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Installation Guide for Mac OS X

Release 2006a (MATLAB 7.2 Product Family)



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Installation Guide for Mac OS X

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Installing and Starting MATLAB

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Installing and Starting MATLAB

This chapter provides specific information for installing the MathWorks products on Macintosh systems running OS X.

Introduction (p. 1-2)	Describes MATLAB® for the Macintosh
Licensing (p. 1-5)	Describes how to create a License File
Basic Installation (p. 1-9)	Describes how to install the MathWorks products on a single system in either a stand-alone workstation or file server environment.
Custom Installation Tasks (p. 1-19)	Describes specialized installation tasks that some users may need
Starting MATLAB Manually (p. 1-28)	Describes optional ways to start MATLAB
Printing (p. 1-30)	Describes how to set up a printer
Removing (Uninstalling) a MATLAB Installation (p. 1-31)	Describes how to remove the MATLAB family of products from your Macintosh
Where to Go from Here (p. 1-32)	Describes other installation tasks that you may need to perform

Introduction

About This Version

This version of MATLAB® for Macintosh runs on OS X Version 10.3.8, 10.3.9, 10.4, or 10.4.2 systems under the Apple® X11 for Mac OS X window system as an X Windows application. It does not include special functionality associated with the Aqua user interface, but it looks like an Aqua application.

Note MATLAB requires X11 for Mac OS X. You can either install X11 from the Mac OS X CD that contains Optional Installs or from the Mac OS X Install DVD. Alternatively, if you are on Mac OS X Panther™, you can download X11 for Mac OS X from Apple (see <http://www.apple.com/downloads/macosx/apple/x11formacosx.html> for more information). We recommend that you install X11 for Mac OS X before installing MATLAB.

Since OS X is based on UNIX, this version of MATLAB is also based on UNIX. Consequently, as you use MATLAB and its related products, you need to keep in mind that your base platform is UNIX. For example, if you use the mex command, you will be using the UNIX version, so the options file is mexopts.sh. You can find more information about mex on UNIX in the External Interfaces documentation, which is accessible from the Help browser.

System Requirements

- PowerPC G4 or G5 processor
- Mac OS X 10.4, 10.4.2 (Tiger™), or 10.3.8 or 10.3.9 (Panther); 10.3.9 requires an Apple Java patch
- X11 (X server) for Mac OS X
- 460 MB free disk space (MATLAB only)
- 512 MB RAM minimum, 1024 MB RAM recommended
- CD-ROM or DVD drive (for installation)
- 16-bit graphics or higher adaptor and display (24-bit recommended)

- Some license types require a license server running FLEXnet 10.8.0.1, which is provided by the MathWorks installer
- TCP/IP is required on all platforms when using a license server
- gcc Version 3.3 compiler as provided on the Apple Development Tools CD to build C MEX-files, or Absoft Pro Fortran v8.2a for OSX to build Fortran MEX-files

Supported Products

This release supports many of the MathWorks products that are available on UNIX. For a complete list of supported products, see Platform/Version Availability in the Products section of www.mathworks.com.

Documentation

The documentation for MathWorks products is not specific for individual platforms unless the product is available only on a particular platform. When you access a product's documentation either in print or online through the Help browser, make sure you refer to the UNIX platform if there is different documentation for different platforms. To view the online documentation, select **Full Product Family Help** from the **MATLAB Help** menu.

Distribution

The MathWorks products are distributed on CDs or over the Internet. (Depending on your license option, you may also receive additional CDs containing the Windows version of the software.)

Where to Go from Here

The installation process requires a License File. You will need to copy and paste the necessary information from the e-mail sent to you by The MathWorks during the License File stage of the installation process. See "Licensing" on page 1-5 for additional information on License Files.

- Basic Installation

If you are installing your MathWorks products on a single system, in either a stand-alone workstation or file server environment, you can follow the instructions in "Basic Installation" on page 1-9. The software is ordinarily

installed on a single file system. This can be an individual user's computer, in the case of a stand-alone workstation, or a central file server, for networked installations.

- Custom Installation Tasks

For other installation tasks, refer to “Custom Installation Tasks” on page 1-19.

Licensing

There are various licensing options available for the MathWorks family of products on the Macintosh. This section provides information about installing the different licensing options.

Product Licensing

When you purchase products, The MathWorks sends you license information by e-mail or fax. You use this licensing information to create a License File. If you did not receive your license information, see “Obtaining Your License File from The MathWorks” on page 1-7. The license information you received from The MathWorks contains a set of license passcodes. These license passcodes

- Identify the products you are licensed to install and use.
- Specify the number of users who may use each product (also known as the *keys* associated with a license).
- Specify the expiration date of each license.
- Specify whether it’s a user-based license.

The following is a sample set of license passcodes sent by The MathWorks. Lines that begin with a pound sign (#) are comments. The INCREMENT TMW_Archive line specifies the products you are licensed to install. The other INCREMENT lines identify products you are licensed to run. In this example, the USER_BASED keyword in the INCREMENT lines indicates it’s a user-based license.

```
# BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file
# LicenseNo: 12345          HostID: ID=12345
INCREMENT TMW_Archive MLM 14 01-mar-2006 0 9CC411EC7ACCB4A810 \
  VENDOR_STRING="f" HOSTID=DEMO SN=12345
INCREMENT MATLAB MLM 14 01-mar-2006 1 BCECD30AD121BBA7E9917 \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT SIMULINK MLM 14 01-mar-2006 1 2C5C2C89EF83B8EAD8FD \
  USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Control_Toolbox MLM 14 01-mar-2006 1 \
  7CACA7BA05CA5C5E38C1 USER_BASED DUP_GROUP=UH SN=12345
INCREMENT Identification_Toolbox MLM 14 01-mar-2006 1 \
```

```
EC5C687AGD025B2AD73A USER_BASED DUP_GROUP=UH SN=12345
# END-----cut here-----CUT HERE-----END
```

License File

You can create a License File from the licensing information you received in your license e-mail message from The MathWorks by following the instructions below or you can simply copy the license file from the e-mail during the installation process.

To create the License File,

- 1 Open a text file using any text editor.
- 2 In the license e-mail message, select all the information from the BEGIN line to the END line, inclusive. 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-jan-0000 1 \
```

```
9CDC648190C0F37C7C30 USER_BASED DUP_GROUP=U SN=12345
```

- Make sure that there is a space between each field in the INCREMENT line. Do not use tabs to separate these fields.
 - License Files are case sensitive.
- 4 Save the text file, naming it `license.dat`, on your desktop or note its location so you can locate it during the installation process.

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

Obtaining Your License File from The MathWorks

If you do not have your License File, you can obtain it by contacting The MathWorks via

- The Web at www.mathworks.com/support/install
- E-mail at service@mathworks.com
- Telephone at 508-647-7000, ask for Customer Service. 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.

Have ready, or include in your e-mail or fax, the following items:

- Your e-mail address
- 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. Customers outside North America may obtain this information from their local MathWorks representative.

You may also need the host ID for the machine on which you plan to run the licensing software used by the MathWorks products. Two ways to determine your host ID are

- Open the Apple System Profiler application in `/Applications/Utilities`. Look in the **Network overview** of the **System Profile** to find your Macintosh Ethernet address, for example, `8.0.2b.e6.87.59`.
- If you are familiar with the Terminal application, you can also use the command

```
netstat -I en0
```

assuming `en0` is the Ethernet interface. Use the period-separated address such as `8.0.2b.e6.87.59`. **Note:** To use this address as a host ID, you

must remove all periods (.) and prefix any single-digit parts of the address with a zero (0). For example, the host ID for the address above would be 08002be68759. For more information, see in the Installation Guide for UNIX.

Note Be sure to provide the host ID of the system on which you plan to run the licensing software, not the host ID of a client workstation.

Basic Installation

These instructions describe how to install the MathWorks products on a single system in either a stand-alone workstation or file server environment.

The InstallForMacOSX utility on the MathWorks UNIX CD will guide you through the installation process.

- 1 Place CD 1 in the CD-ROM drive. When the CD's icon appears on the desktop, double-click the icon to display the CD's contents.
- 2 Double-click the InstallForMacOSX icon to begin the installation.
- 3 To install the MathWorks products, you must enter a username and password for an administrator. Enter the username and password in the Authenticate dialog box and then click **OK**.



Note The user account you set up when you configured your Macintosh is an administrator account. If you don't know the username and password for an administrator, check with the person who administers your Macintosh.

- 4 When the Important Information dialog box appears, review its contents. Click **Continue** to proceed with the installation.
- 5 If you did not previously install X11 for Mac OS X, you will see this message. You can continue with the product installation by clicking **OK**.

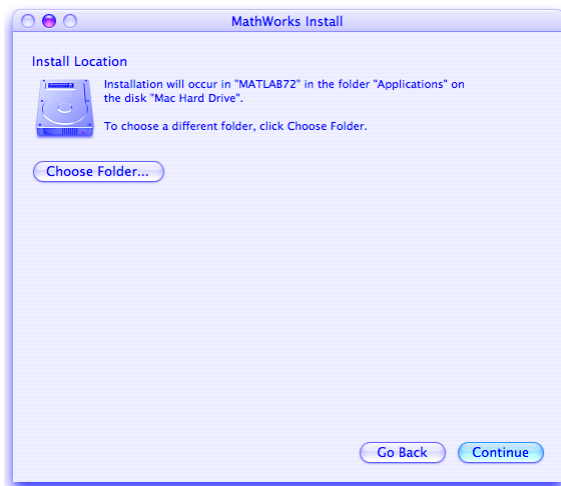


Note You will not be able to run the MathWorks products until you install X11 for Mac OS X.

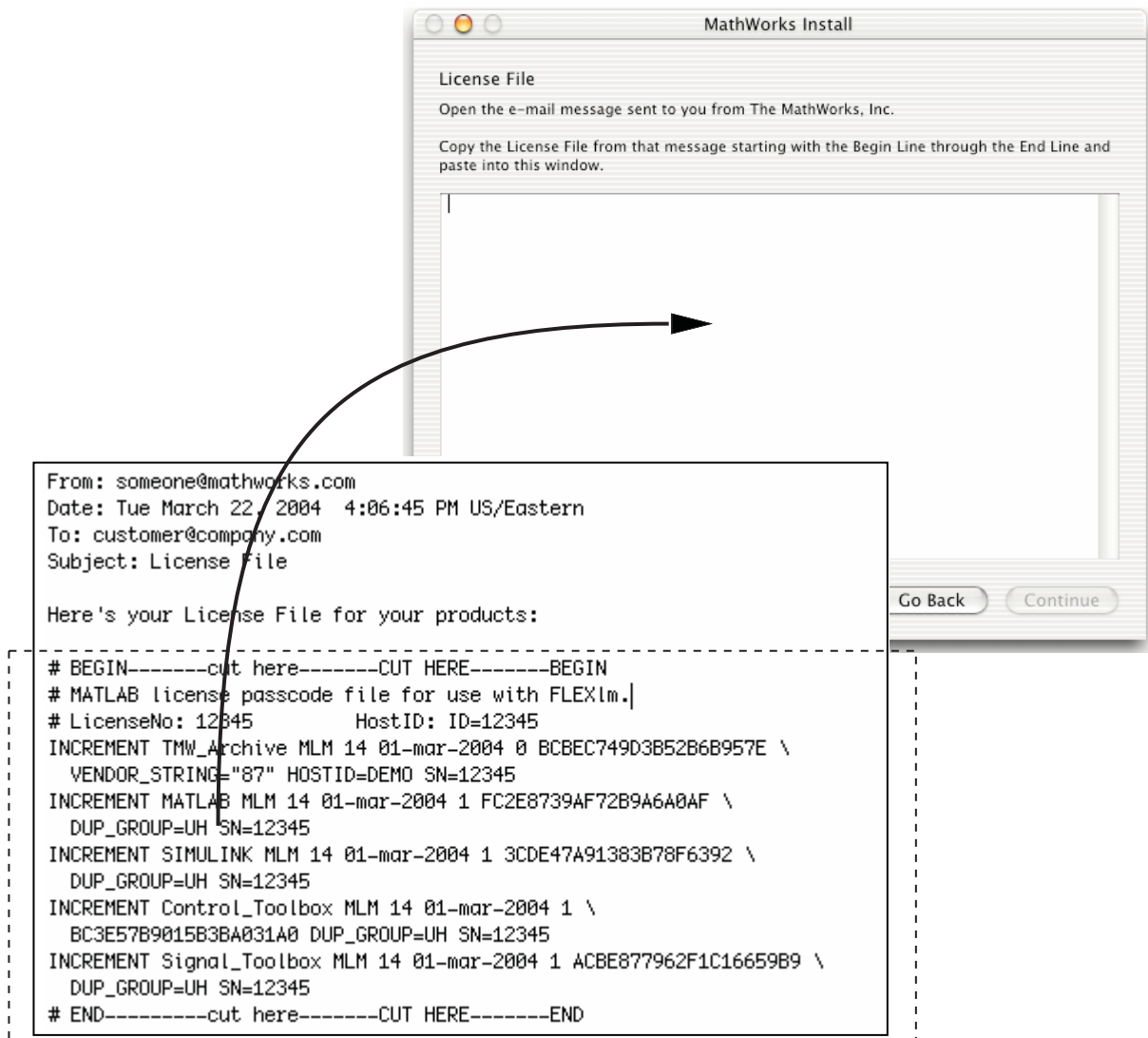
- 6 The Software License Agreement appears. If you agree to its terms, you can continue the installation.
- 7 The default installation location is a folder in the Applications folder on your system disk. To accept the default, click **Continue**. To change the location, click **Choose Folder** and then navigate to the desired location.

Note When upgrading an existing installation, always install your MathWorks products in a new installation folder. Do not install MathWorks products over any previous released version.

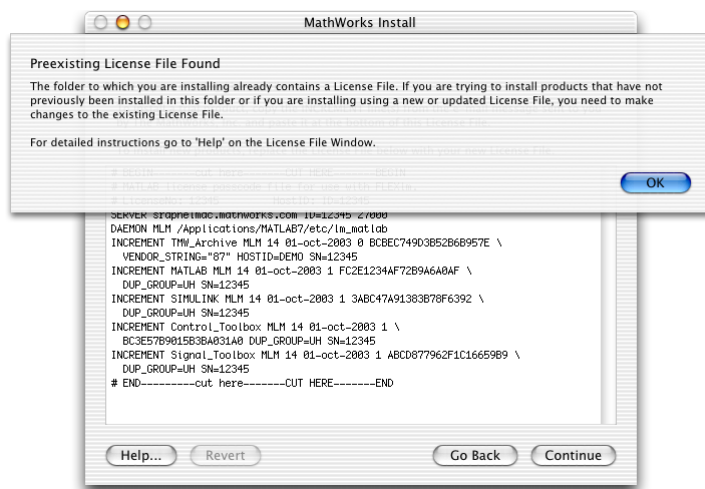
Your installation folder name cannot contain spaces, the @ character, the % character, or the \$ character. You cannot install into a folder named private, but you can have a folder named private on the path. To create the installation folder in this location on your system, you must have administrator privileges. For information on setting privileges, see Macintosh Help (**Command+?** from the desktop).



- 8 When the License File window appears, copy the relevant contents of the License File from the e-mail sent to you from The MathWorks into the License File window. If you have a `license.dat` file, you can drag and drop it into the License File window.



If a License File is already in the installation folder, the License File is displayed in the window and this message appears.



Read the message and then click **OK** to dismiss it.

The two typical instances when you are informed of a preexisting License File are when you want to

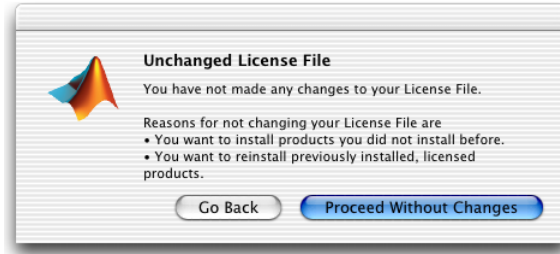
- Install a trial (demo) product — You previously installed MathWorks products and now want to install a new, trial product.
- Install a newly purchased product — You previously installed MathWorks products and now want to install a newly purchased product.

Trial Product. To install trial (demo) products, copy the **INCREMENT** lines from the e-mail and paste them at the end of the text in the License File window. Click **Continue** to proceed with the installation.

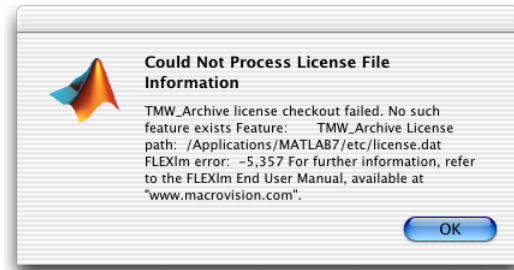
New Product. To install a newly purchased product, replace the old License File with the new License File in the License File window. Click **Continue** to proceed with the installation.

- 9 After you click **Continue** to proceed with the installation, there are several common scenarios.
 - If you made no change to your License File, you will see the following message. Clicking **Proceed Without Changes** lets you install products

you did not install before or reinstall previously installed products. Clicking **Go Back** returns you to the License File window.



- b** If you made a change to your License File and there is a problem with it, you will see a message similar to the following. Click **OK** to return to the License File window and correct your License File. For more information, see “TMW_Archive license checkout failed Error” on page 1-24.



- c** If you modified your License File to install a trial or newly purchased product, continue with the next step.

Note Before continuing, you should verify your License File.

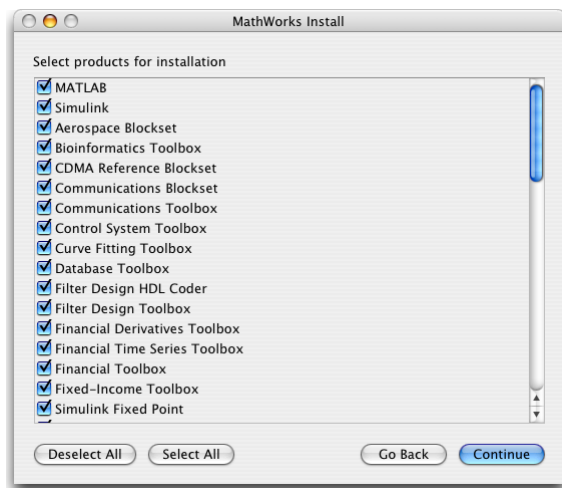
Make sure the expiration date, number of keys, and passcode fields in each INCREMENT line match the license information you received from The MathWorks.

Delete INCREMENT lines for products with expired licenses. (This avoids the warning messages that appear in your log file when you start MATLAB.)

Once your License File is correct, you can proceed with the installation.

- 10** Select the products you want to install from the list of products available for installation and then click **Continue**.

Note If your License File includes the MATLAB Distributed Computing Engine, you will see additional help displayed that provides instructions for installing the MATLAB Distributed Computing Engine.

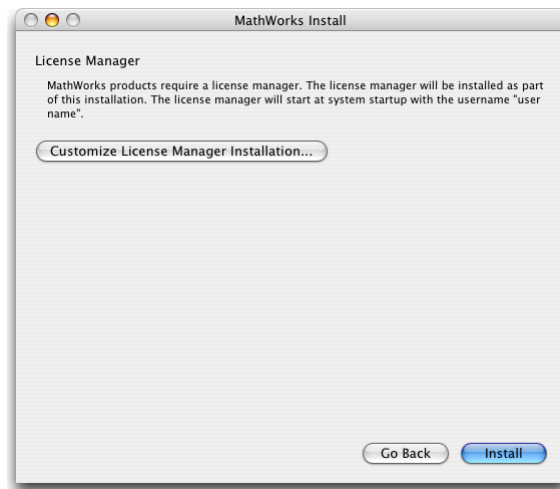


If you are installing products that are on a different CD, the installer will prompt you to insert the CD in your CD-ROM drive at the appropriate time.

Note The Installer might display a message that states one or more of your licensed products are not available on this CD, but are available at the MathWorks Web site, www.mathworks.com. To obtain products that have been released since this installation CD was produced, visit the MathWorks Web site and download them.

- 11** The license manager must be running before you can start MATLAB. The installation process installs the license manager. The license manager will automatically start at system startup unless you change the default. To accept the defaults, click **Install**. To change the defaults, click **Customize License Manager Installation**.

Note You do not need the license manager running if everything you are installing is a demo. This is not the same as adding a demo product to an existing, nondemo license.

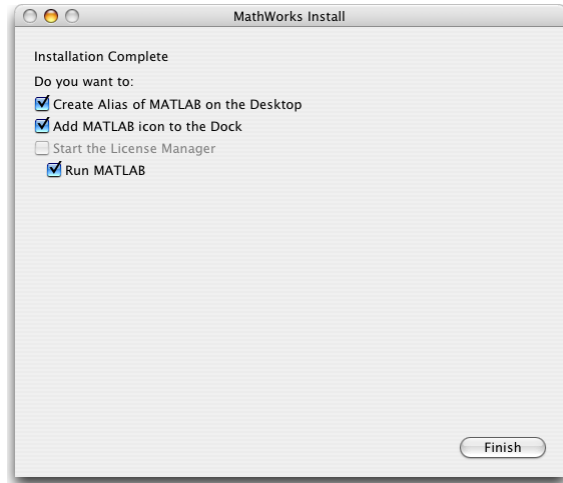


- 12** If you choose to customize the license manager, you can
- a** Choose whether or not to install the license manager. You might not want to install it if
 - Everything you are installing is a demo. This is not the same as adding a demo product to an existing, nondemo license.
 - This version of the license manager is already installed.
 - You have a concurrent license and you are configured as a client.
 - b** Choose whether to start the license manager at startup time. You might not want to start it if you prefer to start the license manager manually. See “Start the License Manager” on page 1-28 for more information.
 - c** Change the username associated with the license manager.



After you customize the license manager, click **OK** to return to the License Manager window and then click **Install** to continue the installation.

- 13** When the installation successfully completes, the installer displays the Installation Complete dialog box. This dialog box gives you options for accessing MATLAB. Select your desired options and click **Finish** to complete the installation.



14 Drag the CD icon to the trash and remove the CD from the CD-ROM drive.

Starting MATLAB

To start MATLAB, you need

- X11 for Mac OS X installed
- License manager running

If you installed your MathWorks products and accepted the defaults for the license manager, the license manager automatically starts at system startup. If you choose to run the license manager manually, see “Starting the License Manager at Startup” on page 1-22.

To start MATLAB, locate the MATLAB icon on the desktop or Dock and double-click it.

Custom Installation Tasks

This section contains additional information for users who need to customize some of their installation tasks.

- “Installing MATLAB on a Client System” on page 1-19
- “Creating Symbolic Links to MATLAB” on page 1-19
- “Setting Up Network Named User Licensing” on page 1-20
- “Using the License Manager” on page 1-22

To perform many of these tasks, it is helpful to have an understanding of UNIX.

Installing MATLAB on a Client System

If you need to set up a MATLAB network installation, you can do it in several ways. Typically, you install MATLAB and the license manager on a server and users access MATLAB over the network. You can, however, also install MATLAB locally on users' systems. In this configuration, the local installations, or *clients*, need to access the server only to check out a license key when MATLAB starts. For more information on setting up MATLAB on a network, see “Installing MATLAB on a Client System” in the Installation Guide for UNIX.

Creating Symbolic Links to MATLAB

Root status is required to install symbolic links in the default location (`/usr/bin`) that effectively add MATLAB to your users' paths. “Putting MATLAB on the Path” on page 1-19 describes an alternate way to create symbolic links.

Putting MATLAB on the Path

You must have MATLAB on your path if you want to start MATLAB by just typing `matlab` at the UNIX prompt. If you do not have MATLAB on the path, you will need to type the full MATLAB pathname each time to run the program from the prompt.

To put MATLAB on the path, you can add a symbolic link to MATLAB in a directory that is already on your path. For example, on a stand-alone, single-user machine, you can use `/usr/bin`.

You can add the symbolic link at the UNIX prompt by entering

```
ln -s $MATLAB/bin/matlab
```

where `$MATLAB/bin/matlab` is the full path to the MATLAB program. You must execute this command in a directory that is currently on the path, for example, `/usr/bin`. (To add `mex` and `mbuild` to the path, you must repeat the process.)

For information on adding symbolic links on multiuser machines, see the Installation Guide for UNIX.

Note If you add symbolic links, you might need to rehash the UNIX path. When the MATLAB installation process is complete, type `rehash` at the prompt.

Setting Up Network Named User Licensing

Network Named User licensing is required if you need to control which users can access particular products.

If you have a Network Named User license, you might need to

- Check the FLEXnet license options file after your installation is complete to make sure all licensed users are included.
- Check that the DAEMON line in your License File includes the options file specification `options=$MATLAB/etc/MLM.opt`, where `$MATLAB` is your MATLAB installation directory.

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

Options File

The installer creates the options file `$MATLAB/etc/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 install 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 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 FLEXnet GROUP syntax. (The number of users must not exceed the number of license keys available for that product.) This example shows both methods:

```
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
```

Using the License Manager

The installation process automatically configures the license manager to start when you start your machine. This section explains how to

- Manually install the script that starts the license manager automatically at startup.
- Troubleshoot the license manager.
- Disable the license manager at startup.
- Reenable the license manager at startup.

Note If you have a concurrent license, you can use the license manager's time-out option to free 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 more information on using time-outs, see the "Installation Guide for UNIX".

Starting the License Manager at Startup

Note If you accepted the defaults when you installed your MathWorks products, the script that automatically starts the license manager was installed. This section is provided for those users who require additional information about the script.

The folder `MATLABmgr` in `$MATLAB/etc` automatically starts the license manager when you start your machine. By installing and configuring this folder, you do not have to manually start the license manager before starting MATLAB.

Note If you installed your MATLAB products using the installation defaults, `$MATLAB`, which represents the directory where your MATLAB products are installed, is `/Applications/MATLAB72`.

You must be an administrator to install this startup folder:

- 1 Navigate to the top-level /Library folder.
- 2 Create a folder within /Library called StartupItems, if it does not already exist.
- 3 Copy the \$MATLAB/etc/MATLABMgr folder into the StartupItems folder.
- 4 Run the Terminal application (/Applications/Utilities) and in the Terminal window enter the commands

```
cd /Library/StartupItems/MATLABMgr
./config_lm.sh
```

- 5 The script runs and asks you to enter the directory where your MathWorks products are installed, that is, the MATLAB root directory. For example, if your MATLAB products are installed in /Applications/MATLAB72, you would enter

```
/Applications/MATLAB72
```

- 6 The script then asks for your username, and defaults to the results of the whoami command. Accept the default or enter a different username.
- 7 When the script finishes, reboot your machine.

During bootup, the message Starting MATLAB License Manager should appear on the screen. If you have difficulty starting the license manager, see “Troubleshooting” on page 1-24 for more information.

When you installed MATLAB, you had the opportunity to customize the license manager. Another method for starting the license manager at startup involves rerunning the installation process and customizing the license manager:

- 1 Double-click the InstallForMacOSX icon to begin the installation.
- 2 Proceed as usual through the installation steps.
- 3 When you get to the Select Products for Installation window, click **Deselect All**, and then click **Continue**.

- 4 On the License Manager window, click **Customize License Manager Installation** and then click **Yes** next to **Start the License Manager at start up time**.
- 5 Continue through the remainder of the installation as described earlier.

Troubleshooting

TMW_Archive license checkout failed Error. This error message indicates an error in the INCREMENT lines of your `license.dat` file. This may be the result of having extra tabs or extra carriage returns within the lines.

Here is an example of an incorrectly formatted file. A carriage return, just before the INCREMENT MATLAB line, is missing.

```
INCREMENT TMW_Archive MLM 14 01-jan-0000 0 2DC2FE7151161BBEB5B \  
  VENDOR_STRING=ff75e02a aee9ac1ccff HOSTID=DEMO SN=12345 INCREMENT  
MATLAB MLM 14 01-jan-0000 1 \  
  DEE27FF7E2E6AFBBE2A USER_BASED DUP_GROUP=U SN=12345
```

To resolve this error, add a carriage return just before INCREMENT MATLAB.

```
INCREMENT TMW_Archive MLM 14 01-jan-0000 0 2DC2FE7151161BBEB5B \  
  VENDOR_STRING=ff75e02a aee9ac1ccff HOSTID=DEMO SN=12345  
INCREMENT MATLAB MLM 14 01-jan-0000 1 \  
  DEE27FF7E2E6AFBBE2A USER_BASED DUP_GROUP=U SN=12345
```

License Manager Startup Problem. If the license manager does not start during bootup, you should try to start it manually.

To start the license manager manually,

- 1 Run the Terminal application (/Applications/Utilities).
- 2 At the command prompt in the Terminal window, enter

```
cd /Applications/MATLAB72/etc
```
- 3 To start the license manager, enter

```
./lmstart
```

License Manager Errors -39 and -84. You may receive these errors if you are not correctly listed in the options file (MLM.opt), or if the license manager is unable to read the options file.

To resolve this error, make sure the path to the options file (MLM.opt) is listed correctly in the DAEMON line of your license.dat file located in the \$MATLAB/etc directory, where \$MATLAB is the root MATLAB directory.

Your DAEMON line should look like

```
DAEMON MLM /Applications/MATLAB72/etc/lm_matlab\  
options=/Applications/MATLAB72/etc/MLM.opt
```

If the path is correct, then make sure your username is listed properly in the options file. For example, if you want to use MATLAB and the Signal Processing Toolbox, then the following lines must be in your options file:

```
INCLUDE MATLAB USER username  
INCLUDE Signal_Toolbox USER username
```

where username is your actual username. To determine your username, run the following command in a Terminal window:

```
whoami
```

License Manager Error -96. You may receive this error message if your machine is unable to resolve the hostname.

If you are using a stand-alone named user installation, make sure your computer is connected to the network and perform the following:

- 1 Open a Terminal window (Applications -> Utilities -> Terminal).
- 2 Type hostname.
- 3 Type ping network_hostname, where network_hostname is the output of running the hostname command.
- 4 Type traceroute network_hostname, where network_hostname is the output of running the hostname command.

If through these tasks you are unable to resolve the hostname, then you must contact your Network Administrator to help resolve any networking issues on your machine.

If you are using a Network license, you must check to see if the hostname of the server machine can be resolved.

- 1 Open a Finder window.
- 2 Navigate to the \$MATLAB/etc directory, where \$MATLAB is the root MATLAB directory.
- 3 Open the license.dat file with TextEdit. The hostname listed in the SERVER line is the server name.
- 4 Open a Terminal window (Applications -> Utilities -> Terminal).
- 5 Type `ping server_hostname`, where `server_hostname` is the hostname of the server machine listed in the SERVER line of the license.dat file.
- 6 Type `tracert server_hostname`, where `server_hostname` is the hostname of the server machine listed in the SERVER line of the license.dat file.

If through these tasks you are unable to resolve the hostname, then you must contact your Network Administrator to help resolve any networking issues on your machine.

Disabling the License Manager

If you do not want the license manager to start automatically at startup, you can disable it. To disable the MATLABMgr script,

- 1 From the **Finder**, select **Go To Folder** from the **Go** menu.
- 2 In the **Go to the folder** field in the Go To Folder dialog box, enter
`/Library/StartupItems/MATLABMgr`

and click **Go**. A window titled MATLABMgr appears, containing several files.

- 3 Rename the file `StartupParameters.plist` to `StartupParameters_disabled.plist`.

Reenabling the License Manager

You can reenabling the license manager to start at startup by following steps 1 to 3 above and renaming `StartupParameters_disabled.plist` back to `StartupParameters.plist`.

Starting MATLAB Manually

If necessary, you can manually execute the steps required to start MATLAB.

- Start X11 for Mac OS X.
- Start the license manager.
- Run MATLAB.

Start X11 for Mac OS X

To start X11 for Mac OS X, locate the X11 for Mac OS X icon and double-click it.

Start the License Manager

The license manager must be running for you to start MATLAB. If the license manager daemons are not running, start them by executing the `lmstart` script (located in the `$MATLAB/etc` directory).

```
$MATLAB/etc/lmstart
```

Note Any time you make changes to the `license.dat` file, you must restart the license manager daemons by running `lmstart`. The `lmstart` script stops any currently running daemons and starts new ones.

Run MATLAB

Using Symbolic Links

If you set up symbolic links or you added MATLAB to the path, you can run MATLAB by entering at the command prompt

```
matlab
```

Using a Full Pathname

If you did not set up symbolic links to MATLAB, you can run MATLAB from any directory by typing the full pathname to the executable

program. For example, if the MATLAB executable (`matlab`) is located in `/Users/jsmith/MATLAB72/bin`, and you are in the `/Documents` directory, you can run MATLAB by entering

```
/Users/jsmith/MATLAB72/bin/matlab
```

Using a Relative Pathname

You can also run MATLAB by entering the relative path to the MATLAB executable. For example, if you are in the `MATLAB72` directory, you can enter

```
bin/matlab
```

If you are in the actual directory where the executable is located, you must enter

```
./matlab
```

Printing

Printers must be added to the Printer Setup Utility in the /Applications/Utilities directory for MATLAB to recognize them. The MATLAB print command uses lpr like other UNIX systems. MATLAB uses the Macintosh default printer as set in the Printer Setup Utility if you do not use -P<printer>. For example, to print the current figure to printer trinity, you can use

```
print -Ptrinity
```

To set up a printer, open the Printer Setup Utility in /Applications/Utilities. Click **Add Printer**. Refer to Macintosh Help (**Command+?**) for additional information.

Removing (Uninstalling) a MATLAB Installation

To remove a MATLAB installation, you need to remove MATLAB and its related products. Depending on where these components are located, you might need administrator privileges to remove them. Make sure to exit MATLAB and stop the license manager before removing a MATLAB installation. You can use the `lmdown` command to stop the license manager. See License Manager Tools in the Installation Guide for UNIX for information about the `lmdown` command.

Remove MATLAB

Locate the folder that contains MATLAB and its related products. If you followed the installation process, the folder is named MATLAB72. Drag the MATLAB72 folder to the trash and then select **Empty Trash** from the **Finder** menu.

Remove the License Manager

- 1 From the **Finder**, select **Go To Folder** from the **Go** menu.
- 2 In the **Go to the folder** field in the Go To Folder dialog box, enter
`/Library/StartupItems/MATLABMgr`
and click **Go**. A window titled MATLABMgr appears, containing several files.
- 3 Drag the MATLABMgr folder to the trash and then select **Empty Trash** from the **Finder** menu.

Where to Go from Here

This chapter provided the basics for getting your MathWorks products installed and running on individual Macintosh systems. Other installation tasks include

- Specifying print options
- Specifying documentation viewing options
- Reducing startup time with toolbox path caching
- Specifying MATLAB startup options
- Configuring MATLAB products
- Installing additional products
- Managing your licenses

All of these are fully described in the Installation Guide for UNIX documentation.

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