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Installation Guide for Windows

*Release 14 with Service Pack 3
(MATLAB® 7.1 Product Family)*



How to Contact The MathWorks:



www.mathworks.com	Web
comp.soft-sys.matlab	Newsgroup



support@mathworks.com	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
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508-647-7001	Fax
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The MathWorks, Inc. 3 Apple Hill Drive Natick, MA 01760-2098	Mail
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For contact information about worldwide offices, see the MathWorks Web site.

Installation Guide for Windows

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Standard Installation Procedure

This chapter describes how to install the MathWorks Release 14 Service Pack 3 family of products on a computer running Microsoft Windows. 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 lab 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)	Provides detailed, step-by-step installation instructions
Updating a License (p. 1-21)	Describes how to update your license from a demo license without having to reinstall MathWorks products
Installing Additional Products (p. 1-25)	Describes how to add products to an existing installation
Obtaining Your Licenses (p. 1-27)	Describes how to get the license information needed for installation, if you don't already have it
System Requirements (p. 1-29)	Describes the 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.

Note During installation, the installer attempts to contact the MathWorks Web site to determine if newer versions of products are available. (See “Step 9: Read Product Configuration Notes” on page 1-15 for more information.) The installer does not send any personal information from your computer to The MathWorks.

Instead of running the MathWorks Installer 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 3-27.

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

Step 6: Specify installation folder

For Custom installations, you can also specify which products you want to install

Step 7: Specify installation options (Custom installations only)

Step 8: Confirm your choices

Installation Steps

Step 9: Read product configuration notes

Step 10: Complete the installation

Step 11: 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 release code, such as 14-12345-12345-12345-12345. 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.

In addition, consider disabling virus checking on your system for the duration of the installation process. Virus checkers can slow down the installation process.

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 Release 14, Service Pack 3. You can run multiple versions of MATLAB on the same system — see “Running Multiple Versions of MATLAB” on page 3-20. 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 Release 14 installation with Release 14 Service Pack 3, the installer deletes all the products currently in your Release 14 installation folder and installs only those products included in your Release 14 Service Pack 3 license. For example, if your Release 14 installation includes ten products but your Service Pack 3 PLP only includes five of those products, after installing Service Pack 3, your installation will only include the five products included in your Service Pack 3 PLP.

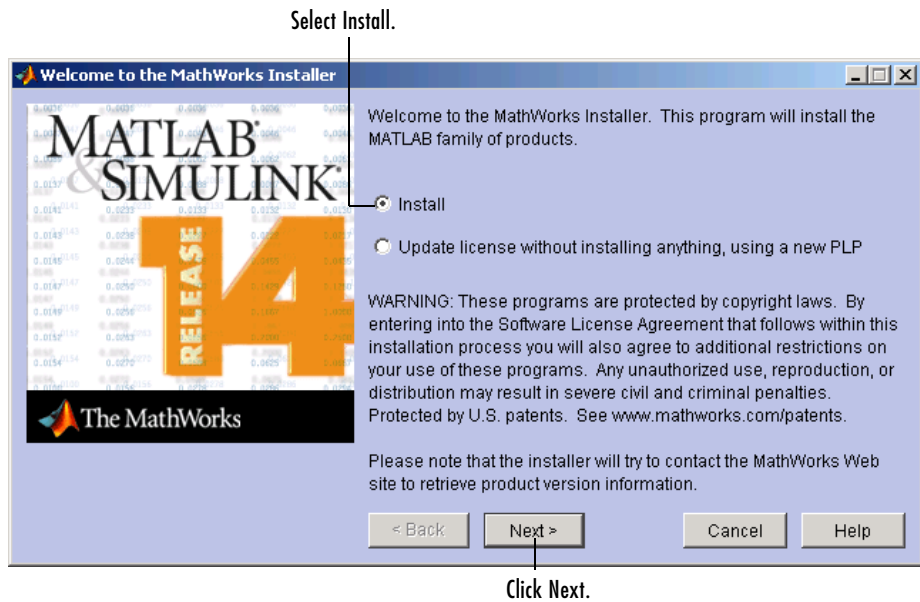
Saving MATLAB Preferences Files

The installer does not overwrite existing MATLAB preference files on your system. Note, however, that if you plan to remove a Release 12 or earlier installation, you might want to first save your MATLAB preference files. Before Release 12.1, the uninstaller automatically deleted MATLAB preferences files. See “Using the Uninstaller” on page 3-29 for more information.

Step 2: Start the Installer

Insert CD 1 into the CD-ROM 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. The installer will prompt you if you need to insert other CDs during installation — see “Installing Products from the Other CDs” on page 1-14.

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 1-21.)



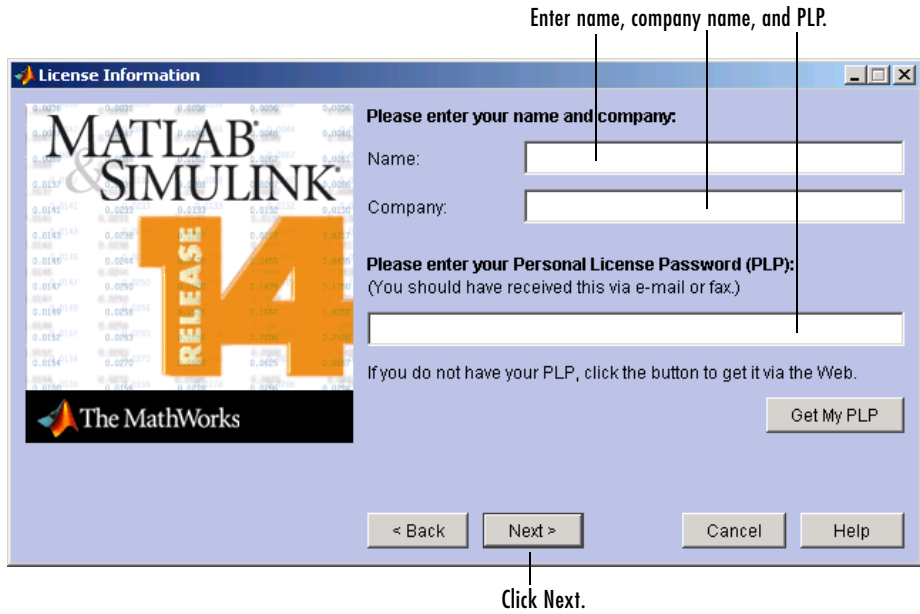
Step 3: Enter Identification and License Information

Enter your name, company 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. If your PLP identifies a product that is not on any of CDs, the installer notifies you — see “Product Update Information” on page 1-8. 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 release code, such as 14-12345-12345-12345-12345.

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 MATLAB Access Login. Access Login is free of charge and available to all

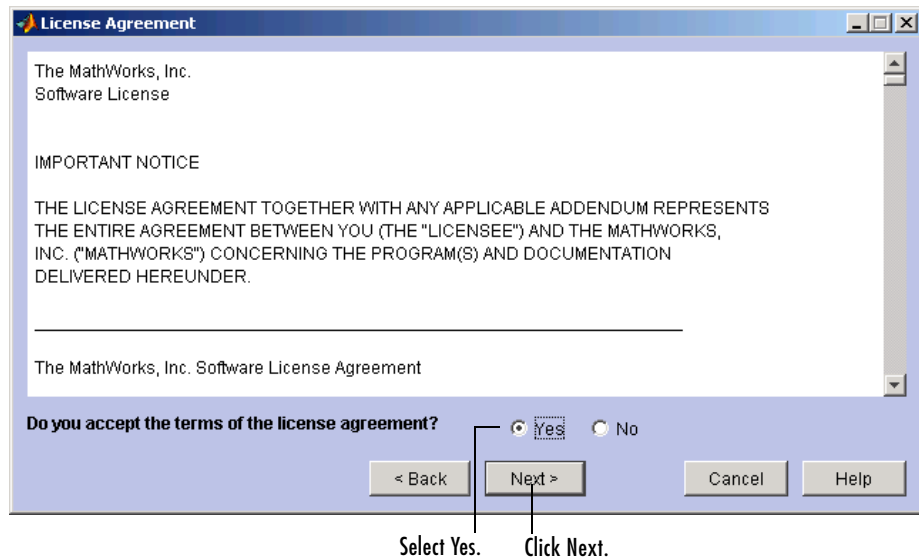
customers. If you do not already have one, you can create an Access Login at the MathWorks Web site.



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

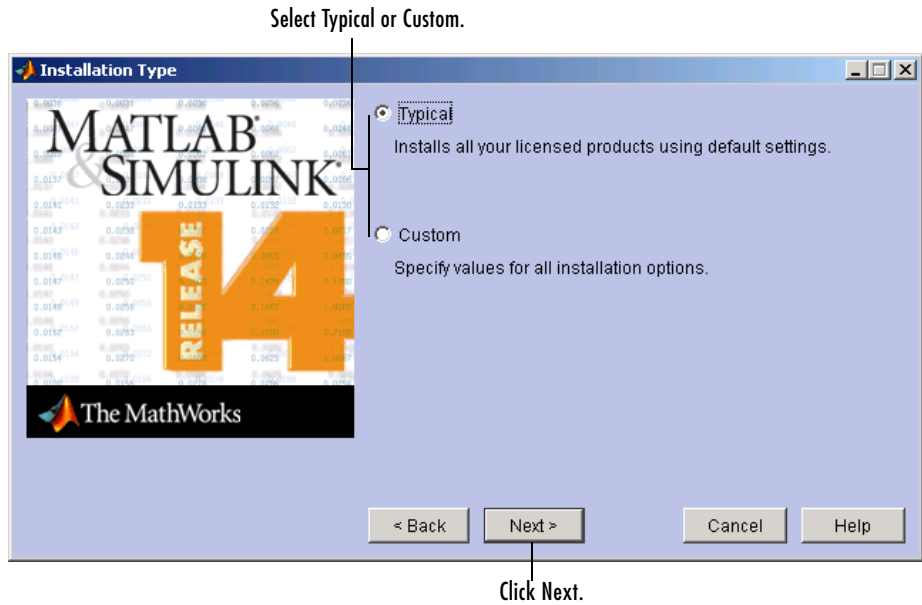
Using the MathWorks Installer, you can perform two types of installations: Typical or Custom.

The Typical installation procedure is 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

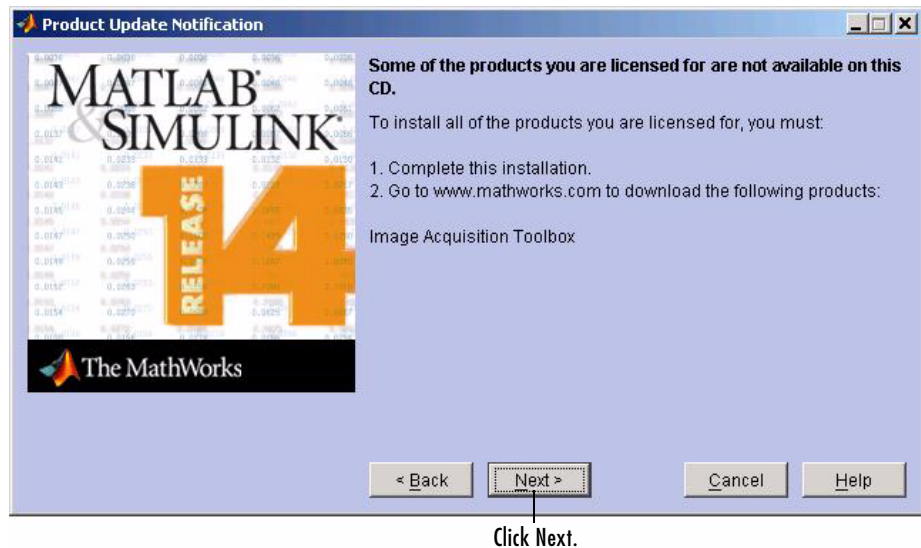
Choose a Custom installation if you need to select which products to install or need to access installation options.

Select the installation type and click **Next**.



Product Update Information

A PLP can identify a product that is not on any of the CDs. This can happen when a new product is released after the MathWorks CDs were produced. When this occurs, the installer displays the names of these new products in the **Product Update Notification** dialog box. The installer also includes this information in the **Product Configuration Notes** dialog box. You must go to the MathWorks Web site to download these products after installation is complete. Click **Next** to continue with the installation.



Step 6: Specify Installation Folder and Products

The dialog box you use to specify where you want to install MATLAB varies depending on which type of installation you are performing:

- Typical Installation — You specify only the installation folder.
- Custom installation — You specify the installation folder and select the products you want to install. A Custom installation also provides access to installer options (Step 7).

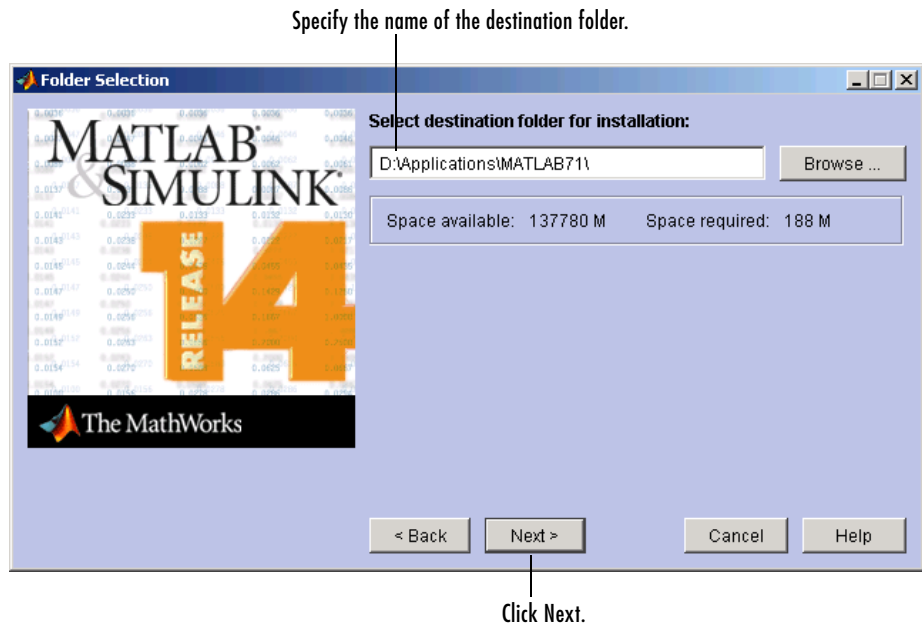
Note The installer includes the online documentation, in compressed form, for each product you install. However, this does not include documentation in PDF format, which is only available at the MathWorks Web site.

Typical Installation

In a Typical installation, you can use the **Folder Selection** dialog box to specify the name of the folder into which you want to install MATLAB. 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.

When specifying a folder name, do not use a name that contains an at (@) sign or a dollar (\$) sign. Also, the full path of the installation folder must not include a folder named private.

To continue with a Typical installation, click **Next** and go to “Step 8: Confirm Your Choices” on page 1-14. After clicking **Next**, you might receive a message telling you that one or more of the products that you selected for installation have dependencies on other products. See “Product Dependencies” on page 1-12 for more information.



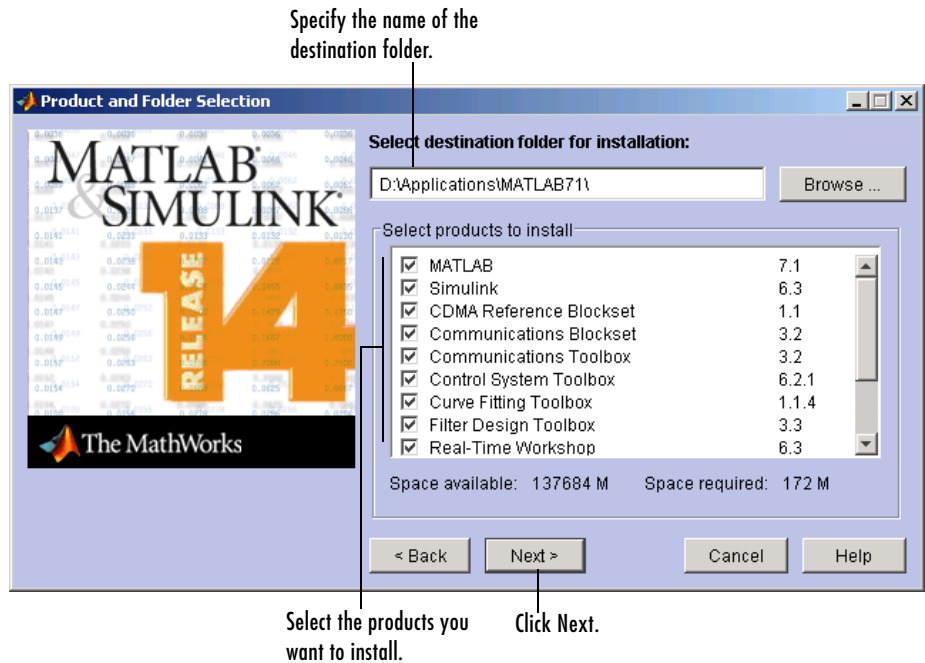
Custom Installation

In a Custom installation, you use the **Product and Folder Selection** dialog box to specify the name of the folder into which you want to install MATLAB and to select which products you want to install. You can accept the default installation folder or specify the name of a different installation folder. If the folder doesn't exist, the installer creates it.

When specifying a folder name, do not use a name that contains an at (@) sign or a dollar (\$) sign. Also, the full path of the installation folder must not include a folder named private.

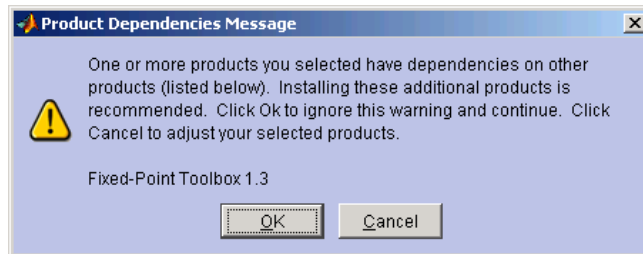
The **Product and Folder Selection** dialog box also lists all the products you are licensed to install, preselected for installation. If you do not want to install a particular product, clear the check box next to its name. You can always install a product later — see “Installing Additional Products” on page 1-25. The License Manager is only required for Network installations — see Chapter 2, “Network Installation Procedure.”

After specifying 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 that you selected for installation have dependencies on other products. See “Product Dependencies” on page 1-12 for more information.



Product Dependencies

After completing step 6, 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. In the following example, certain products require the Fixed-Point Toolbox.



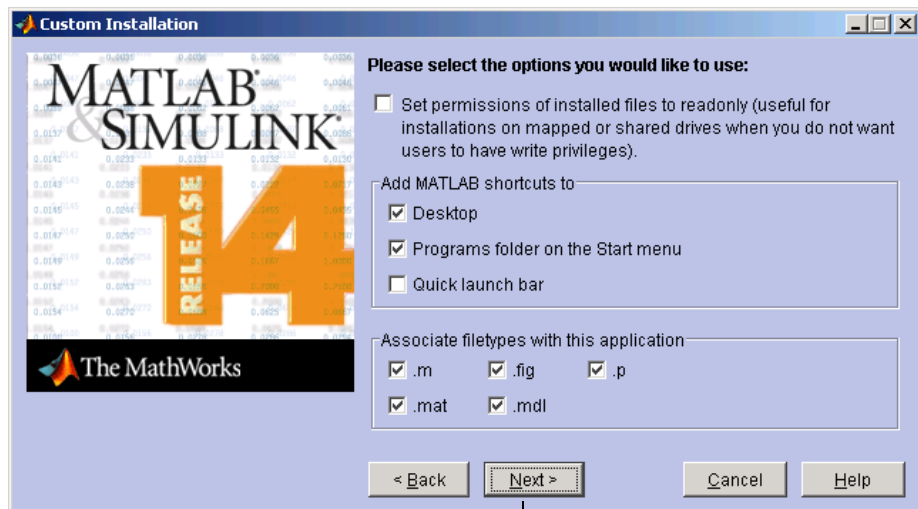
To dismiss the message and continue with the installation, click **OK**. For Custom installation, if you want to adjust your product selections, click **Cancel**.

Step 7: 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 9: Specify Installation Options” on page 2-15
- 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.

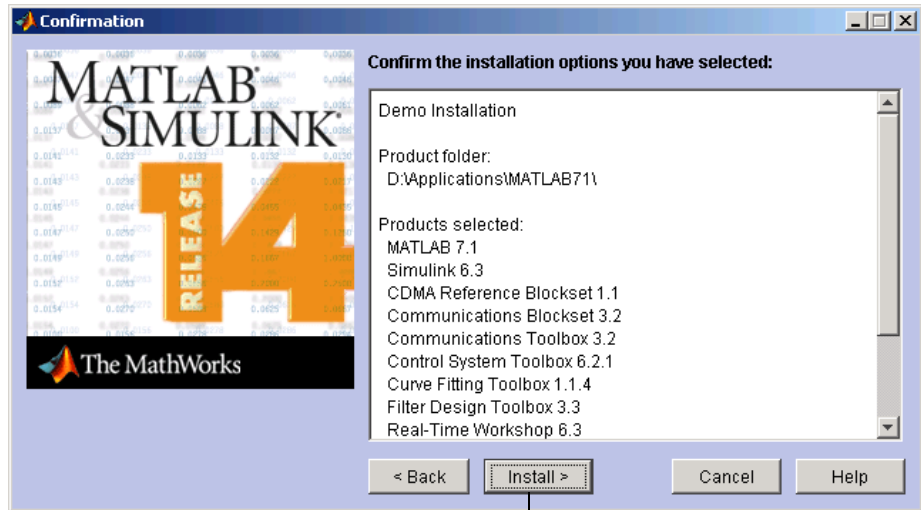
After selecting installation options, click **Next** to proceed with the installation.



Click Next.

Step 8: Confirm Your Choices

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



Click Install.

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

Installing Products from the Other CDs

You must use CD 1 to start an installation. If you are installing products that are not on CD 1, the installer prompts you to insert another CD in your CD-ROM drive. After switching the CDs, click **OK** to continue with the installation. If you do not want to install these products, click **Skip CD**. You can always install these products later — see “Installing Additional Products” on page 1-25.

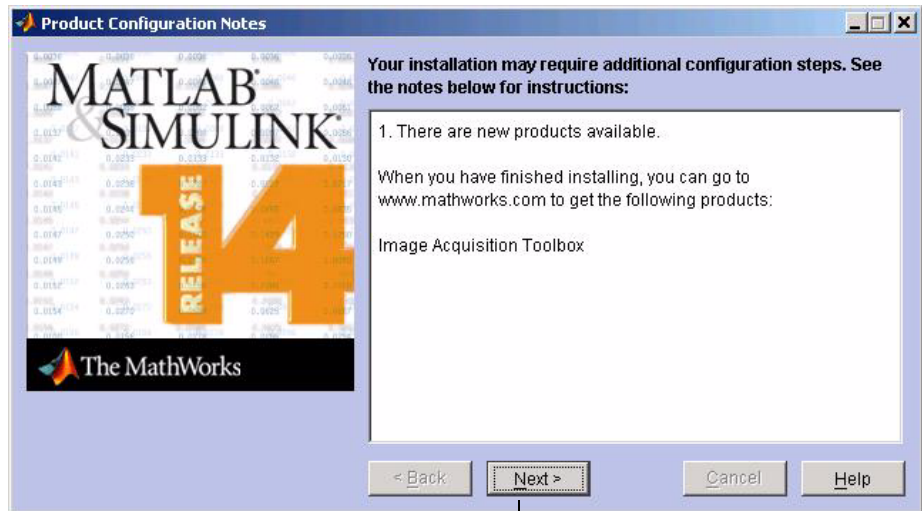


Step 9: Read Product Configuration Notes

Depending upon which products you install, the MathWorks Installer might display a dialog box containing two 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 1-19.
- **Available product updates** — During installation, the installer attempts to contact the MathWorks Web site to determine if new products or new versions of existing products are available for download. Sometimes, new products or new versions of existing products are made available on the MathWorks Web site after the CDs are produced. If any of the products you installed have updates available, the installer lists them in this dialog box. You must go to the MathWorks Web site to download them after installation is complete.

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



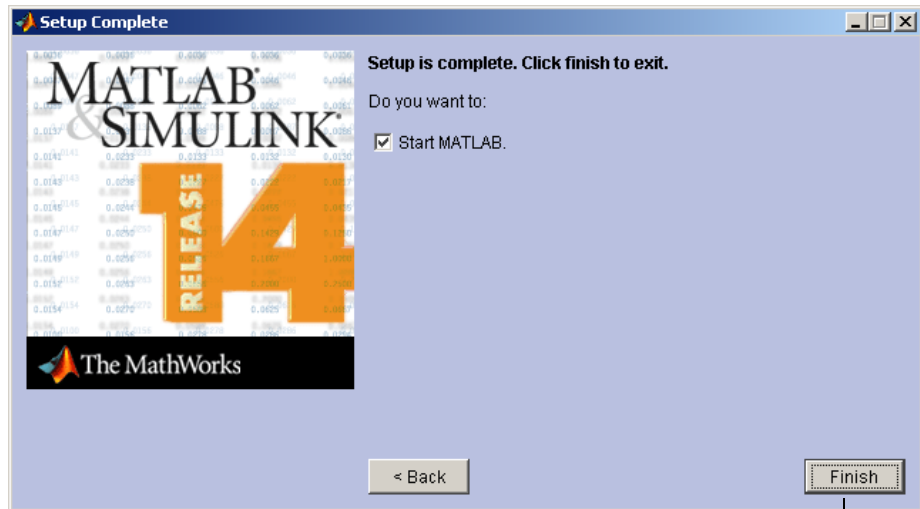
Click Next.

Step 10: 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 1-18.

If your PLP identified a product for which you have a license but that is not on any of the CDs, the **Setup Complete** dialog box offers you the option to open a Web browser to the MathWorks Web site so that you can download these additional products.

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



Click Finish.

MATLAB Top-Level Folder Structure

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

Folder	Description
\bin\win32	The MATLAB executable and associated files
\demos	MATLAB demonstration programs
\extern	Tools for building external interfaces to MATLAB
\help	Help system
\ja	MATLAB internationalization files
\java	MATLAB Java JAR files
\notebook	MATLAB Notebook

Folder	Description
\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 11: After You Install

This step describes several optional tasks you can perform after a successful installation:

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

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. On the application menu that appears, click the entry for the current MATLAB version.



- Using Windows Explorer, open your top-level MATLAB installation folder and double-click the shortcut to the MATLAB executable, MATLAB 7.1.

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 \$MATLAB\work folder, where \$MATLAB represents the name of your installation folder. The \work folder is a good place to store the M-files you modify and create because the MATLAB uninstaller does not delete the \work folder if it contains files.

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 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 -setup

Finding Information About MATLAB

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

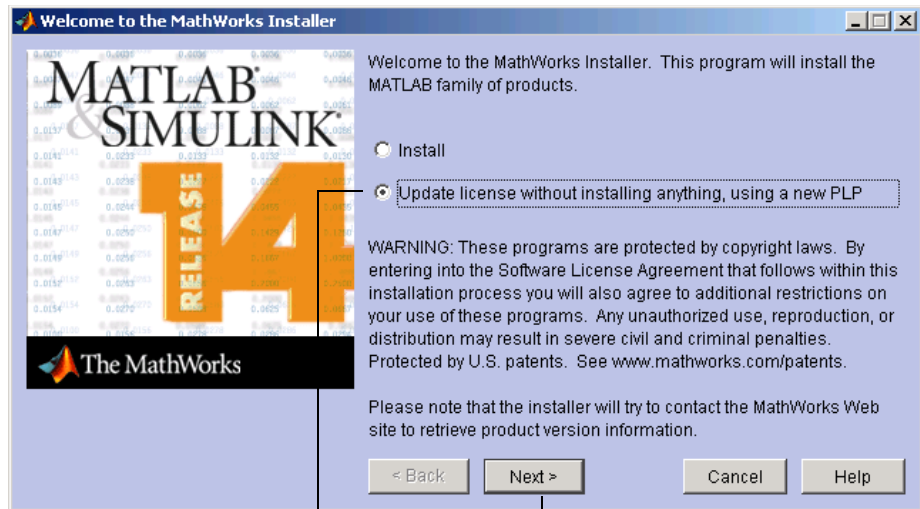
Task	Description
To get an overview of MATLAB and its capabilities	Read the MATLAB Getting Started documentation.
To find out what's new in this release	Read the Release Notes documentation.
To start a product or access product demonstrations programs	Use the Start button in the MATLAB desktop.
To get 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 on 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 Update license option lets you update your license without having to reinstall any products. You can also use this option to update your license when you move an installation onto a new system.

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

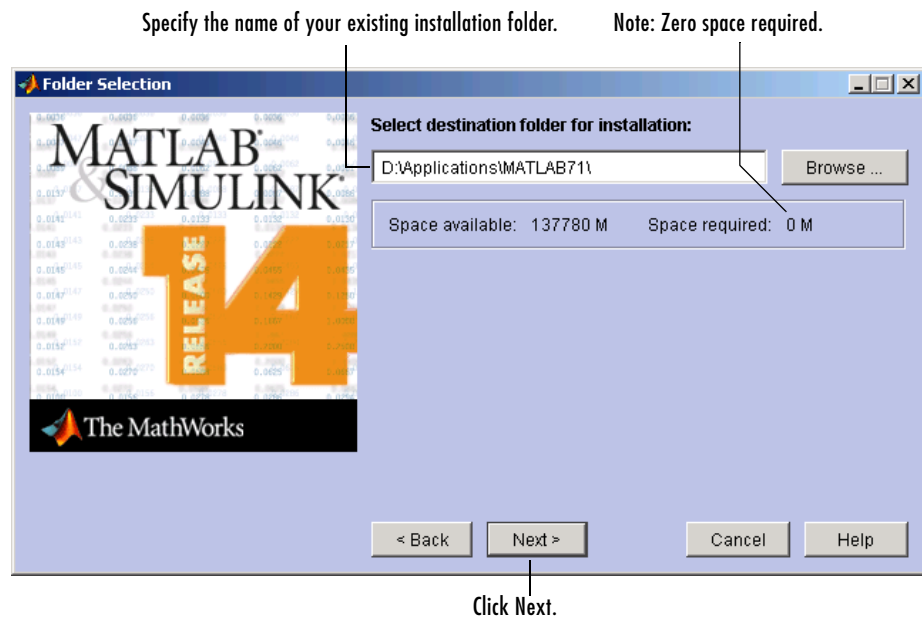
- 1 Before you install.
 - Have your new PLP handy.
 - Exit any existing copies of MATLAB you might have running.
- 2 Insert the MathWorks CD 1 into the CD-ROM drive connected to your system or double-click the installer file you downloaded from the MathWorks Web site. The MathWorks Installer starts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



Select the Update option.

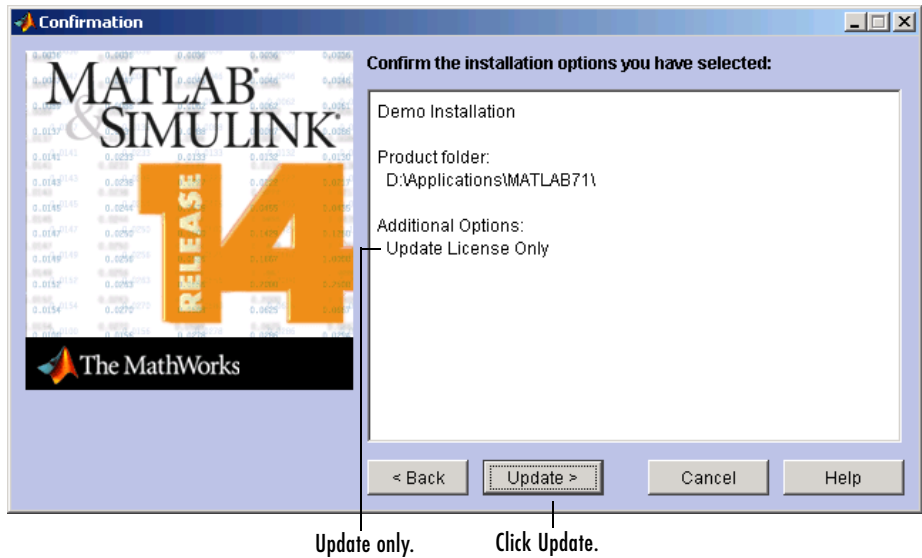
Click Next to continue.

- 3 Enter your new Personal License Password (PLP) in the **License Information** dialog box and then 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 then 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.

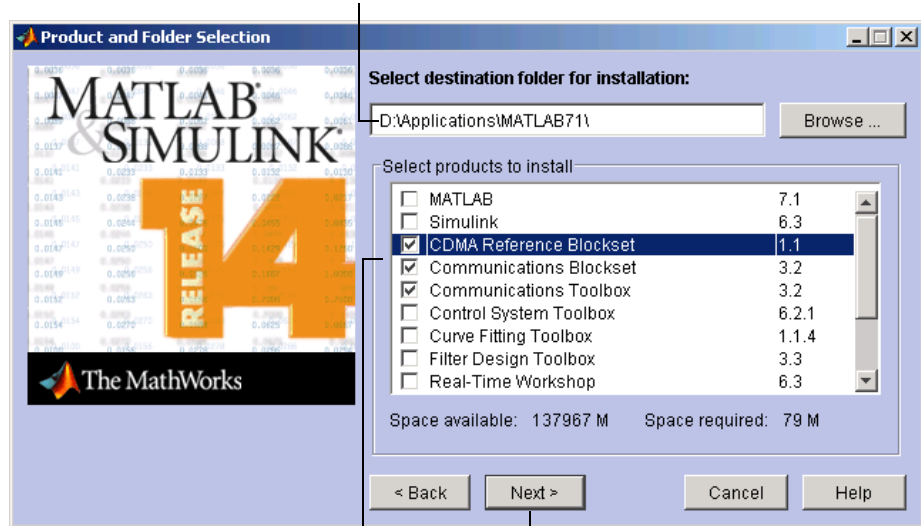
Installing Additional Products

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 CD 1 into your CD-ROM drive or double-click the 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 then click **Next**.
- 4 Review the software licensing agreement and, if you agree with the terms, select **Yes** and then 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 and select the products you want to install in the **Product and 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.

Specify the name of your existing installation folder.



Select only your new products.

Click Next.

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. If you are installing products that are not on CD 1, the installer prompts you to insert another CD in your CD-ROM drive.

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 1-19 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 CPU
- 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 & Licensing**, click the **Get assistance** link.

You can also obtain your PLP by contacting The MathWorks via:

- **Access Login.** Go to the MathWorks Web site at www.mathworks.com and click **Access Login**. If you have an Access Login, you can see all of your licenses.
- E-mail at service@mathworks.com.
- Telephone at 508-647-7000; ask for Customer Service. 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.
- Fax at 508-647-7001.

Depending on you 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 or the IP address as the host ID. To get this information, open a command prompt window and run the `ipconfig` command.

```
C:\WINNT\system32\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 support area at the MathWorks Web site (www.mathworks.com) and click **Support**.

General Requirements

- CD-ROM or DVD drive (for installation)
- Netscape Navigator 4.0 or later, Microsoft Internet Explorer 4.0 or later, or Mozilla 1.x or later is required.
- Adobe Acrobat Reader 3.0 or later is required to view and print the MATLAB documentation in PDF format. (Internet access is required.)
- Some license types require a license server running FLEXlm 9.2, 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

Operating system	Windows XP (Service Pack 1 or 2) Windows 2000 (Service Pack 3 or 4) Windows 2003 Server
Processors	Pentium III, Pentium IV, Xeon, Pentium M AMD Athlon, Athlon XP, or Athlon MP
Disk space	450MB (MATLAB only with Help)
RAM	256MB (512 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 (strongly recommended)

Other Requirements and Recommendations

- Microsoft Windows supported graphics accelerator card, printer, and sound card
- Microsoft Word 2000, 2002, or 2003 is required to run the MATLAB Notebook
- Microsoft Excel 2000, 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, see the support area at the MathWorks Web site (www.mathworks.com).

Network Installation Procedure

This chapter describes how to install the MathWorks Release 14 Service Pack 3 family of products in network access configurations. Use this procedure for license options that can be installed in a network configuration.

Setting Up a Network Installation (p. 2-2)	Describes the different types of configurations you can set up with network licenses
Overview of Steps in Network Installation Procedure (p. 2-5)	Provides detailed, step-by-step installation instructions
Installing MATLAB on a Client System (p. 2-24)	Highlights the 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 called FLEXlm to control access to its products. (FLEXlm is a product of Macrovision Corporation.) To set up these installations, 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 will determine 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 FLEXlm, see Chapter 3, “License Management.”

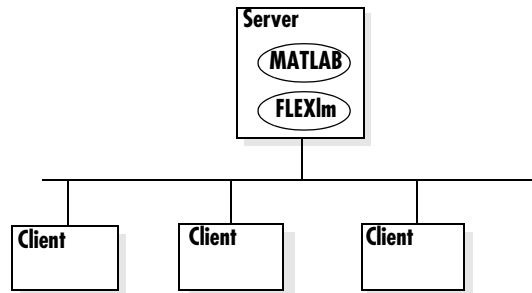
Network Configuration Options

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

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

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 (FLEXlm) and MATLAB can be installed on the same server or on separate servers.

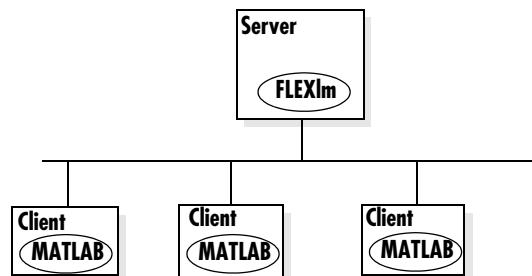


If your license server is a PC, follow the instructions in “Overview of Steps in Network Installation Procedure” on page 2-5. If your license server is a UNIX system, follow the instructions in the installation documentation for UNIX systems. A UNIX license server can serve PC clients and a PC server 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 “License File Location” on page 2-25 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 “License File Location” on page 2-25 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.

Note During installation, the installer attempts to contact the MathWorks Web site to determine if newer versions of products are available. (See “Step 11: Read Product Configuration Notes” on page 2-18 for more information.) The installer does not send any personal information from your computer to The MathWorks.

Instead of running the installer 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 3-27.

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 folder and products

Step 8: Configure the license manager as a service

Step 9: Specify installation options

Step 10: Confirm your choices

Step 11: Read product configuration notes

Step 12: Complete the installation

Step 13: 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 release code, such as 14-12345-12345-12345-12345. 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 FLEXlm license manager, if it is running. (See “Starting and Stopping the License Manager” on page 3-15 for instructions.)
- 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.

In addition, consider disabling virus checking on your system for the duration of the installation process. Virus checkers can slow down the installation process.

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 Release 14, Service Pack 3. You can run multiple versions of MATLAB on the same system — see “Running Multiple Versions of MATLAB” on page 3-20. 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 Release 14 installation with Release 14 Service Pack 3, the installer deletes all the products currently in your Release 14 installation folder and installs only those products included in your Release 14 Service Pack 3 license. For example, if your Release 14 installation includes ten products but your Service Pack 3 PLP only includes five of those products, after installing Service Pack 3, your installation will only include the five products included in your Service Pack 3 PLP.

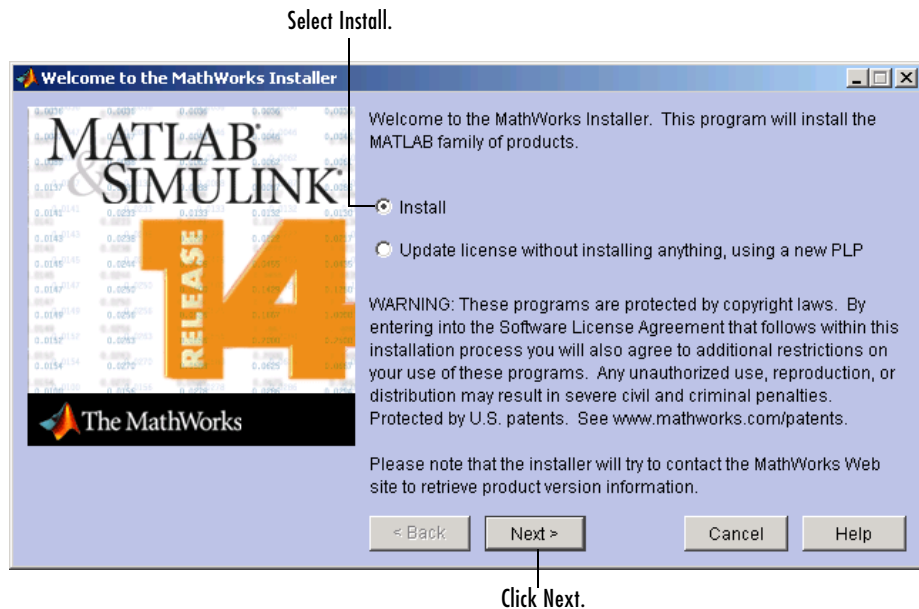
Saving MATLAB Preferences Files

The installer does not overwrite existing MATLAB preference files on your system. Note, however, that if you plan to remove a Release 12 or earlier installation, you might want to first save your MATLAB preference files. Before Release 12.1, the uninstaller provided with MATLAB automatically deleted MATLAB preferences files. See “Using the Uninstaller” on page 3-29 for more information.

Step 2: Start the Installer

Insert the MathWorks product CD into the CD-ROM 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 1-21.)



Step 3: Enter Identification and License Information

Enter your name, company 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. If your PLP identifies a product that is not on any of CDs, the installer notifies you — see “Product Update Information” on page 2-12. 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 release code, such as 14-12345-12345-12345-12345-12345.

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 MATLAB Access Login. Access Login is free of charge and available to all customers. If you do not already have one, you can create an Access Login at the MathWorks Web site.

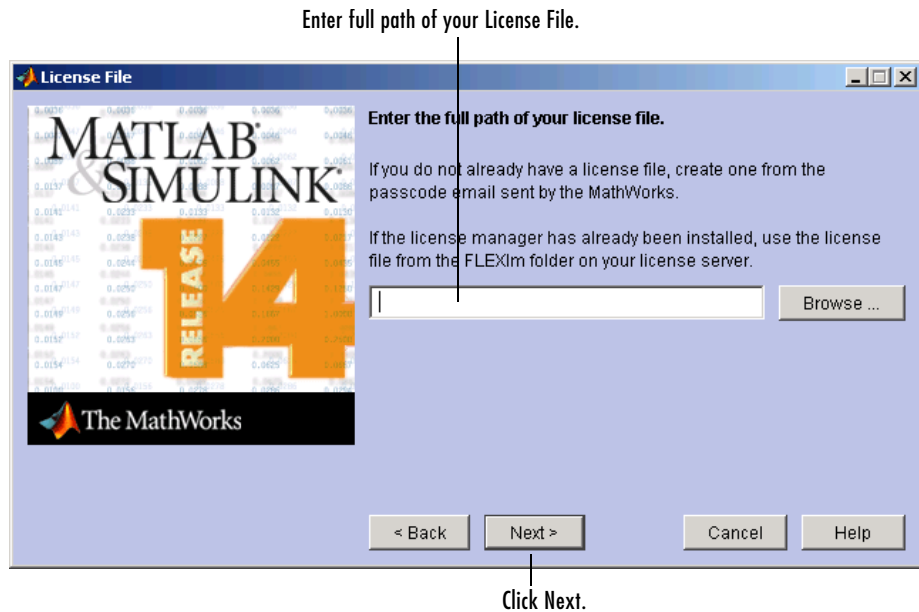
Enter name, company name, and PLP.

Click Next.

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.

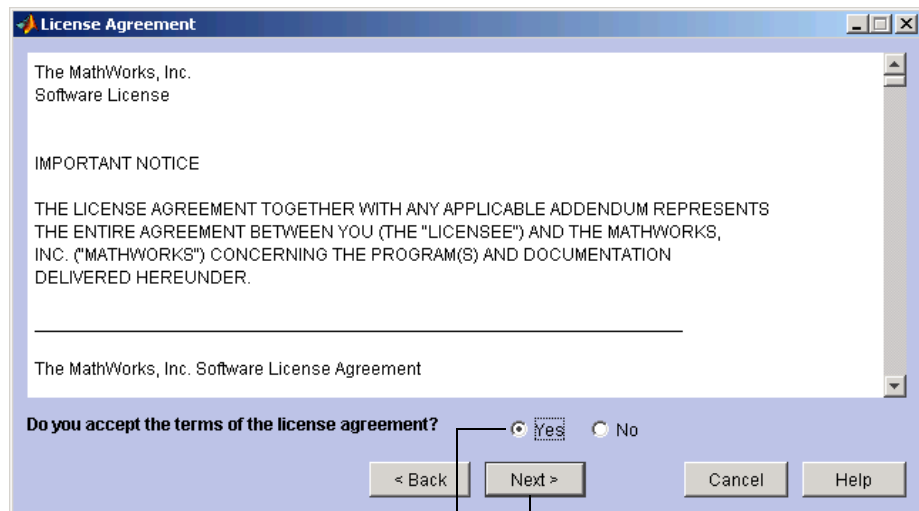
If you are installing the license manager, use the License File you created from the license passcode e-mail. See “Licensing Information” on page 3-3 for more information. If you are installing MATLAB on a client system, see “License File Location” on page 2-25 for instructions.



Step 5: Review the Software Licensing Agreement

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

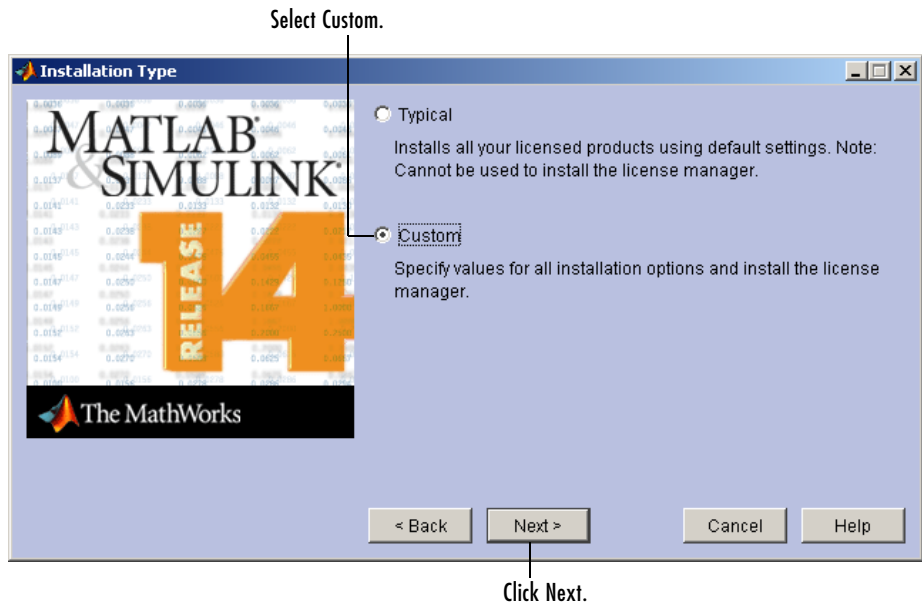
After the installation is complete, you can view or print the license agreement using the file `license.txt` located in the top-level MATLAB installation folder.



Select Yes. Click Next.

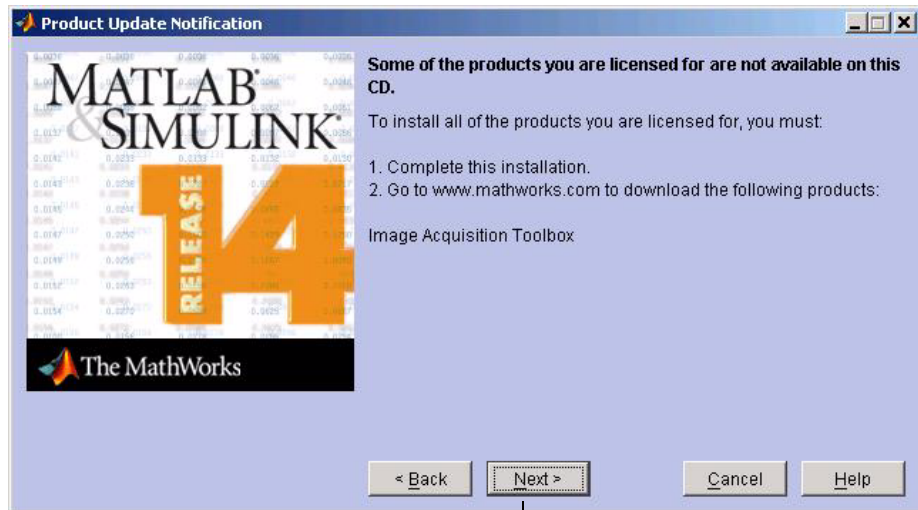
Step 6: Specify Type of Installation

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 "License File Location" on page 2-25.)



Product Update Information

A PLP can identify a product that is not on any of the CDs. This can happen when a new product is released after the MathWorks CDs were produced. When this occurs, the installer displays the names of these new products in the **Product Update Notification** dialog box. The installer also includes this information in the **Product Configuration Notes** dialog box. You must go to the MathWorks Web site to download these products after installation is complete. Click **Next** to continue with the installation.



Click Next.

Step 7: Specify Folder and Products

In a Custom installation, you use the **Product and Folder Selection** dialog box to specify the name of the folder into which you want to install MATLAB, called the *destination folder*, and to select which products you want to install.

Specifying the Destination Folder

This dialog box includes a default destination folder, but you can specify another folder. If the folder doesn't exist, the MathWorks Installer creates it.

Do not specify a folder name that contains an at (@) sign or a dollar (\$) sign. Also, the full path of the installation folder must not include a folder named private.

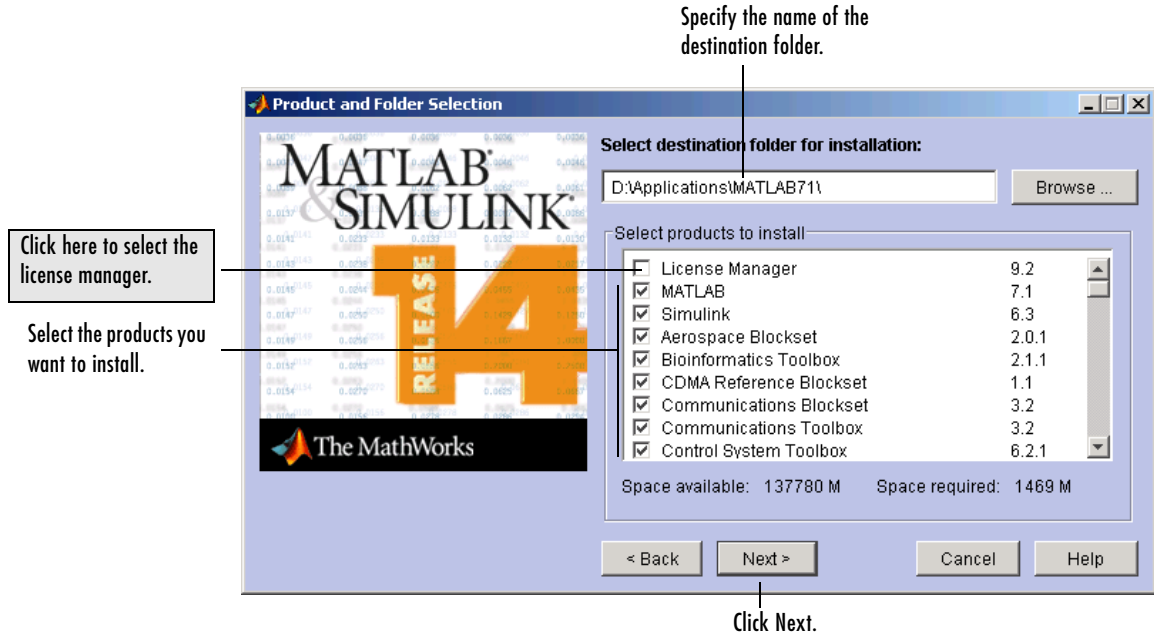
Specifying Products to Install

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. The installer includes the documentation, in compressed form, for each product it installs. The installer does not install product documentation in PDF format; this is only available at the MathWorks Web site.

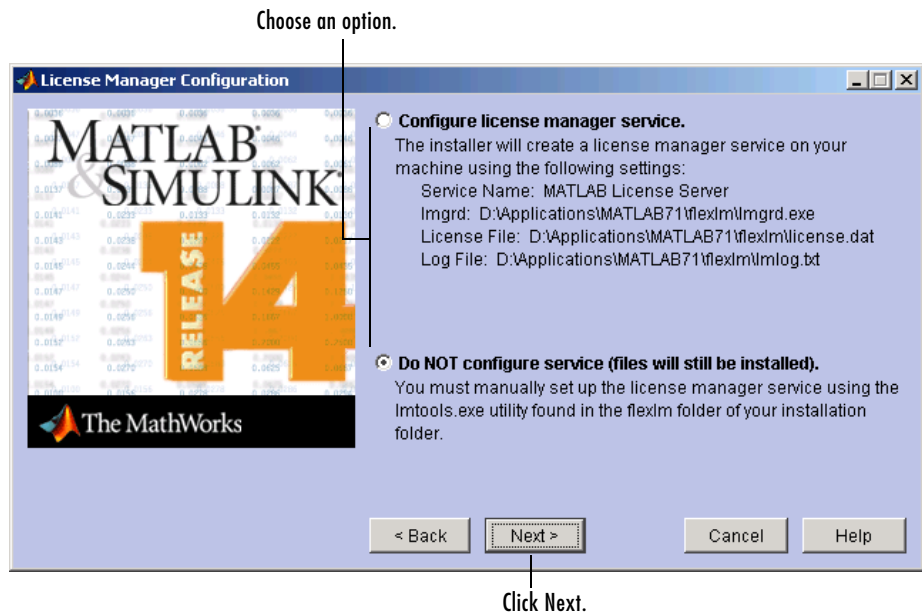
After making your selections, click **Next** to proceed with the installation.

Note After clicking **Next**, you might receive a message telling you that one or more of the products you selected depend on other products. For example, all MathWorks products require MATLAB. Click **OK** to dismiss the error message and continue with the installation. To return to the **Product and Folder Selection** dialog box to adjust your product selection, click **Cancel**. For more information, see “Product Dependencies” on page 1-12.



Step 8: 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 “Installing the License Manager Service” on page 3-10 for more information.



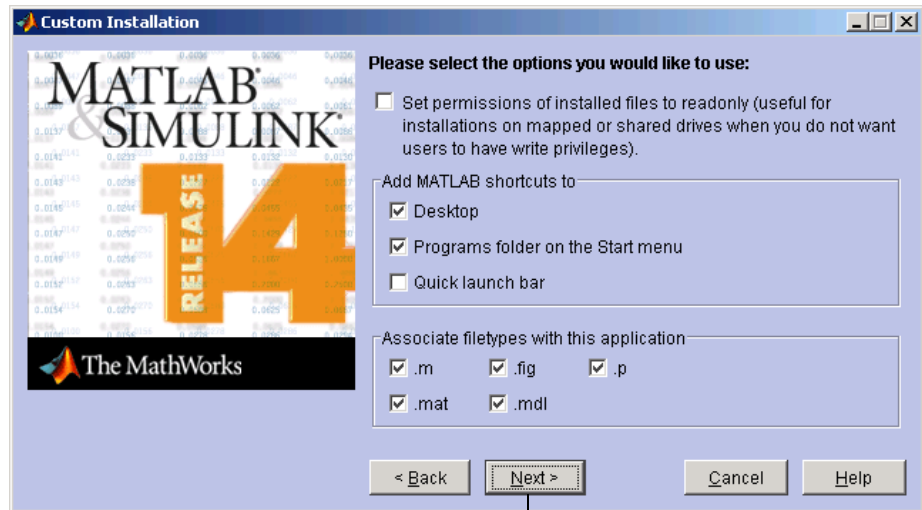
Step 9: Specify Installation Options

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

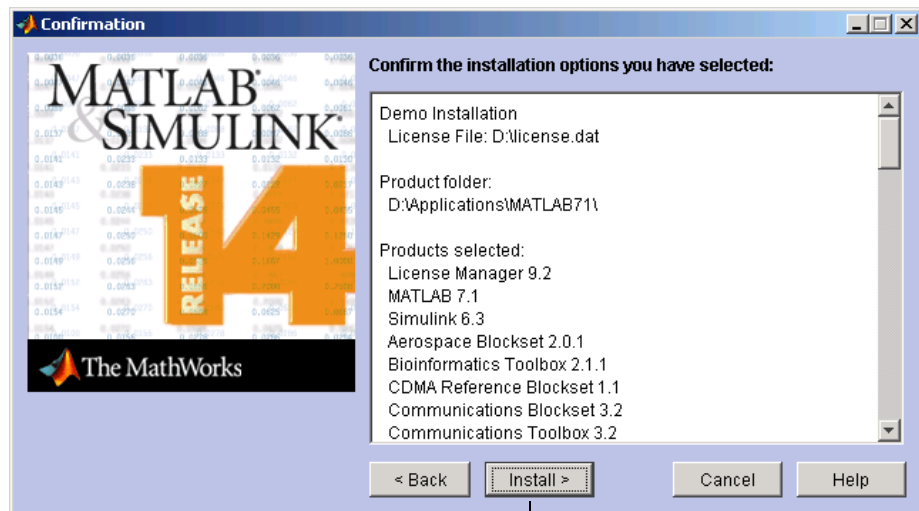
- Specifying which files the Windows operating system associates with MATLAB based on their file extension. For example, if you associate files with the .m file extension with MATLAB, Windows displays MATLAB M-file as the type in the **Window Explorer** window.

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



Step 10: 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**.

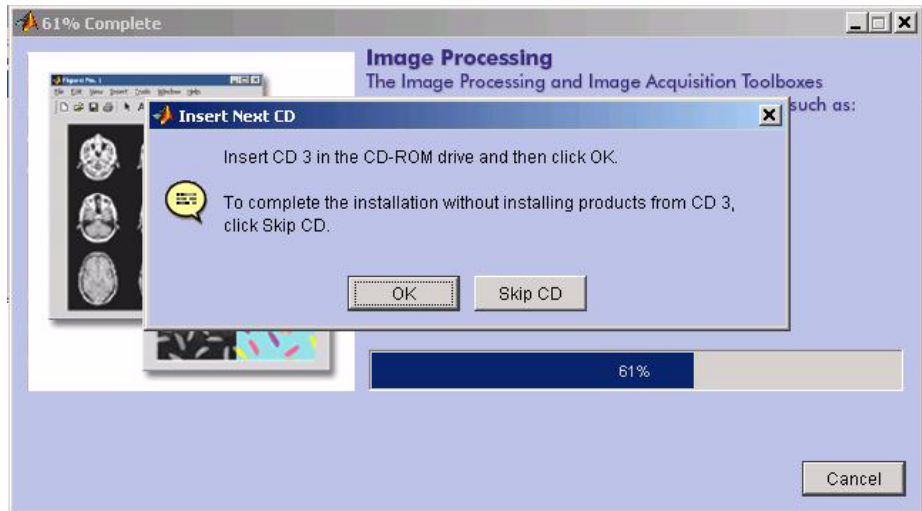


Click Install.

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

Installing Products from the Other CDs

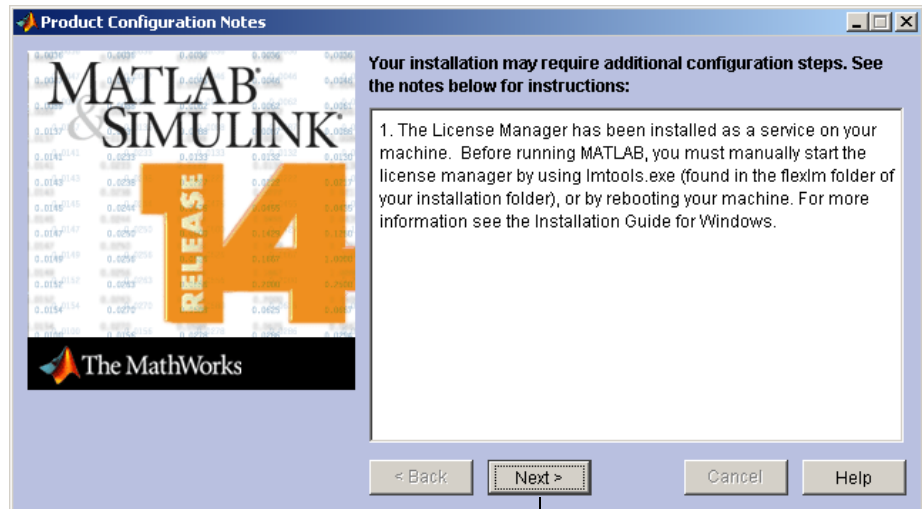
You must use CD1 to start an installation. If you are installing products that are not on CD 1, the installer prompts you to insert another CD in your CD-ROM drive. After switching the CDs, click **OK** to continue with the installation. If you do not want to install these products, click **Skip CD**. You can always install these products later. See "Installing Additional Products" on page 1-25 for information.



Step 11: Read Product Configuration Notes

Depending upon which products you install, the MathWorks Installer might display a dialog box containing two 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 1-19 for more information.
- **Available product updates** — During installation, the installer attempts to contact the MathWorks Web site to determine if new products or new versions of existing products are available for download. Sometimes, newer versions of products are made available on the MathWorks Web site after the CD is produced. If any of the products you installed have updates available, the installer lists them in this dialog box. You must go to the MathWorks Web site to download them after installation is complete.

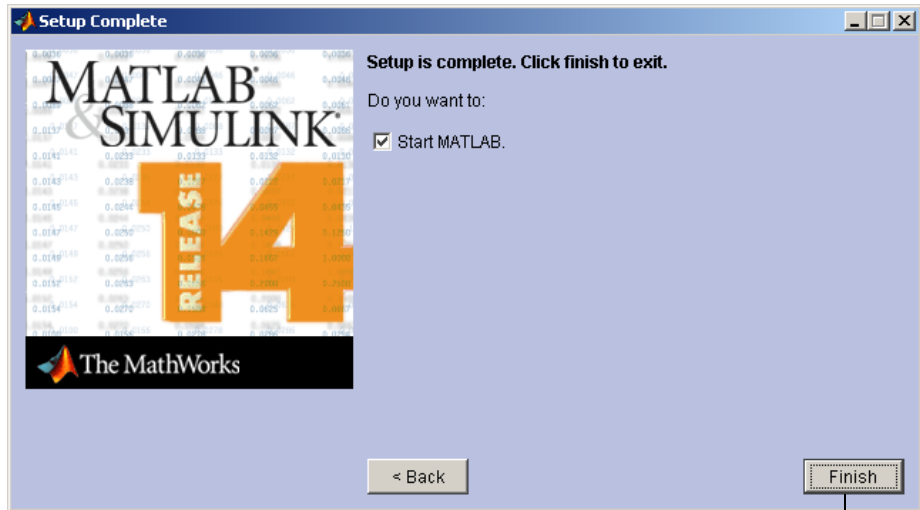


Click Next.

Step 12: 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 “Starting and Stopping the License Manager” on page 3-15.



Click Finish.

MATLAB Top-Level Folder Structure

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

Folder	Description
\bin\win32	The MATLAB executable and associated files
\demos	MATLAB demonstration programs
\extern	Tools for building external interfaces to MATLAB
\flexlm	The FLEXlm license manager and license management utilities (network installations only)
\help	Help system
\ja	MATLAB internationalization files
\java	MATLAB Java JAR files

Folder	Description
\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 13: After You Install

For information about how to start MATLAB after exiting the installer and other post-installation tasks, see “Step 11: After You Install” on page 1-18. In addition, network installations might require the following post-installation tasks:

- “Setting Up Network Named User Licensing”
- “Allowing Access to License Manager Daemons” on page 2-23

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 FLEXlm options file includes all licensed users — see “Checking the FLEXlm Options File” on page 2-22.
- Check that the DAEMON line in your License File includes the options file specification, `options=$MATLAB\flexlm\MLM.opt`, where \$MATLAB is your MATLAB installation folder.

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

Checking the FLEXlm Options File

The installer creates the FLEXlm options file, \$MATLAB\flexlm\MLM.opt, as part of the installation process. The installer puts in the options file 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. If multiple users are licensed for the same product, you must create a separate INCLUDE line for each user or use the FLEXlm GROUP syntax. The number of users must not exceed the number of license keys available for that product. This example shows both methods.

Note Usernames are case sensitive. In addition, make certain that there are no extra space characters at the end of a line.

```
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 3-2.)

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 3-6 for more information.

Opening Access to the Vendor Daemon

By default, the vendor daemon port is assigned dynamically. To open access to the vendor daemon, you must first specify the port number used to communicate with the vendor daemon and then open that 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 2-3 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 2-8	Same
“Step 3: Enter Identification and License Information” on page 2-9	Use the PLP that you used for your license server installation.
“Step 4: Specify Location of License File” on page 2-10	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 2-25 for more information.
“Step 5: Review the Software Licensing Agreement” on page 2-11	Same
“Step 6: Specify Type of Installation” on page 2-11	You can select either Typical or Custom. Choose Custom to specify which products you want to install.
“Step 7: Specify Folder and Products” on page 2-13	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 8: Configure the License Manager Service” on page 2-15	Not applicable on client systems
“Step 9: Specify Installation Options” on page 2-15	Same
“Step 10: Confirm Your Choices” on page 2-16	Same
“Step 11: Read Product Configuration Notes” on page 2-18	Same
“Step 12: Complete the Installation” on page 2-19	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.) This 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	\$MATLAB\flexlm\license.dat
UNIX	\$MATLAB/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 \$MATLAB\bin\win32 folder.

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 FLEXlm licensing scheme.

Licensing Components (p. 3-2)	Describes the primary licensing components, such as the License File and the daemons that are used by FLEXlm
Managing the License Manager (p. 3-10)	Describes the license management tools provided with MATLAB and describes how to use them to monitor license activity
Using Time-Outs to Return Idle License Keys (p. 3-17)	Describes how to use the FLEXlm TIMEOUT option to free idle license keys in concurrent installations
Creating Advanced Configurations (p. 3-20)	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. 3-27)	Describes how to use an initialization file with the installer
Removing (Uninstalling) an Installation (p. 3-29)	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 FLEXlm (a product of Macrovision Corporation), to control access to its software. This section describes

- “License Management Daemons”
- “Licensing Information” on page 3-3
- “Creating a License File” on page 3-5
- “License File Processing on a License Server” on page 3-6
- “License File Processing on Client Systems” on page 3-7

Throughout this section, \$MATLAB refers to your MATLAB installation folder.

Note For more detailed information about FLEXlm and license management, see the *FLEXlm End User Manual*, available in PDF format in \$MATLAB\flexlm\enduser.pdf, where \$MATLAB is your installation folder.

License Management Daemons

FLEXlm 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 (\$MATLAB\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 FLEXlm 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 `$MATLAB\flexlm\mlm.exe`.

When users start applications that use FLEXlm license management, the applications contact the license manager daemon running on the license server, requesting permission to run the application. The license manager daemon forwards this request to the vendor daemon associated with the application that grants or denies the request.

Licensing Information

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 Password (PLP)

A PLP is a series of five-digit numbers prefixed with a two-digit release code, such as 14-12345-12345-12345-12345-12345, that identifies the products that you are licensed to install. Do not confuse your PLP with your License Number.

License File

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 each 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. 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.

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 copy 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 14 01-dec-2005 1 \  
EC5C175AGG025G2AD73A DUP_GROUP=UH SN=12345
```

- Make sure that there is a space between each field in the INCREMENT line. Do not use tabs to separate these fields.
- 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 \$MATLAB\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 D:\Applications\MATLAB\flexlm\mlm.exe \
options=D:\Applications\MATLAB\flexlm\MLM.opt
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file for use with FLEXlm.
# LicenseNo: 12345          HostID: INTERNET=144.212.101.43
INCREMENT TMW_Archive MLM 14 01-jan-0000 0 2D400F0862FA16F071E9 \
  VENDOR_STRING=12000000007 HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 14 01-jan-0000 5 BD7068FF849E1AA673FD2 USER_BASED \
  DUP_GROUP=U SN=12345
INCREMENT SIMULINK MLM 14 01-jan-0000 5 9DB10FA5EA1CAD44B1346 \
  USER_BASED DUP_GROUP=U SN=12345
INCREMENT Control_Toolbox MLM 14 01-jan-0000 5 DDB02F28BDDAFD30D0DF6 \
  USER_BASED DUP_GROUP=U SN=12345
INCREMENT Database_Toolbox MLM 14 01-jan-0000 5 2C30AF8A852B347BADDEA \
  USER_BASED DUP_GROUP=U SN=12345
INCREMENT Stateflow MLM 14 01-jan-0000 5 4DF03F58B27610B2B6A1A \
  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 no TCP/IP port number is specified, FLEXlm uses a port number in the range 27000 to 27009.

DAEMON Line

The DAEMON line identifies the name and location of the vendor daemon, 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:\MATLAB\flexlm\mlm.exe`.
- `options_file_path` is the full path of the options file, for Named User licenses, for example, `options=C:\MATLAB\flexlm\MLM.opt`.

The DAEMON line can optionally specify the port the vendor daemon (`mlm.exe`) uses. The FLEXlm daemon (`lmgrd.exe`) and the vendor daemon use separate ports. The vendor daemon port is assigned dynamically. To specify the port used by the vendor daemon, use the following syntax

```
DAEMON MLM $MATLAB\flexlm\mlm.exe port=#####
```

where ##### is an open port.

License File Processing on Client Systems

In client installations in network configurations, you must specify the name of a License File in the **License File** dialog box during the installation procedure. For client installations, you must use the License File that was processed during the installation of the license manager on your license server. 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`. The installer stores the client version of the License File (`license.dat`) in the `$MATLAB\bin\win32` folder.

If you specify the name of the License File you created from the license e-mail, instead of the License File after it was processed by the installer during the license manager installation, the installer proceeds with the installation, creating a template License File in `$MATLAB\bin\win32`. You cannot run MATLAB on the client until you edit this License File, adding the `SERVER` line from the processed License File.

License File Search Path

By default, MATLAB expects to find the License File, `license.dat`, in the `$MATLAB\bin\win32` directory. This is the location where the installer puts the License File after processing it during installation. MATLAB reads this License File to determine the hostname and port address of the license server.

You can tell MATLAB to use a different License File, using either of the following methods:

- “Using Environment Variables to Specify the License File Location”
- “Using the `-c` Command Line Option” on page 3-9

Using Environment Variables to Specify the License File Location

You can specify the License File you want to use by assigning a value to either of two environment variables: `LM_LICENSE_FILE` or `MLM_LICENSE_FILE`.

The `LM_LICENSE_FILE` environment variable, if set, specifies the location of the License File for all applications using `FLEXlm` on this server.

The `MLM_LICENSE_FILE` environment variable also specifies the location of the License File, but only for products of The MathWorks.

On Windows systems, use the **System Properties** dialog box to create these environment variables. 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 panel, 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 cause MATLAB to hang at startup, until the network connection time-out expires.

Using the -c Command Line Option

You can also use the -c command line option to specify the License File that you want to use when you start the license manager daemon. When you use this option, you override any values that the environment variables might contain. When you use the -c option with the `matlab` command, you explicitly prohibit the searching of these environment variables.

Managing the License Manager

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 other license management tasks.

FLEXlm provides a set of utilities that you can use to help manage the licensing activities on the network. The following sections describe

- “Installing the License Manager Service”
- “Removing the License Manager Service” on page 3-14
- “Starting and Stopping the License Manager” on page 3-15
- “Viewing the License Manager Log File” on page 3-16

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.

Installing the License Manager Service

Installing the license manager service provides for automatic startup at system boot time and centralizes administration of the license manager through the Windows **Services** control panel.

There are several ways to install the license manager service:

- During a custom installation. See “Step 8: Configure the License Manager Service” on page 2-15 for more information.
- Using the `install.exe` utility. See “Using the `install.exe` Utility” on page 3-11 for more information.
- Using the `lmutil` utility. See “Using the `lmutil` Command” on page 3-11 for more information.
- Using the LMTTOOLS Utility. See “Using the FLEXlm Utilities Graphical User Interface” on page 3-13 for more information.

Using the install.exe Utility

To install the license manager service using the `install.exe` utility, follow this procedure:

1 Open a **DOS Command Prompt** window.

2 Move to the `$MATLAB\flexlm` folder, where `$MATLAB` represents your MATLAB installation folder.

3 Enter the command

```
install -c $MATLAB\flexlm\license.dat -e $MATLAB\flexlm\lmgrd.exe
```

where the `-c` flag specifies the name of the License File that was processed during the installation of the license manager on your license server and the `-e` flag specifies the name of the license manager daemon.

By default, the license manager service is called the **MATLAB License Server** in the Windows **Services** control panel. To specify a different name, specify the `-n` flag when you use `install.exe`, as follows:

```
install -c $MATLAB\flexlm\license.dat -e $MATLAB\flexlm\lmgrd.exe  
-n my server
```

Using the lmutil Command

FLEXlm 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 `$MATLAB\flexlm` folder. To view a list of all the capabilities of the `lmutil` utility, open a **Command Prompt** window, go to the `$MATLAB\flexlm` folder and type

```
lmutil
```

Note You must run the `lmutil` function on the system on which the license manager is running.

The following table lists the names of the most useful tools available through `lmutil`. For more detailed information, see the *FLEXlm End User Manual*,

included in PDF format in your MATLAB installation (\$MATLAB\flexlm\enduser.pdf).

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.
lmstat	Display the status of all network licensing activities.
lmswitchr	Switch the report log file.
lmver	Determine the FLEXlm version of a library or binary file.

For example, to view the current status of the license manager, open a DOS command prompt window and enter the `lmutil` command, specifying the name of the `lmstat` utility. 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`.

```
lmutil lmstat -a -c D:\Applications\MATLAB\flexlm\license.dat
```

The utility returns the following information about the current license manager status.

```
lmutil - Copyright (c) 1989-2003 by Macrovision Corporation. All rights reserved.  
Flexible License Manager status on Fri 1/16/2005 16:57
```

```
License server status: 27000@smithj  
License File(s) on smithj: D:\Applications\MATLAB\flexlm\license.dat:
```

```
smithj: license server UP (MASTER) v.9.2
```

```
Vendor daemon status (on smithj):
```

```
MLM: UP v9.2
```

```
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)
```

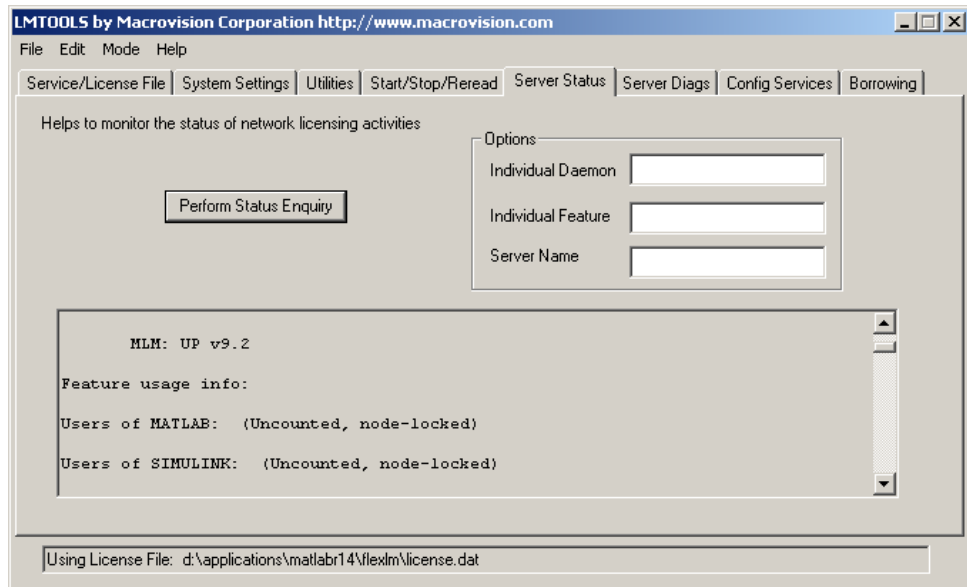
```
Users of Identification_Toolbox: (Total of 5 licenses available).
```

Using the FLEXlm Utilities Graphical User Interface

FLEXlm provides a graphical user interface (GUI), called LMTTOOLS, to its license management utilities. The GUI provides access to the same set of tools as the `lmutil` command and displays the results returned in an integrated display window.

For example, to use LMTTOOLS to monitor the status of network license activity, perform this procedure:

- 1 Start LMTTOOLS by double-clicking the `lmttools.exe` file in the `$MATLAB\flexlm` folder.
- 2 Click the **Server Status** tab.
- 3 Click the **Perform Status Enquiry** button. LMTTOOLS displays the same information as if you had entered the command `lmutil lmstat -a`.



Removing the License Manager Service

There are several ways to remove the license manager service:

- Using the `install.exe` utility, specifying the `-r` flag. If the name of the license service is not `MATLAB License Server`, you must specify the name using the `-n` flag, as follows:

```
install -e $MATLAB\flexlm\lmgrd.exe -n my server -r
```

For more information, see “Using the `install.exe` Utility” on page 3-11.
- Using the LMTTOOLS Utility. Click the **Remove Service** button on the **Config Services** panel. For more information, see “Using the FLEXlm Utilities Graphical User Interface” on page 3-13.

Starting and Stopping the License Manager

If you installed the license manager as a service, the license manager gets started automatically at system boot time.

There are also several other ways to start and stop the license manager, including

- Using the Windows Services control panel. See “Using the Windows Services Control Panel” on page 3-15 for more information.
- Using the `lmutil` utility. See “Using the `lmutil` Command” on page 3-11 for more information.
- Using the LMTTOOLS Utility. Click the **Start Server** or **Stop Server** button on the **Start/Stop/Reread** panel. See “Using the FLEXlm Utilities Graphical User Interface” on page 3-13 for more information.

Using the Windows Services Control Panel

To start or stop the license manager using the Windows **Services** control panel:

- 1 Click the **Start** menu.
- 2 Select the **Settings** option.
- 3 On the **Settings** menu, select the **Control Panel** option.
- 4 Open the **Services** control panel. The method to open this control panel varies depending on the operating system you are running on your computer.

Operating System	Instructions
Windows XP	From the Control Panel menu, select Performance and Maintenance and then select Administrative Tools . The Services option is on this menu.
Windows 2000	From the Control Panel menu, select Administrative Tools and then select Services .

- 5 In the **Services** control panel, scroll through the list of services and right-click on the **MATLAB License Server** entry. Select **Start** or **Stop** from the menu.

Viewing the License Manager Log File

To view the license manager log file, open the `$MATLAB\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 LMTTOOLS utility, as follows:

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

Using Time-Outs to Return Idle License Keys

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

If you have a concurrent license, you can use the FLEXlm 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”
- “Experiencing a License Time-Out” on page 3-19
- “Reacquiring License Keys After a Time-Out” on page 3-19

Enabling License Time-Outs

To take advantage of time-outs, you must specify the FLEXlm TIMEOUT option in a FLEXlm options file. A FLEXlm 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 FLEXlm options file. Using any text editor, create a text file named MLM.opt and put the file in the flexlm folder in your MATLAB installation folder. For example, you might create the file
D:\Applications\MATLAB71\Flexlm\MLM.opt
- 2** Add the FLEXlm TIMEOUT option to the 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 four 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 You can also use the FLEXlm TIMEOUTALL option to enable time-outs in your options file; however, this applies the time-out to all the products listed in the License File, which might include products from other vendors. The MathWorks recommends using the TIMEOUT option to set the time-out for MATLAB only.

- 3** Make sure the DAEMON line in your License File specifies the location of your options file. Open your License File in a text editor and add the options= syntax to the DAEMON line. For example, your DAEMON line might look like the following:

```
DAEMON MLM "D:\Applications\MATLAB71\flexlm\mlm.exe"  
options=D:\Applications\MATLAB71\flexlm\mlm.opt
```

- 4** Stop the license manager and then restart it. Whenever you change the License File, or change the time-out value in the options file, you must restart the license manager. You can use the LMTTOOLS utility to start the license manager. Click the **Start Server** button on the **Start/Stop/Reread** panel.

Experiencing a License Time-Out

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

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

This information is also recorded in the license manager log file, as follows:

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

(For information about viewing the license manager log file, see “Viewing the License Manager Log File” on page 3-16.)

Reacquiring License Keys After a Time-Out

To resume a timed-out MATLAB session, just use MATLAB. 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, you cannot run or modify a currently open model. These menu options are disabled until a Simulink license key becomes available. You can only 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”
- “Using Concurrent Toolboxes in a Stand-Alone Installation” on page 3-21
- “Running MATLAB with Other FLEXlm Applications” on page 3-23
- “Configuring Redundant License Servers” on page 3-23

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** Check the version of your currently installed MATLAB. You must be running MATLAB version 5.2.x or later to be able to run multiple versions.
- 2** Stop the license manager. (See “Starting and Stopping the License Manager” on page 3-15.)
- 3** Remove the license manager service. (See “Removing the License Manager Service” on page 3-14.)
- 4** 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 Folder and Products” on page 2-13.)

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 \$MATLAB\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	\$MATLAB\bin\win32\license.dat
MATLAB 5.2.x or 5.3.x	\$MATLAB\bin\license.dat

Using Concurrent Toolboxes in 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 `$MATLAB\bin\win32` folder to any convenient folder, such as the desktop.
- 3** Run the installer again, this time to install the toolboxes that have a Concurrent license. Use the PLP for your concurrent license in this installation.
- 4** Specify the location of the License File on your license server (`$MATLAB\flexlm\license.dat`) when asked by the installer — see “Step 4: Specify Location of License File” on page 2-10.
- 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 Folder and Products” on page 2-13 for more information.
- 6** After the installation is finished, rename the License File that was processed by the installer during this installation. Open the `$MATLAB\bin\win32` folder and change the name of the `license.dat` file to `license.lic`.
- 7** Move the original License File, `license.dat`, that was created during the standalone installation, back into the `$MATLAB\bin\win32` folder.
- 8** Start MATLAB. You can now run the toolboxes with a concurrent license from your stand-alone installation.

Running MATLAB with Other FLEXlm Applications

If you have another application that uses FLEXlm 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, go to the Support page at the MathWorks Web site and see Technical Support solution 20746. You can also read the *FLEXlm End User Manual*, available in PDF form in `$MATLAB\flexlm\enduser.pdf`, or go to the Macrovision Corporation Web page at www.macrovision.com for more information.

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 FLEXlm 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 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 for use with FLEXlm.
# LicenseNo: 12345           HostID: 00034660893e
#                           HostID: 00053327865e
#                           HostID: 00470635883e
INCREMENT TMW_Archive MLM 14 01-jan-0000 0 8D50540DG9BCDD33692C \
  VENDOR_STRING="b" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 14 01-jan-0000 10 DE40F3ADB9CC7490132D \
  DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 14 01-jan-0000 10 7D20159D87373BCBA3E0 \
  DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 14 01-jan-0000 10 \
  5DC0F5FD10FDEB2F830B DUP_GROUP=UH SN=12345
# 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 2-25. 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 for use with FLEXlm.
# LicenseNo: 12345           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 14 01-jan-0000 0 8D50540DG9BCDD33692C \
  VENDOR_STRING="b" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 14 01-jan-0000 10 DE40F3ADB9CC7490132D \
  DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 14 01-jan-0000 10 7D20159D87373CBCA3E0 \
  DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 14 01-jan-0000 10 \
  5DC0F5FD10FDEB2F830B DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END
```

- 5** Put a copy of this edited License File in the \$MATLAB\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. `FLEXlm` reads this environment variable to determine which License Files to use. On client systems, specify the hostname 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.

For example:

```
$MATLAB\bin\win32\matlab.exe -c  
port@server1;port@server2;port@server3
```

where `$MATLAB` 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 CD. 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=D:\Applications\MATLAB71
```

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. The following describes several optional parameters that you might want to set.

- **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

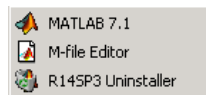
- “Using the Uninstaller”
- “Running the Uninstaller Noninteractively” on page 3-31
- “Removing Installations That Use Dongles” on page 3-33

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.

Click the **Start** button, select **Programs**, and move the cursor over the **MATLAB** entry. On the application menu that appears, click the entry for the uninstaller.



Alternatively, you can remove an installation using the Windows **Add/Remove Programs** control panel. Select **MATLAB Family of Products Release 14** from the list of products.

When you start the uninstaller, it displays the **Uninstall Product List** dialog box.



- 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 1-12.

- 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.MATHWORKS\Application Data\MathWorks
\MATLAB\R14
```

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 and the `\work` folder, if it contains 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 $MATLAB\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=D:\Applications\MATLAB71
```

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 path name 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. For more information, see “Troubleshooting an Installation That Uses Dongles” on page 4-16.

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)	Provides answers to some common problems encountered during a MATLAB installation
Problems After Installation (p. 4-4)	Provides answers to some common problems encountered after a successful installation, including information about common license manager errors
Troubleshooting an Installation That Uses Dongles (p. 4-16)	Describes how to use the MATLAB utility program <code>dongleutil.exe</code> to diagnose problems with a MATLAB installation that uses dongles

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.

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

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.

The Installer Does Not Start Automatically

The installer should start automatically when you insert the MathWorks CD into your CD-ROM 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 CD-ROM 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 the **Personal License Password** dialog box. Do not confuse your License Number with your PLP. A PLP is a series of five-digit numbers, prefixed by a two-digit release code, such as:
14 - 12345 - 12345 - 12345 - 12345
- You have a current PLP. 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 1-21.

There are two reasons why you received this message:

- The license file (`license.dat`) in the `$MATLAB\bin\win32` folder is invalid.
- You have multiple valid license files in the specified folder (e.g., `demo.lic` and `license.dat`).

For information about troubleshooting License File issues, see “Licensing Information” on page 3-3.

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.

Problems After Installation

After a successful installation, you may encounter problems starting MATLAB. Many of these problems originate in the license manager (FLEXlm) used by the MathWorks products. This section describes

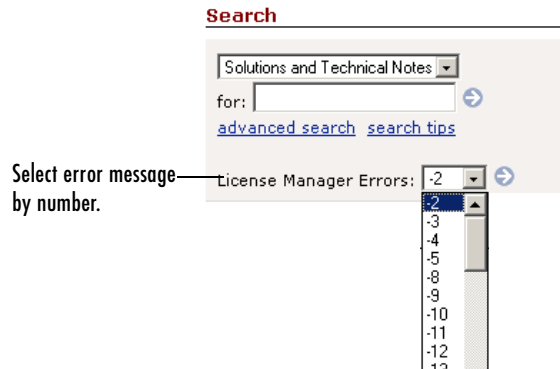
- “Getting Help with License Manager Problems”
- “License Manager Error Messages” on page 4-5

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 FLEXlm log file, `lmlog.txt`, in the `$MATLAB\flexlm` folder. Read the error message carefully; it provides information that can help solve the problem.

The section “License Manager Error Messages” on page 4-5 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, as shown in the following figure. Select the error number from the **License Manager Errors** menu or enter the exact error message, including the error number, in the search text box. For example, you could search for “license manager error -15”. Make sure to enclose the text string in quotes.



You can also get information about license manager error messages in the *FLEXlm End User Manual*, available in PDF format in `$MATLAB\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 4-4 for more information.

License Manager Error

“License Manager Error -2: License Checkout Failed. Invalid License File Syntax” on page 4-6

“License Manager Error -3: License Checkout Failed. Cannot Connect to a License Server” on page 4-7

“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 4-8

“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 4-9

“License Manager Error -12: License Checkout Failed. Invalid Return Data from License Server” 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

“License Manager Error -15: License Checkout Failed. Cannot Connect to License Server” on page 4-11

“License Manager Error -16 License Checkout Failed. Cannot Read Data from License Server” on page 4-12

“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 -31: License Checkout Failed. Feature Not Yet Available” 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. FLEXlm Version of Client Newer Than Server” on page 4-13

“License Manager Error -84: USER_BASED License Has No Specified Users” on page 4-14

“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 (\$MATLAB\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 -3: License Checkout Failed. Cannot Connect to a License Server

This error can indicate that the SERVER or DAEMON lines in your License File is incorrect or missing. To remedy this error, try the following:

Note If you make any changes to the License File on the license server, you must restart the license manager.

- Make sure that the SERVER line in your License File matches the SERVER line in the License File on your license server. On client systems, the License File is \$MATLAB\bin\win32\license.dat; on your license server, the License File is \$MATLAB\flexlm\license.dat, where \$MATLAB is the root MATLAB installation folder.
- Make sure that your License File includes a DAEMON line. See “DAEMON Line” on page 3-7 for more information.
- Make sure the TCP port number used by the license manager is not already being used by another application. This port number appears at the end of the SERVER line in your License File, as in the following.

```
SERVER hostname INTERNET=128.36.2.12 27000
```

To determine if another application is using this port number, use the netstat command. On Windows 2000 and Windows XP systems, run

```
C:\WINNT\system32\netstat -p tcp
```

If you find the port number used by the license manager in the information returned by netstat, the port is in use. Change the port number on the SERVER line in your License File to a port that is not already in use. By default, FLEXlm uses a port number in the range 27000 to 27009.

- Make sure that you do not have multiple MathWorks vendor daemons (mlm.exe) running. Check your FLEXlm log file (\$MATLAB\flexlm\lmlog.txt) for the error Multiple MLM Servers Running.

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 4-9 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 1-4, 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 (\$MATLAB\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 -12: License Checkout Failed. Invalid Return Data from License Server

This error can be caused by your network setup. When the license manager tries to connect to the server, the DNS Server does not find the server because it does not add the domain name suffix into the search.

If all of your client systems are having this problem, change the name of the server in the SERVER line in the License File on client systems (located in `$MATLAB\bin\win32`) to the fully qualified name and restart the license manager on the server. (See “Starting and Stopping the License Manager” on page 3-15.)

If only some of the clients in your network installation are having this problem, add the hostname of your license server to the TCP/IP Hosts file on your client systems:

- 1 Open the file, `C:\WINNT\system32\drivers\etc\hosts`
- 2 Add the hostname of your license server to this file. You can find your license server information in the SERVER line of your `license.dat` file.

For example, if your SERVER line looks like this,

```
SERVER hostname INTERNET=128.36.2.12 27000
```

Add the following line to your TCP/IP hosts file.

```
128.36.2.12 hostname
```

- 3 Save the changes to the TCP/IP hosts file.

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, `$MATLAB\flexlm\license.dat`, adding the SERVER line. See “Licensing Information” on page 3-3 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 "Starting and Stopping the License Manager" on page 3-15 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 -16 License Checkout Failed. Cannot Read Data from License Server

This error indicates that the path to the MATLAB vendor daemon on the DAEMON line in your License File is incorrect. The DAEMON line can vary depending on your license type. See “Licensing Information” on page 3-3 for an examples.

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 FLEXlm included with Release 14 Service Pack 3. Older FLEXlm versions will not work with Release 14 Service Pack 3 License Files.

If you have updated an existing `license.dat` file with new Release 14 Service Pack 3 passcodes, you still need to install the latest version of FLEXlm from the Release 14 Service Pack 3 CD.

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.

Also, make sure you are using your Release 14 Service Pack 3 license and not a license from a previous release.

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 -31: License Checkout Failed. Feature Not Yet Available

This error indicates that the system date is set to a date that is earlier than the date MATLAB was installed. 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 4-9 to learn how to reset the system date.

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

This error can indicate that your FLEXlm options file contains an incorrect username on the INCLUDE line. For Stand-Alone Named User and Network Named User installations, the FLEXlm options file requires an INCLUDE line for all licensed products. See “Setting Up Network Named User Licensing” on page 2-21 for more information.

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

License Manager Error -83: License Checkout Failed. FLEXlm 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 FLEXlm that is included on the MathWorks CD.

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 `$MATLAB\flexlm\MLM.opt`, where `$MATLAB` is your MATLAB installation folder. See “Setting Up Network Named User Licensing” on page 2-21 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, `$MATLAB\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. If you are on UNIX or Linux, use the `ifconfig` command. 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 UNIX or Linux systems, edit the `/etc/hosts` file. 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 `$MATLAB\flexlm` folder, where `$MATLAB` is the root MATLAB folder

```
DAEMON MLM $MATLAB\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.

Troubleshooting an Installation That Uses Dongles

If your MATLAB installation requires the use of dongles, it can potentially run into conflicts with other applications you may be running that also use dongles. A dongle is a hardware-based security device that attaches to the USB port of a computer.

To use a dongle, MATLAB requires a specific set of dongle drivers. If you remove other applications from your computer, these applications may delete the MATLAB dongle drivers as well as their own.

To help troubleshoot problems with dongles, MATLAB includes a utility program called `dongleutil.exe`. The dongle utility program can be used to

- Determine the version of the currently installed dongle drivers. The MathWorks Technical Support might request this information if you call.
- Specify the minimum version of the dongle drivers required by MATLAB.
- Install the dongle drivers required by MATLAB.

If an installation uses dongles, the installer includes the `dongleutil.exe` utility in the `$MATLAB\bin\win32` folder, where `$MATLAB` represents your MATLAB installation folder.

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