

If your PLP identifies products that are not on the DVD, and you are not currently connected to the Internet or you chose not to download product updates, the installer displays the Product Update Notification dialog box. This dialog box lists the names of the new or updated products that are available at the MathWorks Web site. The installer also includes this information in the Product Configuration Notes dialog box. To download these products, go to the MathWorks Web site after installation is complete. Click **Next** to continue with the installation.

Step 7: Specify Installation Folder

Specify the name of the folder where you want to install MATLAB in the Folder Selection dialog box. You can accept the default destination folder or specify the name of a different installation folder. If the folder doesn't exist, the installer creates it. Do not specify a folder name that contains an at (@) sign or a dollar ($) sign, and the full path of the installation folder must not include a folder named `private`. If you make a mistake while entering a folder name and want to start over using the default folder name, click **Restore Default Folder**. Click **Next** to continue with the installation.



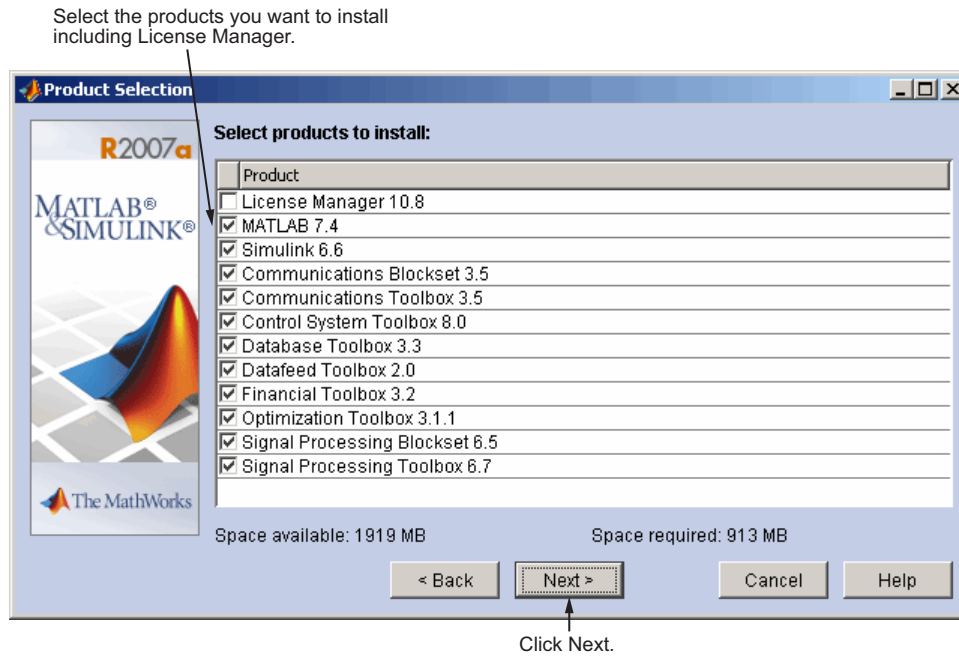
Step 8: Specify Products to Install

You can specify which products you want to install in the Product Selection dialog box. This dialog box lists all the products you are licensed to install as identified by your PLP. Each product includes the online documentation, in compressed form. PDF documentation is only available at the MathWorks Web site. If you chose to download product updates, see "Product Selection When Updates Are Available" on page 1-13.

In the dialog box, all the products are preselected for installation. If you are setting up a remote access configuration, leave all the products in the list selected for installation. In this configuration, you install MATLAB and the other products on your license server. You must also select the license manager in the product list by clicking the check box next to its name. By default, the license manager is not preselected for installation.

If you are setting up a local access configuration, clear all the product check boxes in the product list and select only the license manager. In this configuration, you only run the license manager on your license server; users on client systems run local copies of MATLAB.

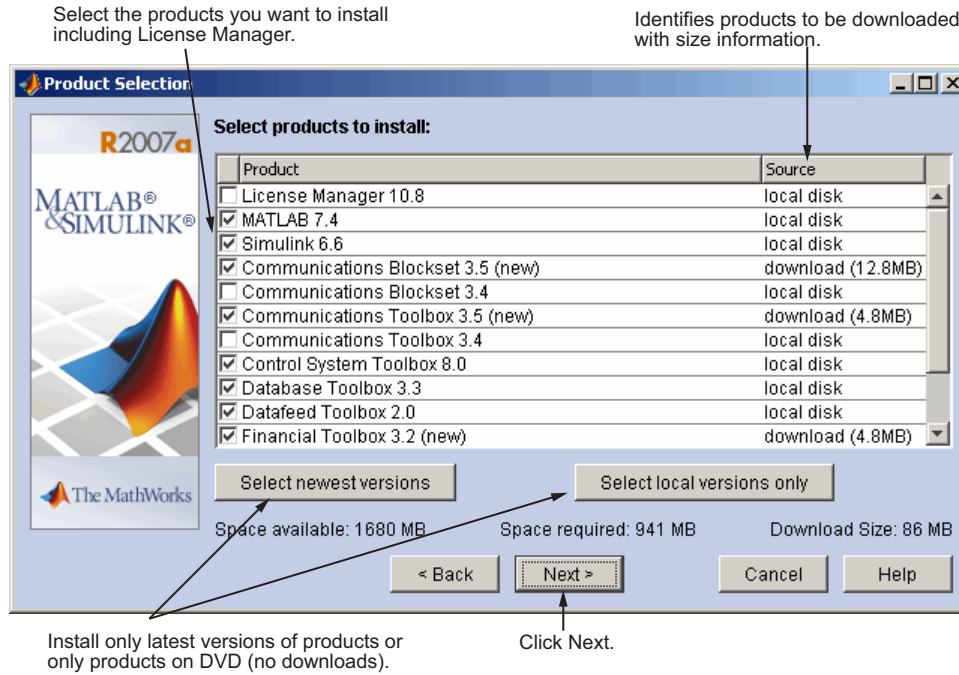
After making your selections, click **Next** to proceed with the installation. After clicking **Next**, you might receive a message telling you that one or more of the products you selected depend on other products. See “Product Dependencies” on page 4-4 for more information.



Product Selection When Updates Are Available

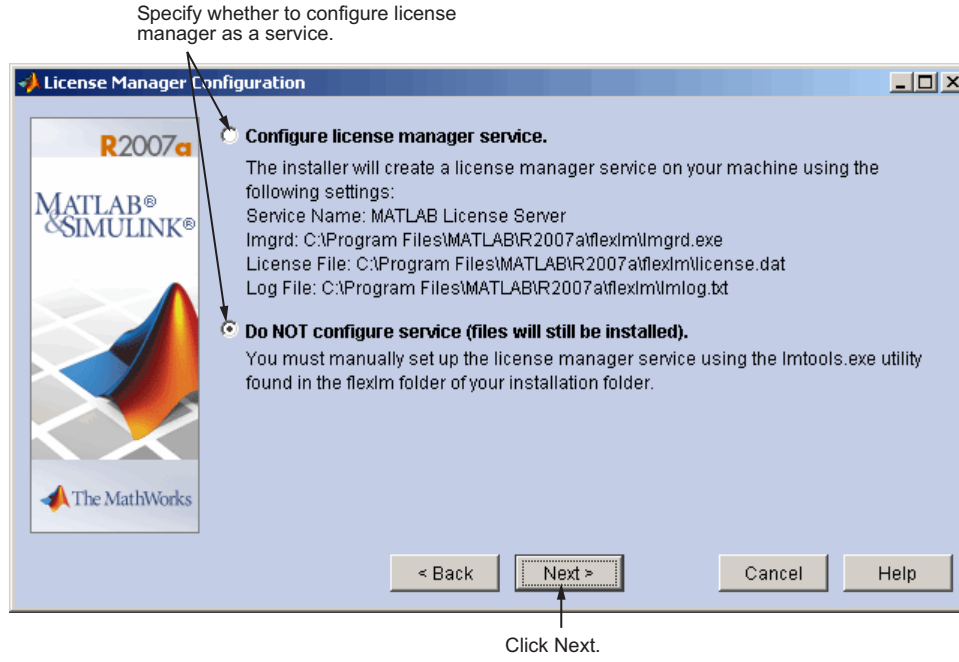
If you chose to download product updates, the installer displays both the version that exists on the DVD and the new version of the product in the product list. The updates in the product list are identified with the label **(new)**. The Product Selection dialog box also includes a column, called Source, that identifies whether the product is going to be downloaded during installation and provides information about the size of the product download file. The dialog box also provides information about the total size of all the products to be downloaded.

By default, the latest version is preselected for installation, but you can choose which products you want to install. If you do not want to download any product updates, click the **Select local versions only** button; this deselects all the product downloads in the product list. If you want to install only the latest versions of all products, click **Select newest versions**. After selecting the products you want to install, click **Next** to continue with the installation.



Step 9: Configure the License Manager Service

Installing the license manager service provides automatic startup at system boot time and centralizes administration of the license manager through the Windows **Services** control panel. If you choose not to install the license manager service, you can do it later. See “FLEXnet License Management Utilities” on page 3-10 for more information.

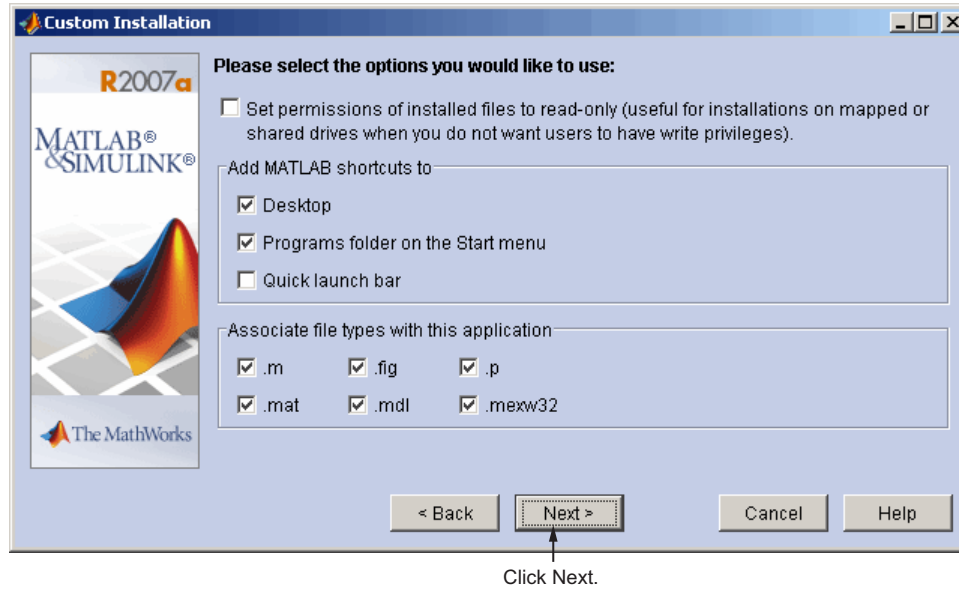


Step 10: Specify Installation Options

For Custom installations, you can specify several installation options in the Custom Installation dialog box, including

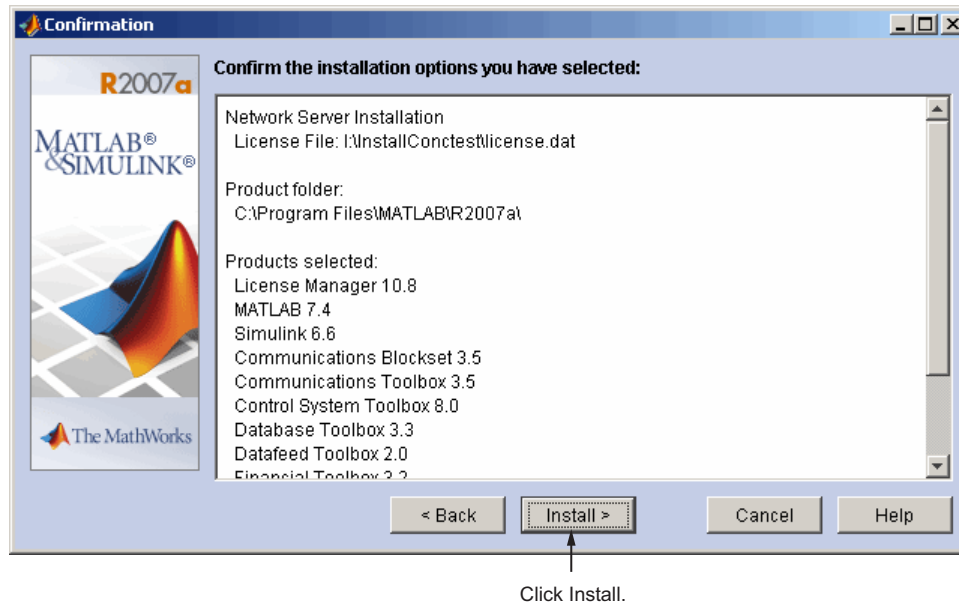
- Setting the permissions of all installed files to read only. This option can be useful for remote access configurations where users access the MATLAB files on your license server.
- Determining whether the MathWorks Installer puts shortcuts for MATLAB in the **Start** menu, the **Quick launch bar**, and on the desktop.
- Specifying which files the Windows operating system associates with MATLAB based on their file extension. For example, if you associate files with the `.m` file extension with MATLAB, Windows displays `MATLAB M-file` as the type in the Windows Explorer window.

After selecting installation options, click **Next** to proceed with the installation.



Step 11: Confirm Your Choices

Before it begins copying files to your hard disk, the MathWorks Installer displays a summary of your installation choices. To change a setting, click the **Back** button. To proceed with the installation, click **Install**.

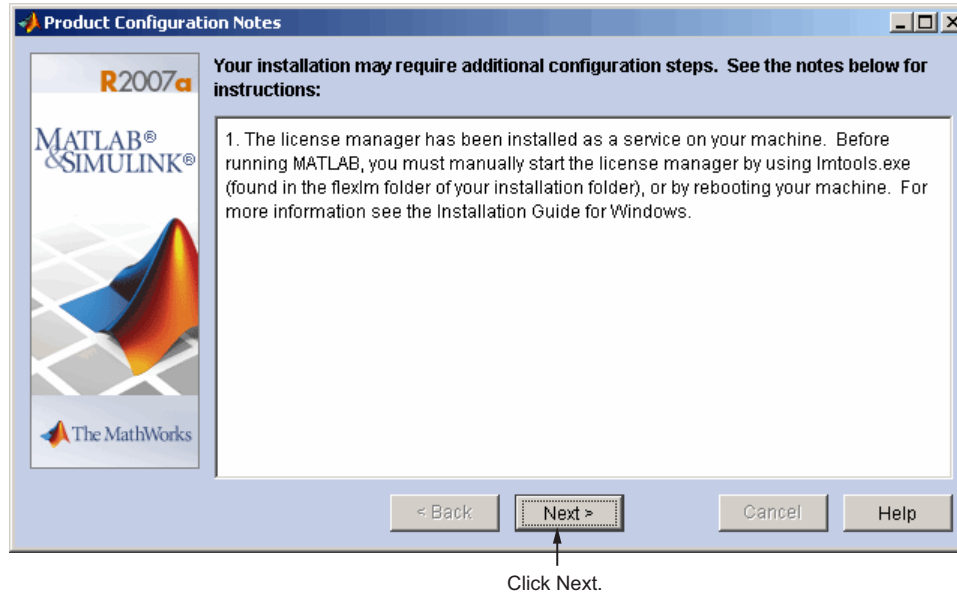


As it copies files to your hard drive, the installer displays a status dialog box to show the progress of the installation.

Step 12: Read Product Configuration Notes

Depending upon which products you install, the MathWorks Installer might display a dialog box containing several types of information:

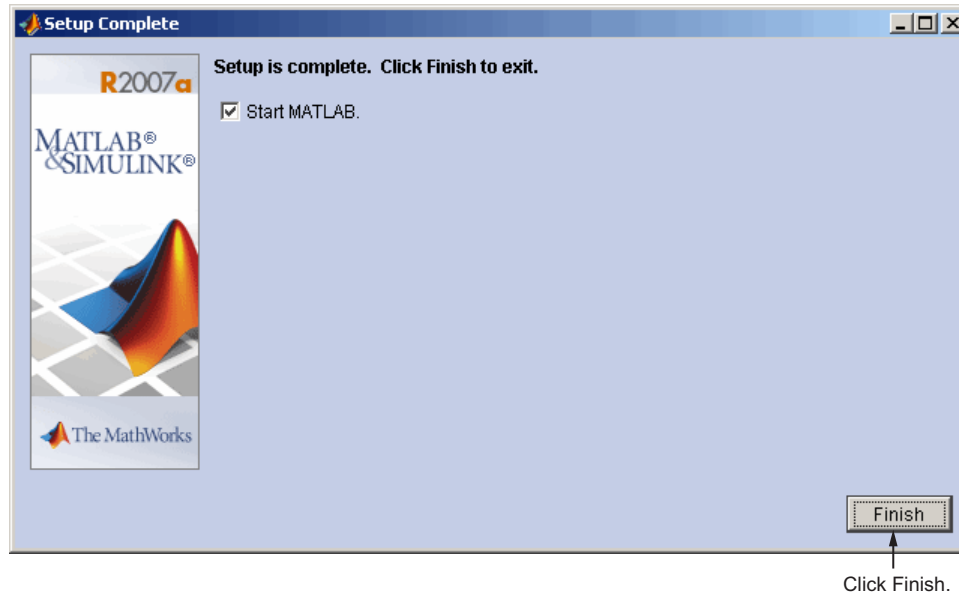
- **Product configuration information** — Certain products require additional configuration. If you installed one of these products, the installer lists the configuration commands in this dialog box. You can copy this command to your system clipboard for use after the installation is completed. See "Configuring Certain Products" on page 1-20 for more information.
- **Available product updates** — If your PLP identifies products that are not on the DVD, and you are not currently connected to the Internet or you chose not to download product updates, the installer lists them in this dialog box. After installation is complete, you must go to the MathWorks Web site to download them.



Step 13: Complete the Installation

When the MathWorks Installer finishes, it displays the Setup Complete dialog box. In this dialog box, you can choose to start MATLAB as you exit the installer. If you do not want to start MATLAB, clear this check box. Click **Finish** to exit the installer.

If you installed the license manager as a service, The MathWorks recommends that you restart your computer now. The license manager must be running to start MATLAB. As a service, the license manager gets started automatically at system boot time. To learn more, see "FLEXnet License Management Utilities" on page 3-10.



MATLAB Top-Level Folder Structure

After a successful installation, your MATLAB installation folder contains a folder for this release. This folder contains the folders listed in the following table. (Your installation might include additional folders, depending on which products you installed.)

Folder	Description
`\bin`	The MATLAB executable and associated files
`\extern`	Tools for building external interfaces to MATLAB
`\flexlm`	The FLEXnet license manager and license management utilities (network installations only)
`\help`	Help system
`\ja`	MATLAB internationalization files
`\java`	MATLAB Java JAR files
`\notebook`	MATLAB Notebook
`\sys`	Tools and operating system libraries that MATLAB depends on
`\toolbox`	The MathWorks toolboxes
`\uninstall`	The MATLAB Uninstaller program
`\work`	Default initial current folder

Step 14: After You Install

For information about how to start MATLAB after exiting the installer and other post-installation tasks, see “Starting MATLAB” on page 1-19. In addition, network installations might require the following post-installation tasks:

- “Setting Up Network Named User Licensing” on page 2-24
- “Allowing Access to License Manager Daemons” on page 2-26

Setting Up Network Named User Licensing

Note This is only required for Network Named User licenses. Concurrent licenses do not require this task.

If you have a Network Named User license, after you install your products, you might need to

- Check that the FLEXnet options file includes all licensed users — see “Checking the FLEXnet Options File” on page 2-25.
- Check that the `DAEMON` line in your License File includes the options file location, `options=`*`matlabroot`*`\flexlm\MLM.opt`, where *`matlabroot`* is your MATLAB installation folder.

Note Do not confuse your License File with your FLEXnet options file. The License File contains the encrypted passcodes for each product you are licensed to install and run. The FLEXnet options file is a text file that contains license manager option statements, such as `INCLUDE`, `EXCLUDE`, and `GROUP` statements.

Checking the FLEXnet Options File

The installer creates the FLEXnet options file, *matlabroot*\flexlm\MLM.opt, as part of the installation process. In this options file, the installer puts an INCLUDE line for each product you are licensed to install and run. By default, the installer puts the username of the person who performed the installation in these INCLUDE lines. If you performed your own installation, the options file might not need editing. However, if you performed the installation for another user, or if your license server is installed on a UNIX system and you had root privileges when you performed the installation, you will need to edit this options file.

For example, if your username is sysadmin, the options file would look like this.

```
INCLUDE MATLAB USER sysadmin
INCLUDE Signal_Toolbox USER sysadmin
INCLUDE Optimization_Toolbox USER sysadmin
```

You must replace sysadmin in these INCLUDE statements with the usernames of the licensed users. Because the installer includes the GROUPCASEINSENSITIVE option in the options file and sets it to ON, login names are not case sensitive. If multiple users are licensed for the same product, you must create a separate INCLUDE line for each user or use the FLEXnet GROUP syntax. The number of users must not exceed the number of license keys available for that product. This example shows both methods.

Note If you edit the options file, make certain that there are no extra space characters at the end of each INCLUDE line.

```
GROUPCASEINSENSITIVE ON
GROUP matlab_users tom judy mike jean brad
GROUP signal_users tom mike brad
INCLUDE MATLAB GROUP matlab_users
INCLUDE Signal_Toolbox GROUP signal_users
INCLUDE Optimization_Toolbox USER mike
INCLUDE Optimization_Toolbox USER jean
```

Allowing Access to License Manager Daemons

If you run the license manager on a server that is protected by a security firewall, you must open the firewall to allow client installations to communicate with the license manager daemons: `mlm.exe` and `lmgrd.exe`. (For information about these daemons, see "License Management Daemons" on page 3-3.)

Opening Access to the License Manager Daemon

Using the interface provided by your firewall program, allow access on port 27000 for the license manager daemon. This is the default port used to communicate with the license manager. If you changed this port number, specify the port number used at your site. See "SERVER Line" on page 3-7 for more information.

Opening Access to the Vendor Daemon

The port used by the vendor daemon is assigned dynamically. If you need to open access to the vendor daemon in your firewall, you must assign a port for vendor daemon communication, rather than using this dynamic port assignment. You can then open the assigned port number in your firewall.

To specify the vendor daemon port number, edit the License File on your license server and add the `port=` syntax to the `DAEMON` line. For more information about specifying the vendor daemon port number, see "DAEMON Line" on page 3-7.

Installing MATLAB on a Client System

This section describes how to install MATLAB on a client system running Windows in a local client access configuration. See "Local Client Access Configuration" on page 2-4 for information about this type of installation.

The installation procedure on a client system is almost identical to the procedure on a server; however, there are some differences. For example, in a client installation, you do not install the license manager. This table lists all the steps in the network installation procedure and notes where they are different on client systems. For more detailed information about any of the steps, go to the description of the step in "Overview of Steps in Network Installation Procedure" on page 2-5.

Basic Network Installation Procedure	Client Installation Notes
"Step 1: Before You Install" on page 2-6	You do not have to stop the license manager.
"Step 2: Start the Installer" on page 2-7	Same as on a license server.
"Step 3: Enter Identification and License Information" on page 2-8	Use the PLP that you used for your license server installation.
"Step 4: Specify Location of License File" on page 2-11	Specify the location of the License File that was processed by the installer during the license manager installation on the license server. See "License File Location" on page 2-28 for more information.
"Step 5: Review the Software Licensing Agreement" on page 2-12	Same as on a license server
"Step 6: Specify Type of Installation" on page 2-13	You can select either **Typical** or **Custom**. Choose **Custom** to specify which products you want to install.
"Step 7: Specify Installation Folder" on page 2-15	Same as on a license server.
"Step 8: Specify Products to Install" on page 2-15	Do not select the license manager in the product list. You do not need to install the license manager on client systems.

Basic Network Installation Procedure	Client Installation Notes
"Step 9: Configure the License Manager Service" on page 2-18	Not applicable on client systems
"Step 10: Specify Installation Options" on page 2-19	Same as on a license server
"Step 11: Confirm Your Choices" on page 2-20	Same as on a license server
"Step 12: Read Product Configuration Notes" on page 2-21	Same as on a license server
"Step 13: Complete the Installation" on page 2-22	The license manager must be running on your license server before you can run MATLAB on a client.

License File Location

For client installations, you must specify the location of the License File that was processed by the installer during the license manager installation on the license server. (The installer adds the `SERVER` and `DAEMON` lines to the License File during installation. See "License File Processing on a License Server" on page 3-6 for more information.)

The following table lists the location in which the installer stores this License File on PC and UNIX license servers.

License Server Platform	Location of License File on License Server
PC running Windows	*matlabroot*`\flexlm\license.dat`
UNIX	*matlabroot*`/etc/license.dat`

In a client installation, the installer replaces the `DAEMON` line with the line `USE_SERVER` and stores the License File in the *matlabroot*`\bin\win32` (or `\bin\win64`) folder.

3

License Management

This chapter describes the licensing architecture used by The MathWorks and provides information about monitoring the license manager in a network installation. This information can be valuable if you want to integrate MATLAB into an existing FLEXnet licensing scheme.

Licensing Components (p. 3-2)	Primary licensing components, such as the License File and the daemons that are used by FLEXnet
FLEXnet License Management Utilities (p. 3-10)	Tools provided to monitor the license manager
Viewing the License Manager Log File (p. 3-15)	Looking at the License Manager Log File (lmlog.txt)
Using Time-Outs to Free Idle License Keys (p. 3-16)	Using the FLEXnet TIMEOUT option to free idle license keys in concurrent installations
Creating Advanced Configurations (p. 3-19)	Describes how to integrate MATLAB into a pre-existing licensing scheme, run multiple versions of MATLAB at the same time, and create redundant configurations
Running the Installer Noninteractively (p. 3-26)	Describes how to use an initialization file with the installer
Removing (Uninstalling) an Installation (p. 3-28)	Describes how to remove a MATLAB installation

Licensing Components

Note The information in this section pertains to network installations only. You do not need to read this section if you are performing an individual installation.

In a network installation, The MathWorks uses a license manager program, called the FLEXnet Publisher Licensing Module (a product of Macrovision Corporation), to control access to its software. This section describes the major components of the FLEXnet licensing architecture.

- "License Management Daemons" on page 3-3
- "Applications" on page 3-3
- "Personal License Passwords (PLPs) and License Files" on page 3-4
- "License File Processing on a License Server" on page 3-6
- "License File Processing on Client Systems" on page 3-8
- "License File Search Path" on page 3-8

Throughout this section, references to the *`matlabroot`* folder refer to your MATLAB installation folder.

Note For more detailed information about FLEXnet and license management, see the *FLEXnet Licensing End User Manual*, available in PDF format in *`matlabroot`*`\flexlm\enduser.pdf`, where *`matlabroot`* is your MATLAB installation directory, as returned by the `matlabroot` function.

License Management Daemons

FLEXnet uses a group of processes, called *daemons*, to control access to software applications. These daemons run on a server in your network. In this section, this server is referred to as your *license server*.

License Manager Daemon

The main daemon is the license manager daemon (*matlabroot*`\flexlm\lmgrd.exe`). This daemon is responsible for managing the initial communication between the licensed application and the vendor daemons associated with each licensed application.

Vendor Daemon

Every vendor that uses FLEXnet to manage the licensing of its products must supply a vendor daemon. The vendor daemon is responsible for keeping track of how many license keys are available for a particular application and for granting or denying access to the application, depending on the current usage of these license keys. The MathWorks vendor daemon is *matlabroot*`\flexlm\mlm.exe`.

Applications

When a user invokes MATLAB anywhere on the network, MATLAB communicates with the license manager daemon on the license server. The license manager forwards the request to the vendor daemon. The vendor daemon checks out a license key for the product. This license key checkout is transparent to MATLAB users.

The license manager program reads a License File to determine the numbers of keys you have purchased for each product.

Personal License Passwords (PLPs) and License Files

When you purchase one of the network license options, The MathWorks sends you licensing information in an e-mail or fax. This licensing information varies depending on your license option, but can include a Personal License Password (PLP) and a License File.

Personal License Passwords (PLPs)

A PLP is a series of five-digit numbers prefixed with a two-digit code, such as `17-12345-12345-12345-12345-12345`, that identifies the products that you are licensed to install. Do not confuse your PLP with your License Number.

License Files

A License File is a specially formatted ASCII text file that contains encrypted product passcodes for each product you are licensed to run. Each product passcode identifies the number of keys available for that product. The license manager grants or denies access to a product depending on the availability of the license keys associated with each product. MATLAB client installations use the License File to determine how to connect to the license server.

The following figure presents a sample of a License File sent by The MathWorks. Each line in the License File that begins with the keyword `INCREMENT` identifies a product you purchased. Each `INCREMENT` line identifies the product, the number of keys available for the product, and other information. (The `INCREMENT` lines in your License File might not include every element shown in the example.) The backslash (`\`) character indicates that the line continues onto the next line.

The lines that begin with a pound sign (#) are comments. The MathWorks Installer uses the information in these comment lines (license server host ID or Internet address) when it processes the License File during installation.

```
# BEGIN-------cut here-------CUT HERE-------BEGIN
# MATLAB license passcode file.
# LicenseNo: 12345           HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 17 01-sep-2007 0  \
 BC9DE773A77D15AF8 VENDOR_STRING=83 HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 17 01-sep-2007 1  \
 4C9D3348561BE9E3B USER_BASED DUP_GROUP=U SN=12345
INCREMENT SIMULINK MLM 17 01-sep-2007 1  \
 1CD148466EF58DF8B USER_BASED DUP_GROUP=U SN=12345
INCREMENT Signal_Toolbox MLM 17 01-sep-2007 1  \
 6CF74B458BA143DC3 USER_BASED DUP_GROUP=U SN=12345
# END---------cut here-------CUT HERE-------END
```

Creating a License File

You must create a License File from the licensing information you received in your license passcode e-mail message from The MathWorks. Follow these instructions:

1. Open a text file, using any ASCII text editor.
2. In the license passcode e-mail message, select all the information from the `BEGIN` line to the `END` line. Make sure to select all the information contained in this section, including the comment lines.
3. Copy the license information from the e-mail message and paste it into the open text file.

   In general, do not edit the licensing information; you may invalidate a license. However, note the following:

   - Make sure you remove any line breaks that your e-mail program may have inserted between the start and end of an `INCREMENT` line. If an `INCREMENT` line must continue onto more than one line, use the \ (backslash) character, as in the following:

```
INCREMENT Identification_Toolbox MLM 17 01-sep-2007 1 \
   EC5C175AGG025G2AD73A DUP_GROUP=UH SN=12345
```

   - Make sure the fields in the `INCREMENT` line are separated by spaces, not by tab characters.

- Do not change the case of any characters. License Files are case sensitive.

If you received your license passcodes in a fax, create the License File by typing in the license passcode information exactly as it appears in the fax.

4 Save the file as a plain ASCII text file, naming it `license.dat`, and store it in any convenient folder.

License File Processing on a License Server

When you install the license manager as part of a network installation, the installer processes your License File, adding two lines to the file: the `SERVER` line and the `DAEMON` line. These lines provide information about the location of the license server and daemon. The installer puts this processed version of the License File into the *`matlabroot`*`\flexlm` folder.

The following is a sample of a License File after it was processed by the installer during a license server installation. Note the addition of the `SERVER` and `DAEMON` lines at the top of the file.

```
SERVER yourserver INTERNET=144.212.101.43 27000
DAEMON MLM C:\Program Files\MATLAB\R2007a\flexlm\mlm.exe \
options=C:\Program Files\MATLAB\R2007a\flexlm\MLM.opt
# BEGIN-------cut here-------CUT HERE-------BEGIN
# MATLAB license passcode file.
# LicenseNo: 12345           HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 17 01-sep-2007 0  \
 BC9DE773A77D15AF8 VENDOR_STRING=83 HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 17 01-sep-2007 1  \
 4C9D3348561BE9E3B USER_BASED DUP_GROUP=U SN=12345
INCREMENT SIMULINK MLM 17 01-sep-2007 1  \
 1CD148466EF58DF8B USER_BASED DUP_GROUP=U SN=12345
INCREMENT Signal_Toolbox MLM 17 01-sep-2007 1  \
 6CF74B458BA143DC3 USER_BASED DUP_GROUP=U SN=12345
# END---------cut here-------CUT HERE-------END#
```

SERVER Line

The SERVER line identifies the system on which the license manager is running, using the format

```
SERVER hostname HostID TCP_PortNumber
```

where

- hostname is the name of your license server, i.e., the system on which the license manager is running.
- hostID is the host ID of the license server. The host ID in the SERVER line must match the host ID in the comment section of the License File.
- TCP_PortNumber specifies the TCP/IP port to use for communication with the license manager daemon. Do not change this number unless you know it conflicts with other software. A valid port number is any unused port number between 0 and 64000. If the TCP/IP port number is not specified, FLEXnet uses a port number in the range 27000 to 27009.

DAEMON Line

The DAEMON line identifies the name and location of the vendor daemon and the name and location of the FLEXnet options file, using the format

```
DAEMON vendor vendor_daemon_path options=options_file_path
```

where

- vendor is the name of the vendor daemon, MLM for The MathWorks.
- vendor_daemon_path is the fully specified path to the daemon executable, for example,

  ```
  C:\Program Files\MATLAB\R2007a\flexlm\mlm.exe
  ```

- options=options_file_path is the full path of the options file, such as,

  ```
  options=C:\Program Files\MATLAB\R2007a\flexlm\MLM.opt
  ```

The DAEMON line can optionally specify the port the vendor daemon (mlm.exe) uses. The FLEXnet daemon (lmgrd.exe) and the vendor daemon use separate

ports. If no port is specified, the license manager assigns the vendor daemon port dynamically. To specify the port used by the vendor daemon, use the following syntax

```
DAEMON MLM C:\Program Files\MATLAB\R2007a\flexlm\mlm.exe port=#####
```

where ##### is an open port.

License File Processing on Client Systems

In a client installation, when you need to specify the name of a License File, you must specify the License File that was processed during the installation of the license manager on your license server, not the License File you created from the license e-mail. The client installation needs the `SERVER` line that was added during the installation of the license manager. If you specify the name of the License File you created from the license e-mail, the installer will proceed with the installation, but you will not be able to run MATLAB on the client until you edit the template License File in the *`matlabroot`*`\bin\win32` (or `\bin\win64`) folder, adding the `SERVER` line from the processed License File.

Note During the client installation process, the installer deletes all the `INCREMENT` lines and the `DAEMON` line in the License File and replaces them with a single line `USE_SERVER`.

License File Search Path

When you start MATLAB, it reads the License File to determine the host name and port address of the license server. MATLAB must contact the server to get licenses. MATLAB expects to find the License File, `license.dat`, in a standard location, but you can specify another location using either of the following methods:

- "Using Environment Variables to Specify the License File Location" on page 3-9
- "Using the -c Option of the `matlab` Command" on page 3-9

Using Environment Variables to Specify the License File Location

You can specify the License File you want MATLAB to use by assigning a value to either of two environment variables, listed in the following table.

Environment Variable	Purpose
`MLM_LICENSE_FILE`	Specifies the location of the License File, but only for products of The MathWorks. (Recommended, because it only affects MathWorks products.)
`LM_LICENSE_FILE`	Specifies the location of the License File for all applications using FLEXnet on this server.

To create these environment variables on Windows systems, use the System Properties dialog box. For example, on Windows XP systems, right-click the **My Computer** icon on your desktop and select **Properties**. In the System Properties dialog box, select the **Advanced** tab. On this tab, click the **Environment Variables** button. On the Environment Variables dialog box, click the **New** button to create a variable.

Note Do not specify a License File with a network path when your system is not on a network. This can delay MATLAB startup, until the network connection time-out expires.

Using the -c Option of the `matlab` Command

You can specify the License File that you want MATLAB to use when you start it by using the `-c` option with the `matlab` command. When you use the `-c` option, you explicitly prohibit the searching of the environment variables described in "Using Environment Variables to Specify the License File Location" on page 3-9. When using the `-c` option, keep in mind the following:

- If the path to your License File contains a space, enclose the pathname in quotation marks.
- If you are specifying more than one License File, make sure to enclose the entire list of License Files in quotation marks.

FLEXnet License Management Utilities

You typically do not need to know anything about the license manager. However, there can be times when you want to get the current status of the license manager or perform any of the following license management tasks.

- Configuring the license manager as a service.
- Starting and stopping the license manager
- Change the name of the license manager service

FLEXnet provides several utilities that you can use to monitor and manage licensing activities at your site. The following sections describe these utilities.

- "Using the FLEXnet Command Line Utilities (lmutil.exe)" on page 3-10
- "Using the FLEXnet Utilities Graphical User Interface (LMTOOLS)" on page 3-12

Note If you want to make changes to your licenses, such as combining several licenses or moving an existing toolbox license, you must contact The MathWorks. See "Obtaining Your Licenses" on page 1-27 for contact information.

If you configure the license manager as a service, you can also use the Windows **Services** control panel to start or stop the license manager service. On the Windows Start menu, select **Control Panel>Administrative Tools>Services**

Using the FLEXnet Command Line Utilities (lmutil.exe)

FLEXnet packages all their license management utilities in a single executable called `lmutil.exe`. The MathWorks Installer includes this utility in every server installation in the *`matlabroot`*`\flexlm` folder. To view a list of all the capabilities of the `lmutil` utility, open a Command Prompt window, go to the *`matlabroot`*`\flexlm` folder and type

```
lmutil
```

The following table lists the names of the most useful tools available through `lmutil`. For more detailed information, see the *FLEXnet Licensing End User Manual*, included in PDF format in your MATLAB installation (*`matlabroot`*`\flexlm\enduser.pdf`). For information about accessing these tools through a graphical user interface, see "Using the FLEXnet Utilities Graphical User Interface (LMTOOLS)" on page 3-12.

Utility	Description
`lmdiag`	Diagnose license checkout problems.
`lmdown`	Shut down all license daemons (both `lmgrd` and all vendor daemons) on the license server node.
`lmhostid`	Report the host ID of a system.
`lmreread`	Make the license manager daemon reread the License File and start any new vendor daemons. Note: When you use `lmreread` to reprocess a License File for a user-based license, changes to `INCLUDE` statements in the associated FLEXnet options file take affect after a 15 minute delay.
`lmstat`	Display the status of all network licensing activities.
`lmswitchr`	Switch the report log file.
`lmver`	Determine the FLEXnet version of a library or binary file.

Example: Getting the Current Status of the License Manager

To illustrate using these FLEXnet tools, this section describes how to view the current status of the license manager.

1. Open a DOS command prompt window and enter the `lmutil` command, specifying the name of the `lmstat` utility.

   ```
   lmutil lmstat -a -c C:\Program Files\MATLAB\R2007a\flexlm\license.dat
   ```

   The example uses the `-a` option to get a verbose listing of available licenses and the `-c` option to specify the location of the License File to use. You must specify the `-c` option with every tool invoked through `lmutil.exe`. If your installation pathname contains spaces, enclose the pathname in quotes.

2 View the status information returned.

```
lmutil - Copyright (c) 1989-2006 by Macrovision Europe Ltd. and/or Macrovision Corporation
 All rights reserved.Flexible License Manager status on Thu 1/18/2007 16:57

License server status: 27000@smithj
  License File(s) on smithj: C:\Program Files\MATLAB\R2007a\flexlm\license.dat:

  smithj: license server UP (MASTER) v.10.8

Vendor daemon status (on smithj):

    MLM: UP v10.8

Feature usage info:

Users of MATLAB: (Total of 5 licenses available)

Users of SIMULINK: (Total of 5 licenses available)

Users of Control_Toolbox: (Total of 5 licenses available)

Users of Identification_Toolbox: (Total of 5 licenses available).
```

Using the FLEXnet Utilities Graphical User Interface (LMTOOLS)

FLEXnet provides a graphical user interface (GUI), called LMTOOLS. The LMTOOLS GUI provides access to the same set of tools as the `lmutil` command and displays the results returned in an integrated display window. (For information about using the `lmutil` program, see “Using the FLEXnet Command Line Utilities (lmutil.exe)” on page 3-10.) Using LMTOOLS you can get the status of the license manager, configure the license manager as a service, start and stop the license manager, and perform many other license management tasks.

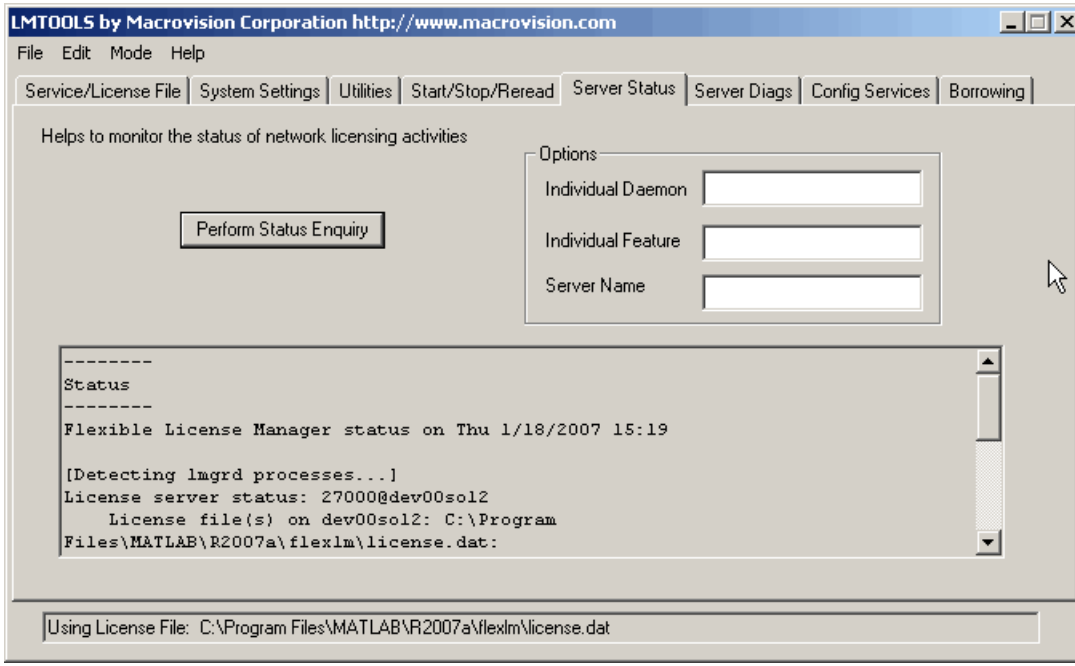
Using LMTOOLS to Get the Current Status of the License Manager

To illustrate how to use LMTOOLS, this section describes getting the current status of the license manager.

1 Start `LMTOOLS` by double-clicking the `lmtools.exe` file in the *`matlabroot`*`\flexlm` folder.

2 Click the **Server Status** tab.

3 Click the **Perform Status Enquiry** button. `LMTOOLS` displays the same information as if you had entered the command `lmutil lmstat -a`.



Viewing the License Manager Log File

To view the license manager log file, open the *matlabroot*\flexlm\lmlog.txt file with any text editor. Note, however, that you cannot access this file with a text editor while the license manager is running. To view the log while the license manager is running, use the LMTOOLS utility, as follows:

1. Start LMTOOLS by double-clicking the lmtools.exe file in the *matlabroot*\flexlm folder.
2. Click the **Config Services** tab.
3. Click the **View Log** button. LMTOOLS displays the contents of the license manager log file in a separate window.

Using Time-Outs to Free Idle License Keys

Note You can only use time-outs with concurrent licenses.

If you have a concurrent license, you can use the FLEXnet time-out option to automatically return idle license keys at your site. With license time-outs, the license manager automatically frees license keys that sit idle for a specified period of time, returning them to the pool of available license keys.

For example, when you start MATLAB and other products, such as toolboxes, you check out license keys for these products. If you go home without exiting your MATLAB session, these licenses remain checked out and are not available to other users. With time-out enabled, after your licenses sit idle for a specified period of time, the license manager releases the license keys for all the products you had been using and these keys become available to other users.

For more information about time-outs, see the following sections:

- "Enabling License Time-Outs" on page 3-16
- "Experiencing a License Time-Out" on page 3-18
- "Reacquiring License Keys After a Time-Out" on page 3-18

Enabling License Time-Outs

To take advantage of time-outs, you must specify the FLEXnet `TIMEOUT` option in a FLEXnet options file. A FLEXnet options file is a text file that contains license manager options statements, such as `INCLUDE`, `EXCLUDE`, and `GROUP` statements.

To enable time-outs, follow these instructions:

1. Create a FLEXnet options file, if one does not already exist, using any text editor. Name the options file `MLM.opt` and put the file in the `flexlm` folder in your MATLAB installation folder. For example, you might create the file

   ```
   C:\Program Files\MATLAB\flexlm\MLM.opt
   ```

2 Add the FLEXnet TIMEOUT option to the options file, using the following syntax:

```
TIMEOUT feature seconds
```

For feature, specify MATLAB. You cannot specify separate time-out values for individual MathWorks products, such as toolboxes.

For seconds, specify the amount of idle time you want to allow. The minimum value is 4 hours (14,400 seconds). If you specify a time-out value that is smaller, the minimum value is used. For example, to specify a five hour time-out, enter the following in your options file.

```
TIMEOUT MATLAB 18000
```

Note FLEXnet supports the TIMEOUTALL option that you can use to specify the time-out value used for all products. However, The MathWorks does not recommend using this option. The TIMEOUTALL option affects all the products listed in the License File which could include products from other vendors, not just MathWorks products. In addition, when you use the TIMEOUTALL option, the license manager log file can become misleading. For example, log file entries include whatever value you specify in the TIMEOUTALL option even if the actual value used is another value, such as the MathWorks minimum time-out value.

---

3 Make sure the DAEMON line in your License File specifies the location of your options file. The License File DAEMON line must include the options= syntax. For example, your DAEMON line might look like the following:

```
DAEMON MLM C:\Program Files\MATLAB\R2007a\flexlm\mlm.exe \
           options=C:\Program Files\MATLAB\R2007a\flexlm\mlm.opt
```

4 Stop the license manager and restart it. Whenever you change the License File, or change the time-out value in the options file, you must restart the license manager. See “FLEXnet License Management Utilities” on page 3-10 for information about starting and stopping the license manager.

Experiencing a License Time-Out

When time-out is enabled, if you open a MATLAB session, and then leave it inactive for more than 4 hours, when you return, you will find MATLAB still open on your desktop. However, you will see the following message displayed in the Command Window:

```
Your MATLAB session has timed out.  All license keys have been
returned.
```

The time-out is also recorded in the license manager log file, as follows:

```
Idle session.  Returning keys for <user>@<machine>
```

(For more information, see “Viewing the License Manager Log File” on page 3-15.)

Reacquiring License Keys After a Time-Out

To resume a timed-out MATLAB session, just start using MATLAB again. If a license key is available, MATLAB checks it out automatically. Likewise, as you use the toolboxes and other products that you had checked out, MATLAB obtains license keys for these products as well.

If a license key is not available, MATLAB periodically attempts to check out a license, issuing warning messages. After 10 warnings, if a license key is still not available, MATLAB saves the workspace and exits.

Note If you return to a timed-out Simulink® session, and no licenses are available, you cannot run or modify a currently open model. These menu options are disabled until a Simulink license key becomes available. You can, however, save a model in a timed-out Simulink session.

Creating Advanced Configurations

Using the MathWorks Installer, you can set up a network installation with little knowledge of license management. Follow the instructions in Chapter 2, “Network Installation Procedure” However, there are configurations that require some additional setup, including

- “Running Multiple Versions of MATLAB” on page 3-19
- “Using Products in a Concurrent Installation from a Stand-Alone Installation” on page 3-20
- “Running MATLAB with Other FLEXnet Applications” on page 3-22
- “Configuring Redundant License Servers” on page 3-22

Running Multiple Versions of MATLAB

You can run multiple versions of MATLAB on the same system without any special considerations in stand-alone, individual license configurations. In remote access configurations, described in “Network Configuration Options” on page 2-2, you must perform some additional set up on your license server and possibly on client systems to provide users with access to multiple versions of MATLAB over the network.

Required Setup on Your License Server

To make multiple versions of MATLAB available in a remote access configuration, follow this procedure on your license server:

1. Stop the license manager. (See “FLEXnet License Management Utilities” on page 3-10.)
2. Remove the license manager service. (See “FLEXnet License Management Utilities” on page 3-10.)
3. Install the license manager included with the current version of MATLAB on your license server. Run the installer and select the license manager in the product list. (See “Step 7: Specify Installation Folder” on page 2-15.)

Required Setup on Client Systems

You must make sure that client installations of MATLAB use the latest version of the license manager.

On Windows systems, the License File in a client installation typically includes a `SERVER` line and a `USE_SERVER` line, as follows.

```
SERVER my_server INTERNET=144.212.121.14 27000
USE_SERVER
```

If your `SERVER` line still identifies the correct license server, you do not need to make any changes to your License File.

In heterogeneous configurations that include clients running on UNIX systems, or if you changed which system is your license server, you must replace the License File in client installations with the License File created by the installer during the license manager installation on your license server. On license servers, the License File resides in the *`matlabroot`*`\flexlm` folder. The following table lists the location of the License File on client systems for different MATLAB releases.

MATLAB Version	Location of License File on Client Systems
MATLAB 6.x or later	*`matlabroot`*`\bin\win32\license.dat` or *`matlabroot`*`\bin\win64\license.dat`
MATLAB 5.2.x or 5.3.x	*`matlabroot`*`\bin\license.dat`

Using Products in a Concurrent Installation from a Stand-Alone Installation

If you have an Individual license in a stand-alone installation, you can still use toolboxes that have a Concurrent license, and are made available over the network from a license server. You must use two License Files: one for the individual licensed products and another for the concurrently licensed products.

Note This capability is only available for an Individual license stand-alone installation on a PC running the Windows operating system.

To set up this configuration, follow these instructions:

1. Perform a stand-alone installation of the products for which you have an Individual license, if you have not already done so. Use the PLP for your Individual license in this installation. See "Overview of Steps in Standard Installation Procedure" on page 1-2 to learn how.

2. Move the License File (`license.dat`) processed by the installer during this installation out of the *`matlabroot`*`\bin\win32` (or `\bin\win64`) folder to any convenient folder, such as the desktop.

3. Run the installer again, this time to install the toolboxes that have a Concurrent license. Use the PLP for your concurrent license in this installation. See "Overview of Steps in Network Installation Procedure" on page 2-5 for more information.

4. Specify the location of the License File on your license server (*`matlabroot`*`\flexlm\license.dat`) when asked by the installer—see "Step 4: Specify Location of License File" on page 2-11.

5. Specify the same installation folder as your stand-alone installation and select only the products you want to use that are not already part of your Individual license installation—see "Step 7: Specify Installation Folder" on page 2-15.

6. After the installation is finished, rename the License File that was processed by the installer during this installation. Open the *`matlabroot`*`\bin\win32` folder and change the name of the `license.dat` file to `license.lic`.

7. Move the original License File, `license.dat`, that was created during the standalone installation, back into the *`matlabroot`*`\bin\win32` (or `\bin\win64`) folder.

8. Start MATLAB. You can now run the toolboxes with a concurrent license from your stand-alone installation.

Running MATLAB with Other FLEXnet Applications

If you have another application that uses FLEXnet for license management, you can share a single license manager, or run separate license managers either on the same or different hosts.

The following sections describe these options. For more information, read the *FLEXnet Licensing End User Manual*, available in PDF form in *matlabroot*`\flexlm\enduser.pdf`, or go to the Macrovision Corporation Web page at `www.macrovision.com`.

Sharing a Single License Manager

To share a license manager with other applications, combine the `DAEMON` and `INCREMENT` lines from both License Files into a single License File. In the combined License File, keep only one `SERVER` line that identifies the license server host. If the other applications are using a different version of the FLEXnet software than the MathWorks products, run the newest version of the license manager.

Running Separate License Managers

To run separate license managers, use separate License Files. If you are running the license managers on the same host, be sure to use a different TCP port number on the `SERVER` line in each License File.

Configuring Redundant License Servers

If a large number of licenses are governed by a single license server, failure of the server can become a serious problem. To prevent problems, you may want to set up redundant servers so that, if one server goes down, the license manager can still function.

In the redundant server configuration, three systems are designated to be license servers. All three systems must be running at the time the license manager is started. However, once the license manager is running, only two systems need to be running at any time; this is called a *quorum*. Once the daemons are up and connected on all three systems, only two systems are needed for a quorum; the loss of any one system will not cause any licenses to be revoked.

Setting up a Redundant Installation

Perform these steps to configure a redundant installation:

1. Choose the systems that you intend to use as servers. When choosing servers, keep in mind the following:
   - The servers should be able to handle the network traffic associated with license management. A primary server must be chosen. This is the system to which clients connect first and which receives the majority of the network traffic. The primary server is the first server listed in the License File. If this system fails, the next server listed in the License File becomes primary.
   - The servers should be running supported versions of their operating systems.
2. Request a License File from The MathWorks.

   Once you have chosen the servers, determine the host IDs of each server and provide them to The MathWorks when you request your License File. The MathWorks will generate an appropriate License File. The following example shows a License File that supports redundant servers. Note that the License File lists three Host IDs.

```
# BEGIN-------cut here-------CUT HERE-------BEGIN
# MATLAB license passcode file.
# LicenseNo: 123           HostID: 00034660893e
#                          HostID: 00053327865e
#                          HostID: 00470635883e
INCREMENT TMW_Archive MLM 17 01-jan-0000 0  \
 CD74754B9E91B8036  VENDOR_STRING=87 HOSTID=DEMO SN=123
INCREMENT MATLAB MLM 17 01-jan-0000 5  \
 8D1B1BE24413B8126 HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT SIMULINK MLM 17 01-jan-0000 5  \
 2D031C43289BE055B HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT Control_Toolbox MLM 17 01-jan-0000 5  \
 0F441940A6E1648FE HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT Signal_Toolbox MLM 17 01-jan-0000 5  \
 2D245A439FEEA2336 HOSTID=ID=123 DUP_GROUP=UH SN=123
# END---------cut here-------CUT HERE-------END
```

3 Install the license manager on the three server systems in the redundant configuration. During each installation, the installer processes the License File, adding `SERVER` and `DAEMON` lines. For example, on the system named `pooh`, the processed License File might contain these lines.

```
SERVER pooh 08002be68759 27000
DAEMON MLM /usr/local/matlab/etc/lm_matlab
```

4 Edit the License File on each license server so that each License File contains `SERVER` lines for all three license servers. For information about where the installer stores this License File on Windows and UNIX systems, see "License File Location" on page 2-28. Do not copy the `DAEMON` lines; the License Files should contain only one `DAEMON` line. Note in the following example that the License File contains three `SERVER` lines and one `DAEMON` line.

```
# BEGIN-------cut here-------CUT HERE-------BEGIN
# MATLAB license passcode file.
# LicenseNo: 123           HostID: 00034660893e
#                          HostID: 00053327865e
#                          HostID: 00470635883e
SERVER pooh 00034660893e 27000
SERVER piglet 00053327865e 27000
SERVER rabbit 00470635883e 27000
DAEMON MLM /usr/local/matlab/etc/lm_matlab
INCREMENT TMW_Archive MLM 17 01-jan-0000 0  \
 CD74754B9E91B8036  VENDOR_STRING=87 HOSTID=DEMO SN=123
INCREMENT MATLAB MLM 17 01-jan-0000 5  \
 8D1B1BE24413B8126 HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT SIMULINK MLM 17 01-jan-0000 5  \
 2D031C43289BE055B HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT Control_Toolbox MLM 17 01-jan-0000 5  \
 0F441940A6E1648FE HOSTID=ID=123 DUP_GROUP=UH SN=123
INCREMENT Signal_Toolbox MLM 17 01-jan-0000 5  \
 2D245A439FEEA2336 HOSTID=ID=123 DUP_GROUP=UH SN=123
# END---------cut here-------CUT HERE-------END
```

5 Put a copy of this edited License File in the *`matlabroot`*`\flexlm` folder on all of the systems in the redundant configuration.

6 Start the license manager on each system in the redundant configuration and wait for the license manager daemons on the three systems to synchronize with each other. This may take a few minutes.

   If, for some reason, the license manager daemons do not connect, take the daemons down on each machine, and rerun the procedure. Network traffic can affect synchronization, so it may require several attempts to establish a proper connection.

7 Set up the client systems that access the redundant servers.

   To ensure that client systems can switch servers in the event of a failure, you must create an environment variable named `MLM_LICENSE_FILE` on each client system. FLEXnet reads this environment variable to determine which License Files to use. On client systems, specify the host name and port for all the servers in the redundant configuration. Use a semicolon to separate the names.

   For example:

   ```
   port@server1;port@server2;port@server3
   ```

   Alternatively, you can specify the License Files when you start MATLAB on a client, using the `-c` option with the `matlab` command. To do this, right-click on the MATLAB icon on the desktop and choose **Properties**. In the **Target** field of the **Properties** dialog box, add the `-c` option to the command. Make sure to enclose the list of License Files in quotation marks.

   For example:

   ```
   matlabroot\bin\matlab.bat -c port@server1;port@server2;port@server3
   ```

   where *`matlabroot`* represents your MATLAB installation folder.

Running the Installer Noninteractively

If you have many MATLAB installations to perform, and the information you need to enter for each installation is the same, you can put this information in an installer initialization file and run the MathWorks Installer noninteractively. The initialization file provides the installer with the information that you would otherwise provide using installer dialog boxes. Noninteractive installs (also called *silent* installs) can save time and prevent errors.

Using an Installer Initialization File

To run the installer noninteractively, perform these steps:

1. Create your installer initialization file.

   The MathWorks provides an initialization file template, named `installer.ini`, located in the top-level folder on the MathWorks DVD. Using Windows Explorer, create a copy of this template file in any convenient folder, giving it any name you want. For example, you might create the initialization file

   ```
   C:\temp\my_install.ini
   ```

2. Open your copy of the initialization file, using any text editor, and enter all the required installation information. The initialization file template includes parameters for all the information you need to enter. For example, to specify where you want to install products, set the value of the `destination` parameter to the full path of the installation folder.

   ```
   destination=C:\Program Files\MATLAB\R2007a
   ```

   There are several required parameters, such as name, company name, and PLP. If your initialization file is missing a required field, the installer stops the installation and writes an error to the output log. Two optional parameters you might want to set are `visible` and `outlog`.

- **Controlling visibility** — By default, when you run the installer in silent mode, it still displays the dialog boxes as it progresses through the installation, even though no interactive response is required. If you want to suppress the display of these dialog boxes during a silent installation, set the value of the `visible` parameter to `false`.
- **Requesting an output log** — To request that the installer create an output file that reports on the status of the installation, specify the full pathname as the value of the `outlog` parameter.

3 Save your changes to the file.

4 Run the installer (`setup.exe`), using the `-if` flag to specify the initialization file as a command-line argument. You must specify the full pathname of the initialization file. For example, click the **Start** menu and select the **Run** option. In the Run dialog box, enter

```
setup.exe -if C:\temp\my_install.ini
```

Removing (Uninstalling) an Installation

To remove MathWorks products from your system, use the MathWorks uninstaller program (`uninstall.exe`). This section describes

- "Using the Uninstaller" on page 3-28
- "Running the Uninstaller Noninteractively" on page 3-31
- "Removing Installations That Use Dongles" on page 3-32

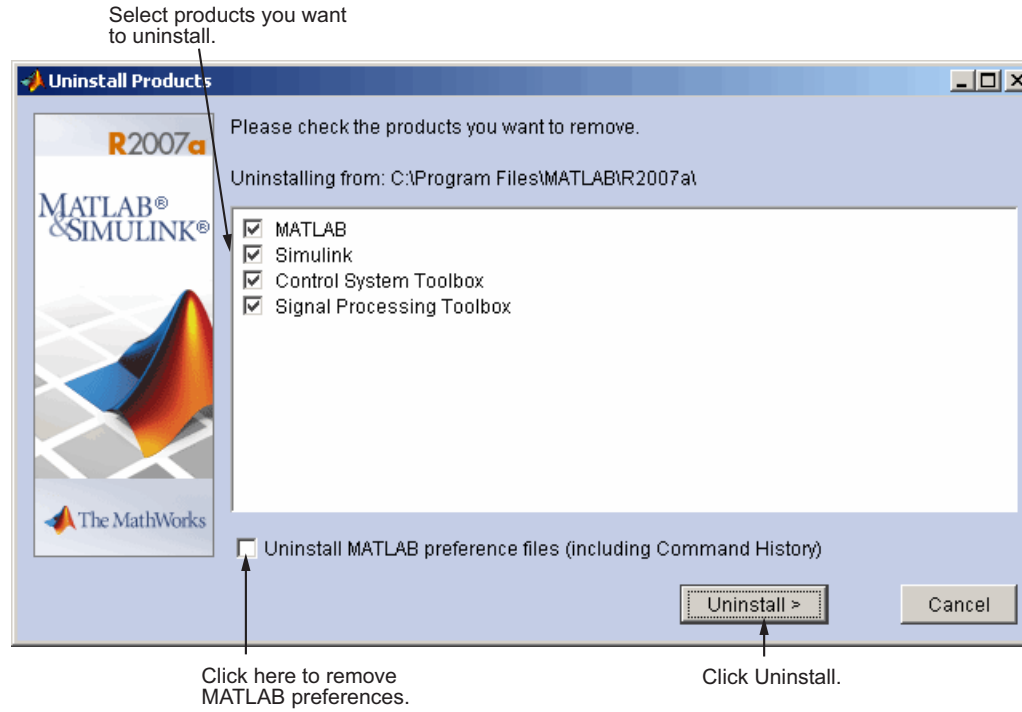
Using the Uninstaller

To remove MathWorks products from your system, follow this procedure:

1. Shut down MATLAB before trying to uninstall it.
2. Start the uninstaller.

   On the Windows Start menu, select **Settings>Control Panels>Add or Remove Programs**. Select **MATLAB R2007a** from the list of products.

   The Uninstall Product List dialog box appearss .



3 Select the products you want to remove by selecting the check box next to their names. If you select MATLAB, you automatically remove all other MathWorks products as well.

Note You might receive a message telling you that the product you want to uninstall has other products that depend on it. For example, all MathWorks products require MATLAB. To dismiss the message and continue removing products, click **OK**. To change the products you had selected for deletion, click **Cancel**. For more information, see “Product Dependencies” on page 4-4.

Note If your MATLAB installation folder contains the archive files associated with downloaded products, the uninstaller displays a message asking if you want to delete these archive files. The installer stores these archive files in the *matlabroot*/archives folder of your installation. To remove these files, click **Yes**.

4 (Optional) Specify whether you want to remove your MATLAB preferences file.

The MathWorks stores your MATLAB environment preferences, such as command history and Help favorites, in a set of preference files. These preference files are stored in a system folder that is associated with a particular user. To find where your preferences are located, use the prefdir command at the MATLAB prompt, as in the following example.

```
prefdir
ans =
C:\WINNT\Profiles\username\Application Data\MathWorks\MATLAB\R2007a
```

where *username* is the username of the person performing the uninstall.

By default, the uninstaller does not delete these preference files. If you want to remove these files, select the **Uninstall MATLAB preferences** check box. When you make this selection, the uninstaller deletes the contents of your MATLAB preferences folder.

5 To proceed with the removal, click the **Uninstall** button.

The uninstaller leaves the MATLAB installation folder on your system, empty except for the \uninstall folder, the \work folder if it contains files, and, if you downloaded product updates, an \archives folder that contains the download archive files. To completely remove a MATLAB installation, you must delete these folders yourself. You might want to move any M-files you created in the \work folder to another folder before deleting it.

Running the Uninstaller Noninteractively

You can run the uninstaller noninteractively. In this mode, you create an uninstaller initialization file, specifying the root folder of the installation you want to remove and the products you want to remove.

To run the uninstaller noninteractively, perform these steps:

1. Create an uninstaller initialization file.

   The MathWorks provides a template for this file, named `uninstaller.ini`, located in the `uninstall` folder in your MATLAB installation folder. Make a copy of this template file, giving it any name you want.

   ```
   copy matlabroot\uninstall\uninstaller.ini C:\temp\my_uninstall.ini
   ```

2. Open your copy of the initialization file, using any text editor, and enter all the required information. For example, use the `directory` parameter to specify the name of the root folder of the installation you want to remove.

   ```
   directory=C:\Program Files\MATLAB\R2007a
   ```

   In this initialization file, you can specify the name of the products you want to remove and other parameters. By default, the uninstaller removes all products. If your initialization file is missing a required parameter, the uninstaller stops and writes an error to the output log. Two optional parameters you might want to set are

   - **Controlling visibility** – By default, when you run the uninstaller in silent mode, the uninstaller still displays the dialog box, even though no interactive response is required. If you want to suppress the display of this dialog box, set the value of the `visible` parameter to `false`.

     ```
     visible=false
     ```

   - **Requesting an output log** – To request that the uninstaller create an output log file that reports on the status of removing an installation, specify the full pathname as the value of the `outlog` parameter.

     ```
     outlog=C:\temp\my_uninstall.log
     ```

3. Save your changes to the file.

4 Run the uninstaller (`uninstall.exe`), using the `-if` flag to specify the initialization file as a command-line argument.

   For example, click the **Start** button and select the **Run** option. In the Run dialog box, enter the `uninstall` command, specifying the full pathname of the initialization file as a command-line argument.

```
uninstall.exe -if C:\temp\my_uninstall.ini
```

Removing Installations That Use Dongles

In some installations, MATLAB requires a *dongle*. A dongle is a hardware-based security device that attaches to the USB port on your computer. It uses embedded codes and passwords to control access to software applications.

If your system uses dongles, the uninstaller asks if you want to delete the dongle drivers. If other applications you run on your system use dongles, do not delete these drivers.

Troubleshooting

This chapter provides information that can help you solve common problems that you might encounter installing MATLAB on a PC running Microsoft Windows.

Problems During Installation (p. 4-2)	Answers to some common problems encountered during a MATLAB installation
Problems After Installation (p. 4-5)	Answers to some common problems encountered after a successful installation, including information about common license manager errors

If you cannot find a description here that matches your problem, check the MATLAB Release Notes documentation that you received with your MATLAB products. This document contains the most up-to-date information available about products and installation procedures. Installation troubleshooting information is also available at the MathWorks Web site on the Support page, `www.mathworks.com`.

Problems During Installation

This section provides answers to some problems commonly encountered during installation.

- "Installer Does Not Start Automatically" on page 4-2
- "Invalid Personal License Password" on page 4-3
- "License File Could Not Be Updated" on page 4-3
- "Failure Overwriting an Existing Toolbox" on page 4-4
- "Product Dependencies" on page 4-4

Note If the MathWorks Installer appears to hang, you may want to turn off any virus checking software you are running on your system and restart the installer.

Installer Does Not Start Automatically

The installer should start automatically when you insert the MathWorks DVD into your DVD drive or when you double-click on the installer file you downloaded from the MathWorks Web site.

If the installer does not start, open a Windows Explorer window, select your DVD drive, and double-click the `setup.exe` program in the top-level folder.

Invalid Personal License Password

During installation, you must enter your PLP. If your PLP is invalid, you cannot continue with the installation. Verify that

- You entered your PLP in “Step 3: Enter Identification and License Information” on page 1-6. Do not confuse your License Number with your PLP. A PLP is a series of five-digit numbers, prefixed by a two-digit code, such as:

  ```
  17-12345-12345-12345-12345
  ```

- You used the PLP for the version of MATLAB you are trying to install. PLPs are version specific. Do not use an old PLP with a new version of MATLAB.

License File Could Not Be Updated

You can receive this error message when you are using the installer to update your licenses – see “Updating a License” on page 1-22.

There are two reasons why you received this message:

- The license file (`license.dat`) in the *`matlabroot`*`\bin\win32` folder is invalid.
- You have multiple valid license files in the specified folder (e.g., `demo.lic` and `license.dat`).
- You are trying to update a network client installation to a standalone installation using the update license option. To do this type of update, you must reinstall.

For more information about License Files that might help you troubleshoot these issues, see “Personal License Passwords (PLPs) and License Files” on page 3-4.

Failure Overwriting an Existing Toolbox

You can receive this error message when you attempt to perform an installation when an existing MATLAB installation is running. Make sure that you exit from all existing copies of MATLAB before attempting to run the installation procedure.

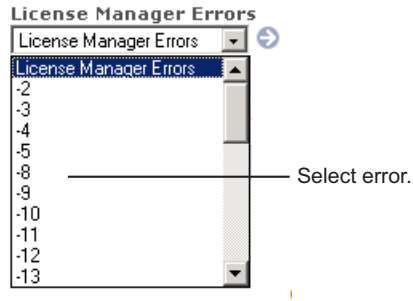
Product Dependencies

After clicking **Next** in the Product Selection dialog box, you might receive a message telling you that one or more of the products that you selected for installation have dependencies on other products that were not selected. For example, the following message indicates that certain products require the Aerospace Toolbox. To dismiss the message and continue with the installation, click **OK**. For a Custom installation, if you want to adjust your product selections, click **Cancel**.

Problems After Installation

After a successful installation, you may encounter problems starting MATLAB. Many of these problems originate in the license manager (FLEXnet) used by the MathWorks products. When a problem occurs, the license manager displays an error message in a window on your display and also writes the message to the FLEXnet log file, `lmlog.txt`, in the *`matlabroot`*`\flexlm` folder. Read the error message carefully; it provides information that can help solve the problem. For information about viewing the license manager log file, see "Viewing the License Manager Log File" on page 3-15.

For more complete diagnostic information about an error message, go to the MathWorks Web site, `www.mathworks.com`, and click **Support**. The Support page includes a Search facility that lets you search the support database for help with an error message by error number. You can also select the error number from the **License Manager Errors** menu.



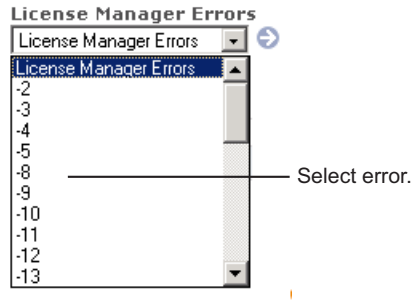
You can also get information about license manager error messages in the *FLEXnet Licensing End User Manual*, available in PDF format in *`matlabroot`*`\flexlm\enduser.pdf` or at the Macrovision Corporation Web site, `www.macrovision.com`.

Getting Help with License Manager Problems

When a problem occurs, the license manager displays an error message in a window on your display and also writes the message to the FLEXnet log file, `lmlog.txt`, in the *`matlabroot`*`\flexlm` folder. Read the error message carefully; it provides information that can help solve the problem. For

information about viewing the license manager log file, see “Viewing the License Manager Log File” on page 3-15.

The section “License Manager Error Messages” on page 4-6 contains brief descriptions of many common error messages with recommended solutions. For more complete diagnostic information about an error message, go to the MathWorks Web site, `www.mathworks.com`, and click **Support**. The Support page includes a Search facility that lets you search the support database for help with an error message by error number. You can also select the error number from the **License Manager Errors** menu.



You can also get information about license manager error messages in the *FLEXnet Licensing End User Manual*, available in PDF format in *`matlabroot`*`\flexlm\enduser.pdf` or at the Macrovision Corporation Web site, `www.macrovision.com`.

License Manager Error Messages

This section provides brief descriptions of some common license manager errors, listed in order by error number. For more complete diagnostic information about an error message, go to the MathWorks Web site, `www.mathworks.com`, and click Support. See “Getting Help with License Manager Problems” on page 4-5 for more information.

- “License Manager Error -2: License Checkout Failed. Invalid License File Syntax” on page 4-8

- "License Manager Error -5: License Checkout Failed. No Such Feature Exists" on page 4-8
- "License Manager Error -8: License Checkout Failed. Encryption Code in License File Is Inconsistent" on page 4-9
- "License Manager Error -9: License Checkout Failed. Invalid Host" on page 4-9
- "License Manager Error -10: License Checkout Failed. Feature Has Expired" on page 4-10
- "License Manager Error -13: License Checkout Failed. No SERVER Line in License File" on page 4-10
- "License Manager Error -14: License Checkout Failed. Cannot Find SERVER Hostname in Network Database" on page 4-11
- "License Manager Error -15: License Checkout Failed. Cannot Connect to License Server" on page 4-11
- "License Manager Error -18: License Checkout Failed. License Server Does Not Support This Feature" on page 4-12
- "License Manager Error -21: License Checkout Failed. License File Does Not Support This Version" on page 4-12
- "License Manager Error -25: License Checkout Failed. License Server Does Not Support This Version of This Feature" on page 4-13
- "License Manager Error -39: User/Host Not on INCLUDE List for Feature" on page 4-13
- "License Manager Error -83: License Checkout Failed. FLEXnet Version of Client Newer Than Server" on page 4-13
- "License Manager Error -84: USER_BASED License Has No Specified Users" on page 4-13
- "License Manager Error -96: License Checkout Failed. Server Node is Down or Not Responding" on page 4-14
- "License Manager Error -97: License Checkout Failed" on page 4-15

License Manager Error -2: License Checkout Failed. Invalid License File Syntax

This error typically indicates that there is a problem in your License File. On client systems, make sure your License File (*matlabroot*\bin\win32\license.dat) has the following format.

```
SERVER host hostID port_num
USE_SERVER
```

Note that there should be a carriage return immediately following the USE_SERVER line.

License Manager Error -5: License Checkout Failed. No Such Feature Exists

This error usually indicates that you are trying to use a product for which you are not licensed.

Note You must restart the license manager after making any changes to the License File on the license server.

- Check your License File to see if you are licensed to use this product. Your License File should contain an INCREMENT line for each licensed product
- Make sure that your License File does not contain extra carriage returns or tabs. To avoid this, make sure that each line begins with either #, SERVER, DAEMON, or INCREMENT and replace any tab characters in INCREMENT lines with spaces. One way to check for extraneous tabs and carriage returns is to open your License File in a text editor and view all nonprinting characters. Remove these tabs and replace with them spaces.
- Make sure that your system date is set to a date after the date that your license was made. See “License Manager Error -10: License Checkout Failed. Feature Has Expired” on page 4-10 to learn how to reset the system date.

License Manager Error -8: License Checkout Failed. Encryption Code in License File Is Inconsistent

This error typically indicates that you are running the license manager on a host that has a different host ID than the one for which your License File was generated.

Note You must restart the license manager after making any changes to the License File on the license server.

- Verify that the host ID specified in the License File matches the system's host ID. See "Finding the Host ID on a Windows System" on page 1-28.
- Make sure that your License File does not contain extra carriage returns or tabs. To avoid this, make sure that each line begins with either `#`, `SERVER`, `DAEMON`, or `INCREMENT` and replace any tab characters in `INCREMENT` lines with spaces. One way to check for extraneous tabs and carriage returns is to open your License File in a text editor and view all nonprinting characters. Remove these tabs and replace with them spaces.
- Make sure that the license information in your License File matches the license information The MathWorks sent you.

License Manager Error -9: License Checkout Failed. Invalid Host

If you get this error on a system running an individually licensed MATLAB, this error typically indicates that you are not running MATLAB on the same system it was installed on. You can also get this error if you

- Replaced your hard drive
- Changed the partition on an existing hard drive
- Do not have a `C:\` drive
- Tried to clone an installation from one system to another

To remedy this situation, rerun the installer. At "Step 2: Start the Installer" on page 1-5, select the **Update license** option. This option lets you update your license without requiring that you reinstall MATLAB.

License Manager Error -10: License Checkout Failed. Feature Has Expired

This error indicates that one or more of your license keys has expired.

Verify that the expiration date on each of the `INCREMENT` lines in your License File (*`matlabroot`*`\bin\win32`) is still current. If the dates have already passed, contact the Customer Service department at The MathWorks (through the Web or through e-mail at `service@mathworks.com`). When contacting The MathWorks, include your License Number and the Host ID of your license server.

If none of your product licenses has expired, verify that the system date and time on your computer are correct:

1. Click the **Start** menu.
2. Choose **Settings**.
3. Click **Control Panel**.
4. Choose **Date/Time**.

License Manager Error -13: License Checkout Failed. No SERVER Line in License File

This error indicates that your License File is missing the `SERVER` line, `DAEMON` line, or both. These lines should be added to the License File by the MathWorks Installer during the installation process.

To remedy this problem, run the installer again or manually edit the License File, *`matlabroot`*`\flexlm\license.dat`, adding the `SERVER` line. See “Personal License Passwords (PLPs) and License Files” on page 3-4 for information about the format and contents of the `SERVER` and `DAEMON` lines.

Before modifying your License File, verify that the host ID in your license server matches the host ID given in the commented line of the file. If your system’s host ID does not match the host ID used to generate your License File, contact The MathWorks; you will need your license regenerated for the correct host ID.

Note You must restart the license manager after making any changes to the License File on the license server.

License Manager Error -14: License Checkout Failed. Cannot Find SERVER Hostname in Network Database

If this error occurs on a client system, make sure that the hostname on the `SERVER` line in the `license.dat` file on your client system matches the hostname on the `SERVER` line in the `license.dat` file on your license server. Edit the `SERVER` line in the client `license.dat` file, if necessary.

Also, make sure that the server's hostname included in the `SERVER` line is listed in the `C:\WINNT\system32\drivers\etc\hosts` file.

License Manager Error -15: License Checkout Failed. Cannot Connect to License Server

This error indicates that MATLAB cannot connect to the license server.

- Verify that both license manager daemons, `lmgrd` and `mlm`, are running on the server. You can check this via the Task Manager, which can be accessed by pressing the **Ctrl+Alt+Delete** key sequence. If the license manager isn't running, see "FLEXnet License Management Utilities" on page 3-10 for information about starting it.
- Verify that you have read permission to your MATLAB installation folder.

For additional suggestions, go to the Support page on the MathWorks Web site, `www.mathworks.com` and search for this license manager error number.

License Manager Error -18: License Checkout Failed. License Server Does Not Support This Feature

This error typically indicates that you have updated your License File without restarting the license manager. Restart the license manager and try to start MATLAB again.

If you get this error on the client, but not the server, the `license.dat` file on the client probably needs to be updated.

Make sure that the `INCREMENT` line in your License File exactly matches the `INCREMENT` line in the license information you received from The MathWorks.

License Manager Error -21: License Checkout Failed. License File Does Not Support This Version

If you are getting this error on your license server, make sure you have installed the version of FLEXnet included with the release you are trying to install. Older FLEXnet versions will not work with the License Files for new releases.

If you have updated an existing `license.dat` file with new passcodes, you still need to install the latest version of FLEXnet included with the release.

If you are getting this error on one of your client systems and not on the license server, make sure the License File on the client is in the following format.

```
SERVER host hostname port_num
USE_SERVER
```

The `SERVER` line in the client system License File should be the same as the `SERVER` line found in the License File on the license server.

License Manager Error -25: License Checkout Failed. License Server Does Not Support This Version of This Feature

This error indicates that you are trying to run MATLAB with an old license. You must update your `license.dat` file with your new license passcodes.

If you do not have an up-to-date license, contact Customer Service at The MathWorks.

License Manager Error -39: User/Host Not on INCLUDE List for Feature

This error can indicate that your FLEXnet options file contains an incorrect username on the `INCLUDE` line. For Stand-Alone Named User and Network Named User installations, the FLEXnet options file requires an `INCLUDE` line for all licensed products. See "Setting Up Network Named User Licensing" on page 2-24 for more information.

In addition, make sure that each user named in the FLEXnet options file has read permission for the options file.

License Manager Error -83: License Checkout Failed. FLEXnet Version of Client Newer Than Server

This error usually indicates that the version of the license manager on the client system is newer than the license manager on the server system. When MATLAB starts, the license file points to the wrong version of the license manager. To remedy this problem, update the license manager on the server to the latest version of FLEXnet that is included on the MathWorks DVD.

License Manager Error -84: USER_BASED License Has No Specified Users

The license manager cannot find your options file. Some possible resolutions are

- Verify that the installer created an options file during the installation procedure. The full path of the options file is *`matlabroot`*`\flexlm\MLM.opt`, where *`matlabroot`* is your MATLAB installation folder. See "Setting Up Network Named User Licensing" on page 2-24 for more information.

- Verify that the `DAEMON` line in your License File includes the full pathname of your options file. Check the processed License File, *`matlabroot`*`\flexlm\license.dat`. If the `DAEMON` line wraps onto a second line, make sure there is a line continuation character (`\`) at the end of the first line.
- Verify that you are listed as a valid user of the product you are trying to use.

License Manager Error -96: License Checkout Failed. Server Node is Down or Not Responding

This error can occur if you are running DHCP (to obtain a dynamically assigned IP address) on your license server. MATLAB cannot connect with the license manager because it uses TCP/IP protocols for communication and the IP address is changing.

To fix this problem, follow this procedure:

1. Obtain the current IP address for your server. On a PC running Windows, you can use the `ipconfig` command at a DOS prompt.
2. Edit the hosts file on your system and change the IP address for your server's entry to be the correct IP address. On Windows systems, edit the `C:\WINNT\system32\drivers\etc\hosts` file.

License Manager Error -97: License Checkout Failed

This error can occur when trying to start the license manager while an existing vendor daemon (`mlm.exe`) is already running. To resolve this, open the Task Manager and terminate any `mlm.exe` processes that are running. If you cannot end the process in the Task Manager, reboot your computer. Once you reboot, restart the license manager.

If the same error occurs after rebooting, it is also possible that the vendor daemon is trying to run on an occupied port. To specify an open port for the vendor daemon, edit the `DAEMON` line in the `license.dat` file, found in the *`matlabroot`*`\flexlm` folder, where *`matlabroot`* is the root MATLAB folder

```
DAEMON MLM matlabroot\flexlm\mlm.exe port=#####
```

where ##### is an open port. You can use any unused port number between 0 and 64000. By default, the license manager uses a port in the range 27000 to 27009.

Index

A

adding products 1-25

C

client systems
  accessing MATLAB 2-4
  in redundant configurations 3-25
  location of processed License File 3-8
concurrent access configurations 2-3
concurrent installations
  procedure
    on client systems 2-27
  time-outs 3-16
configuration
  after installation 1-20
contacting The MathWorks 1-27
current folder
  initial 1-20

D

DAEMON line
  in License Files 3-7
daemons
  license manager daemon 3-3
  opening access in security firewalls 2-26
  vendor daemon 3-3
deleting a MATLAB installation 3-28
demo licenses
  converting to standard licenses 1-22
dongles
  uninstalling 3-32

E

error messages
  license manager 4-6
expiration date
  extending 1-22

F

firewalls
  opening access to license manager daemons 2-26
FLEXnet
  installation folder 3-3
  troubleshooting 4-5

H

host ID
  determining on license server 1-28
  in License File 3-4
hosts file 4-14

I

INCREMENT lines
  in License Files 3-4
initial current folder 1-20
initialization files
  using with installer 3-26
  using with uninstaller 3-31
installation folder
  moving 1-22
installation procedure
  basic 1-2
  network 2-5
  noninteractive 3-26
  prerequisites
    concurrent licenses 2-6
    individual licenses 1-3
  selecting products
    concurrent installations 2-15
  turning off virus checking software 4-2
installer
  concurrent installations 2-7
  running noninteractively 3-26
  standard installations 1-5
  updating a license 1-22

installer initialization file
specifying 3-26
installer.ini 3-26
installing MATLAB
adding products 1-25
basic procedure 1-2
network procedure 2-4
ipconfig 1-28

L

License Files
checking line breaks in 3-5
combining licenses 1-27
comment lines 3-4
creating 3-5
DAEMON line 3-7
definition 3-4
encryption code inconsistency 4-9
INCREMENT lines 3-4
location on client system 3-8
processing by installer 2-11
processing on servers 3-6
running separate license servers 3-22
search path 3-8
SERVER line 3-7
sharing with other applications 3-22
specifying path 2-11
understanding 3-4
with multiple SERVER lines 3-24
license management
advanced configurations 3-19
integrating with an existing FLEXnet license installation 3-22
overview 3-2
license manager
administering 3-10
administration 3-2
daemons 3-3
error messages 4-6
installation folder 3-3
running multiple 3-22
running with other applications 3-22
sharing with other applications 3-22
synchronizing in redundant configurations 3-25
troubleshooting 4-5
using the LMTOOLS GUI 3-12
utility programs 3-10
viewing log file 3-15
license manager daemon
port numbers 3-7
License Number 1-27
License Password
See Personal License Password 1-6
license servers
defined 2-3
redundant 3-22
license.dat
creating 3-6
definition 3-4
license.txt
software license agreement text 1-8
licenses
administration tools 3-10
extending expiration date 1-22
managing 1-27
types of 1-1
user-based 2-24
licensing
troubleshooting 4-5
using concurrent licenses with a stand-alone installation 3-20
viewing the log file 4-5
LM_LICENSE_FILE environment variable 3-8
lmdiag
diagnosing license checkout problems 3-11
lmdown
shutting down the license manager 3-11
lmgrd.exe 3-3

license manager daemon 3-3
lmhostid
getting system host ID 3-11
lmlog.txt
FLEXnet log file 3-15
license manager log file 4-5
lmreread
forcing license manager to reprocess the License File 3-11
lmstat
viewing license manager status 3-11
lmswitchr
specifying the report log file 3-11
LMTOOLS
using the FLEXnet utilities GUI 3-12
lmtools.exe
FLEXnet utilities GUI 3-13
lmutil.exe
license manager utilities 3-10
lmver
get FLEXnet version number 3-11
local client access 2-4
log files
license manager 4-5
viewing license manager log file 3-15

M

MATLAB
getting started 1-21
installing
basic procedure 1-2
in network configurations 2-4
moving an installation 1-22
removing an installation 3-28
running multiple versions
on one system 3-19
troubleshooting 4-15
starting 1-19
MATLAB Installer
concurrent installations 2-7
standard installation 1-5
updating a license 1-22
MATLAB Notebook
configuration 1-20
mlm.exe
vendor daemon 3-3
MLM_LICENSE_FILE environment variable 3-8
MLM.opt
FLEXnet options file 2-25

N

network installation procedure
installing MATLAB in network configurations 2-5
instructions 2-1
on client systems 2-27
post-installation tasks 2-24
Notebook
configuration 1-20

O

options files
enabling time-outs 3-16
specifying location of 3-7
with named user licensing 2-25
overwriting an existing installation
individual installation 1-4 2-7

P

passcode
encrypted in license file 3-4
password
See Personal License Password 1-27
Personal License Password (PLP)
compared to License Number 1-3
definition 3-4
installing additional products 1-25

specifying
concurrent installations 2-8
standard installations 1-6
when updating a license 1-23
port numbers
changing 4-15
opening access in security firewalls 2-26
specifying in License File 3-7
specifying on DAEMON line 3-7
used for license manager 3-7
vendor daemon 3-7
preference files
removing 3-30
products
adding 1-25
selecting
concurrent installations 2-15

R

Real-Time Windows Target
configuration 1-20
redundant license servers 3-22
adding SERVER lines for each server 3-24
setting up client systems 3-25
remote client access
setting up 2-3
removing a MATLAB installation 3-28
requirements. *See* system requirements

S

security firewalls
opening access to license manager daemons 2-26
SERVER line
in License Files 3-7
sharing License Files 3-22
troubleshooting 4-10
setup.exe
in noninteractive installations 3-26
standard installations 4-2
shortcut
MATLAB shortcut on desktop 1-19
silent installations
running without screen displays 3-26
Simulink
behavior with license time-out 3-18
software license agreement 1-8
stand-alone licenses
using concurrently licensed products with 3-20
start-up folder 1-20
starting MATLAB 1-19
troubleshooting 4-5
system requirements 1-29

T

time-outs
enabling 3-16
of license keys 3-16
reacquiring timed out license keys 3-18
user experience of 3-18
toolboxes
adding 1-25
transferring licenses 1-27
troubleshooting
during installation 4-2
FLEXnet 4-5
starting MATLAB 4-5

U

uninstall.exe
using the -if option 3-32
uninstaller
running noninteractively 3-31
starting 3-28
uninstalling MATLAB 3-28

updating a license 1-22
upgrading an installation
network installations 2-7
standard installations 1-4
USE_SERVER
client License File 3-8
user-based licensing
setting up 2-24

V

vendor daemon 3-3
specifying port numbers 3-7
virus checking software
disabling during network installations 2-7
disabling in a standard installation 1-3
troubleshooting installations 4-2

W

work folder 1-20