

# Single System

## Stage 1 of 3: Installing MATLAB Distributed Computing Products on One Windows Computer

Follow these instructions to install the Distributed Computing Toolbox and MATLAB® Distributed Computing Engine (MDCE).

### Step 1: Create a License File

In this step, you create a License File from the licensing information you received in your license e-mail messages from The MathWorks. Follow these instructions:

- 1 Open a plain text file, using a text editor such as Notepad.
- 2 Open both e-mail messages you received from your sales representative with the subjects “Your MATLAB Distributed Computing Engine Software Purchase (or Trial)” and “Your MathWorks Software Trial,” or follow the instructions given to you by your MathWorks sales representative on how to obtain your licensing information.

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**Note** Make sure to open the messages, not just view them in the preview pane of your e-mail reader. Copying and pasting from the preview pane can result in licensing errors.

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- 3 In the e-mail messages, select all the information from the BEGIN line to the END line, inclusive. Make sure to copy all the information in this section, including the comment lines.
- 4 Copy all license information from both e-mail messages 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:

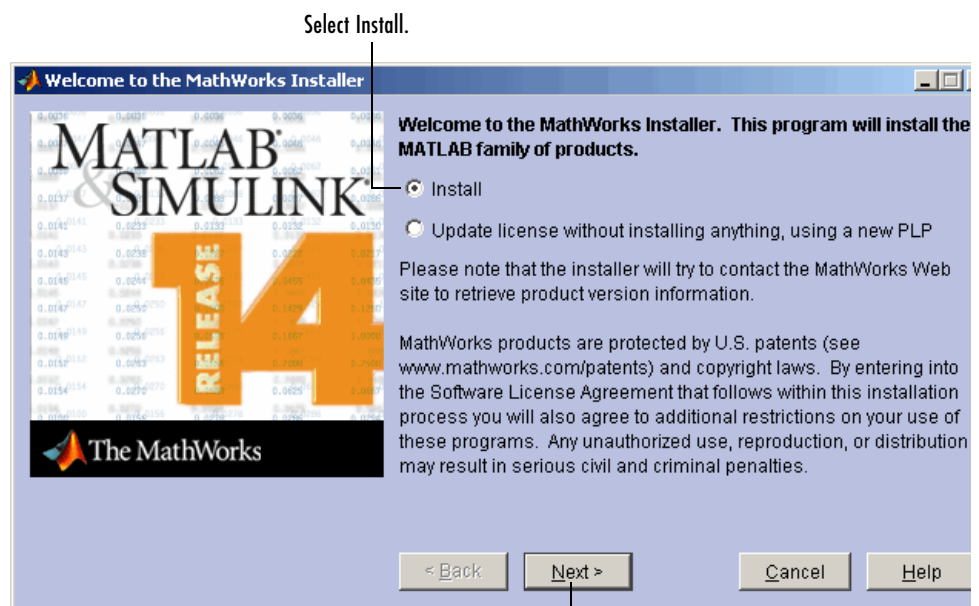
```
INCREMENT MATLAB_Distrib_Comp_Engine MLM 14 01-oct-2005 8 \  
BD5301E0E84ECED9D04A SN=DEMO
```

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- 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.
- 5 Save the text file, naming it license.dat.

## Step 2: Install Distributed Computing Products and MATLAB from R14SP3 CDs

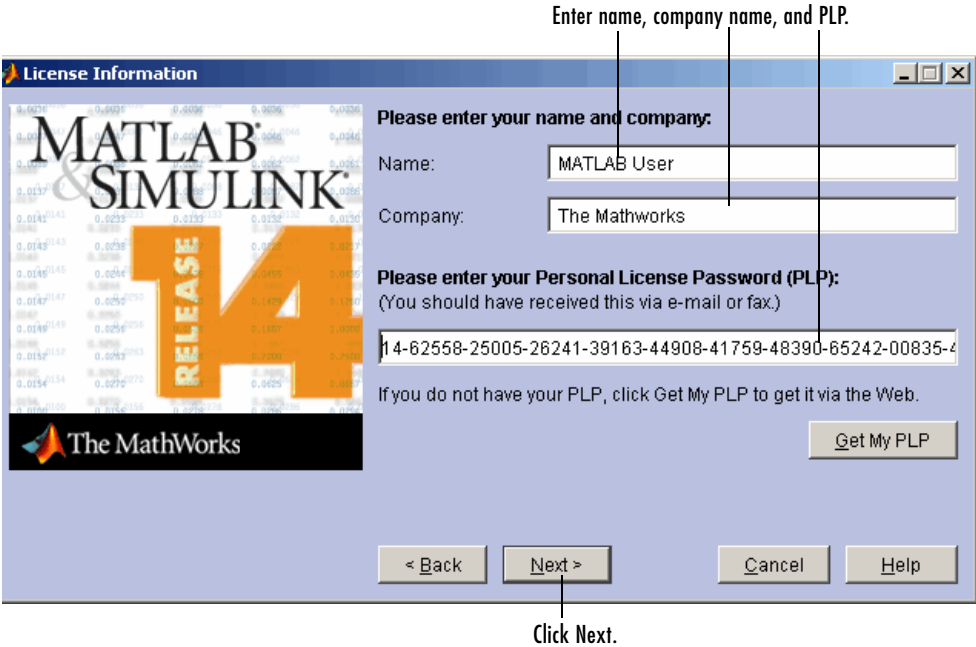
- 1 Start the MathWorks Installer by inserting CD 1 into the CD drive. In the welcome dialog box, select the **Install** option and click **Next**.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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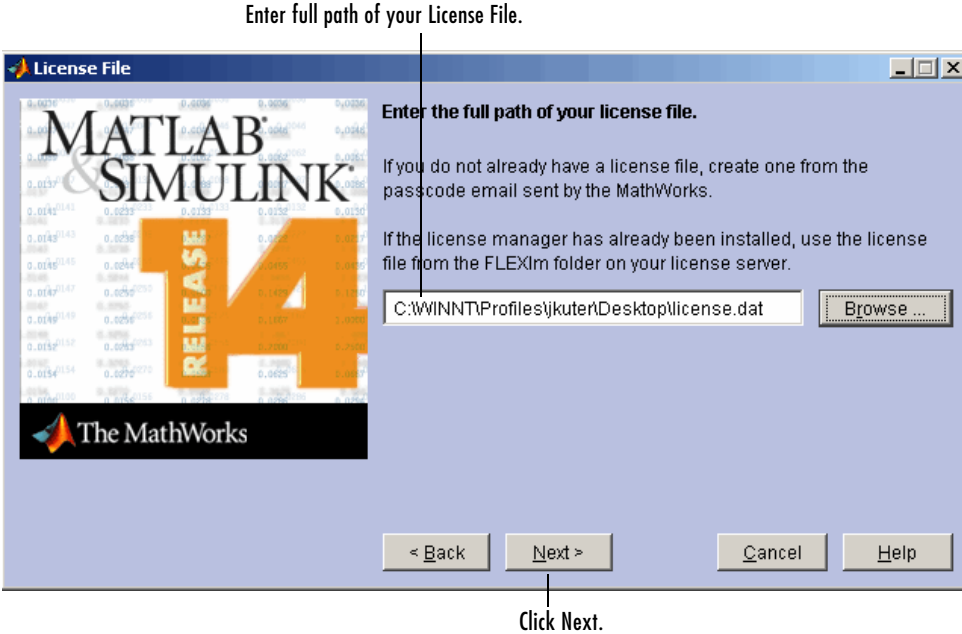
- 2 Enter your name, company name, and the Personal License Password (PLP) sent to you in your license e-mail with the subject "Your MATLAB Distributed Computing Engine Software Trial," and click **Next**.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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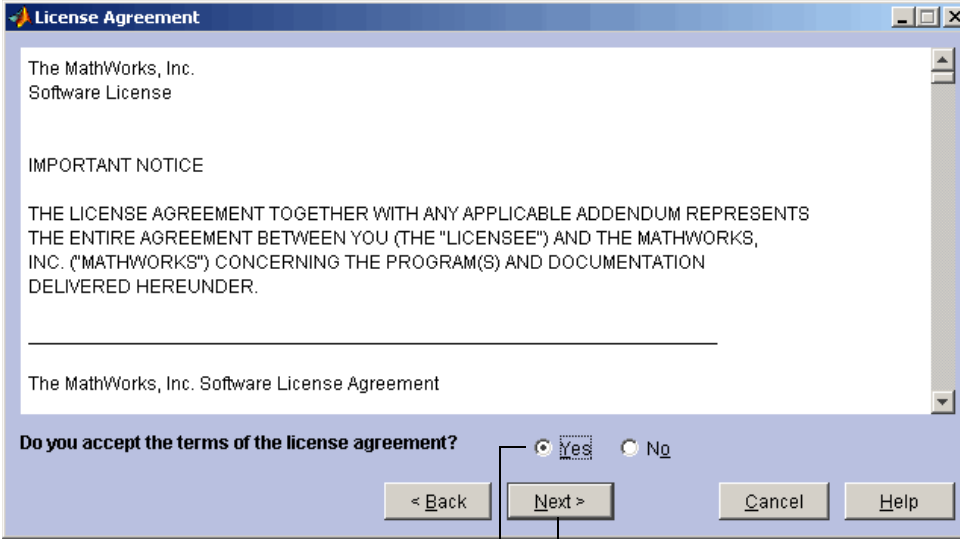
- 3 When prompted for a License File, specify the file (license.dat) from Step 1.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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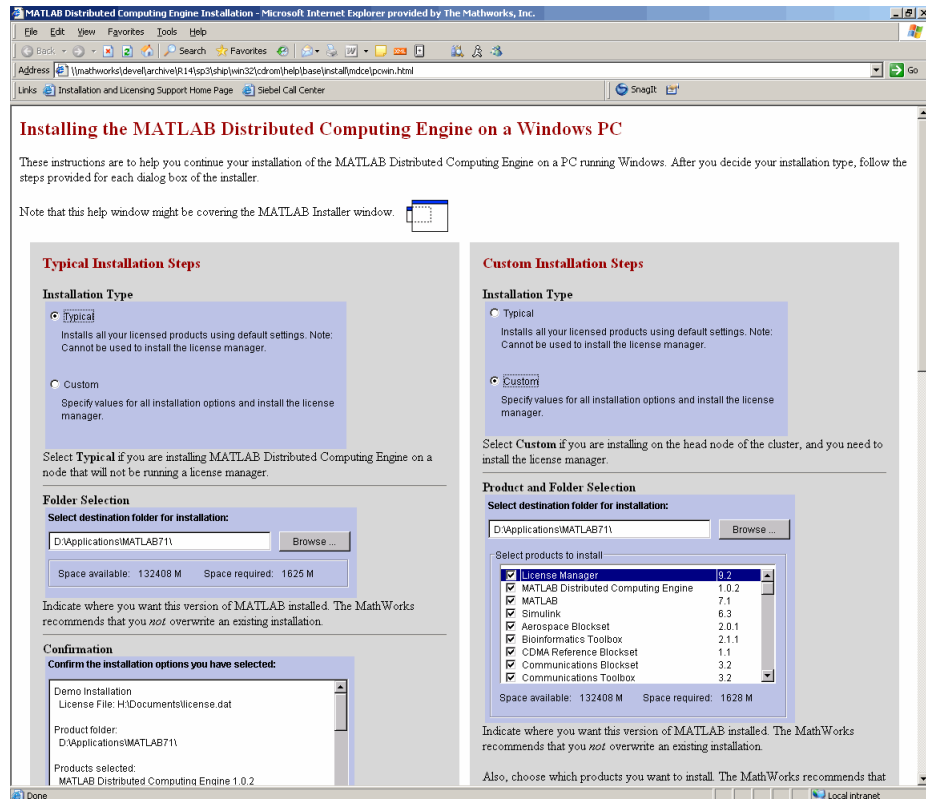
4 Review the license agreement and select **Yes** and click **Next** to continue.



Select Yes. Click Next.

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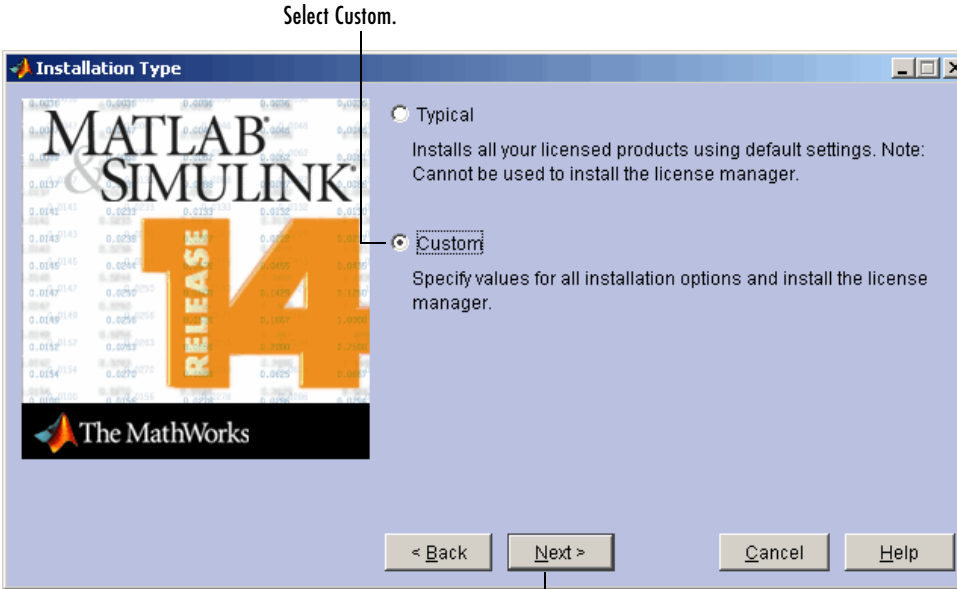
- 5 The installer opens an Internet browser containing instructions for installing the MDCE. These instructions are out of date and can be ignored. Close this browser.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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6 Select a Custom installation and click **Next**.



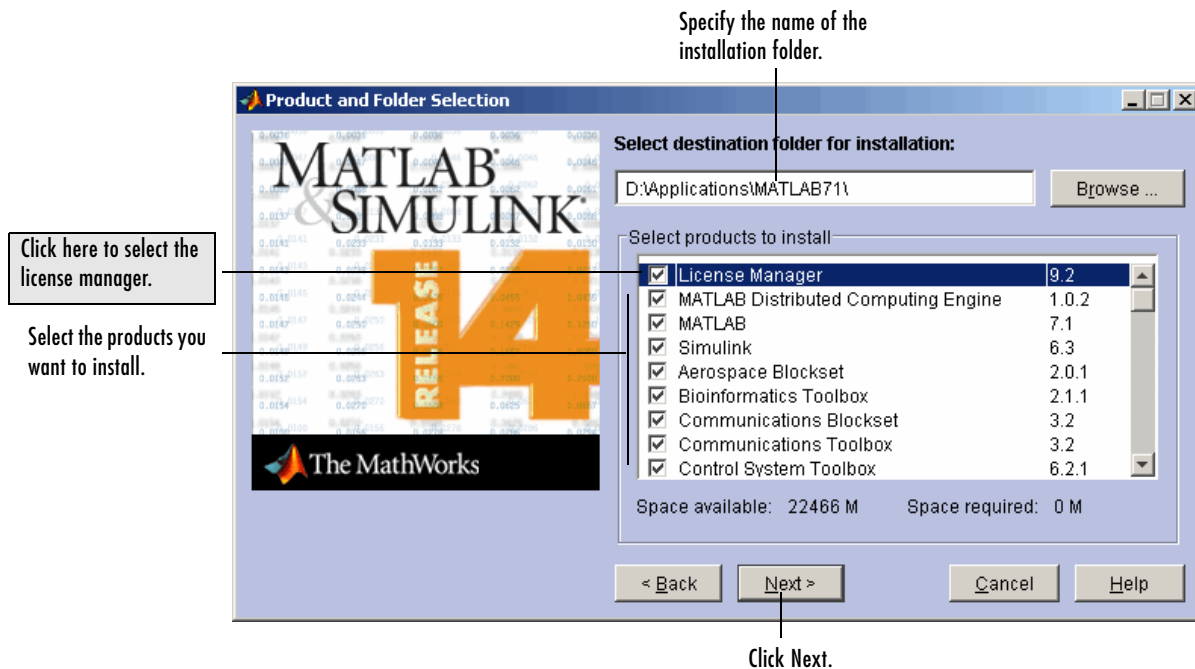
For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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- 7** In the **Product and Folder Selection** dialog box, specify a new installation folder to install the MDCE and select the products you want to install.

In the product list, you must select MATLAB Distributed Computing Engine, MATLAB (MATLAB is a prerequisite for MDCE), Distributed Computing Toolbox, and the license manager.

**Note** The MathWorks highly recommends installing all of The MathWorks products. This ensures that the MDCE will be able to run code for any toolboxes you may have.

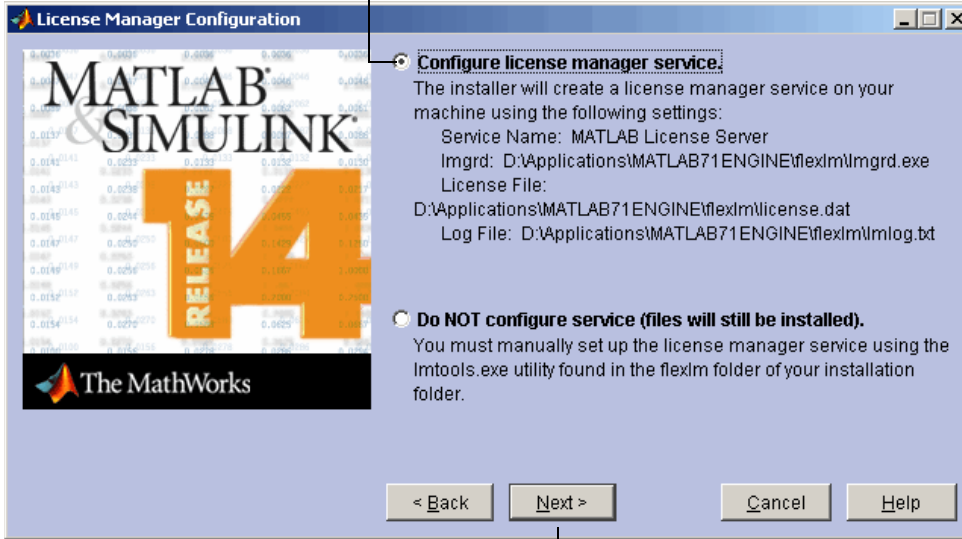


For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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- 8 Choose to configure the license manager as a service in the **License Manager Configuration** dialog box.

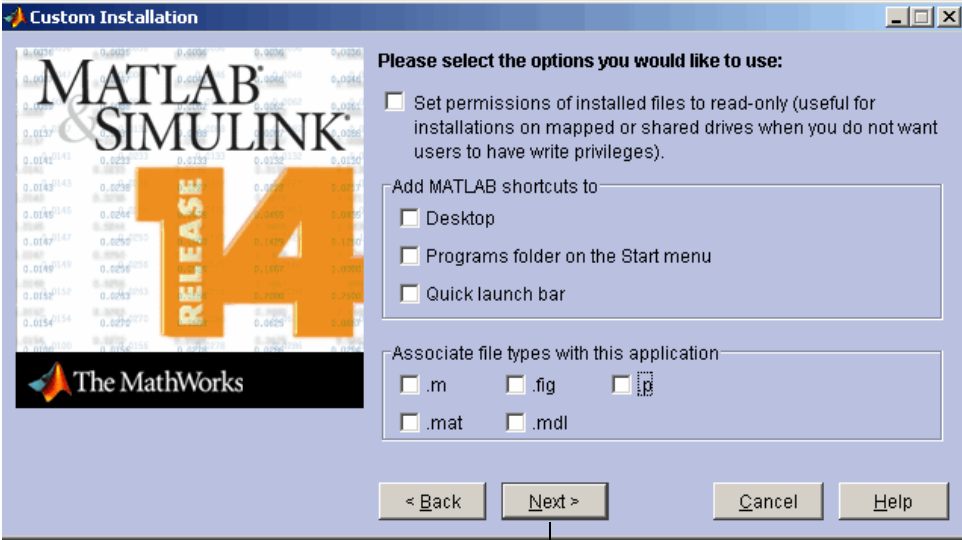
Select this option.



Click Next.

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- 9 Select the desired options for adding MATLAB shortcuts and file-type associations to this installation in the **Custom Installation** dialog box.

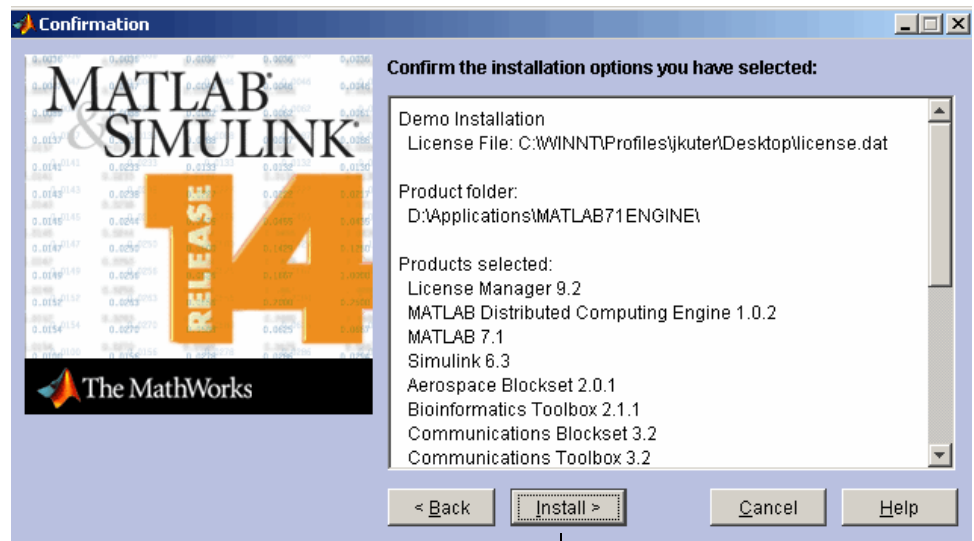


Click Next.

For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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**10** Review your installation selections in the **Confirmation** dialog box. To change a setting, click the **Back** button. To proceed with the installation, click **Install**.



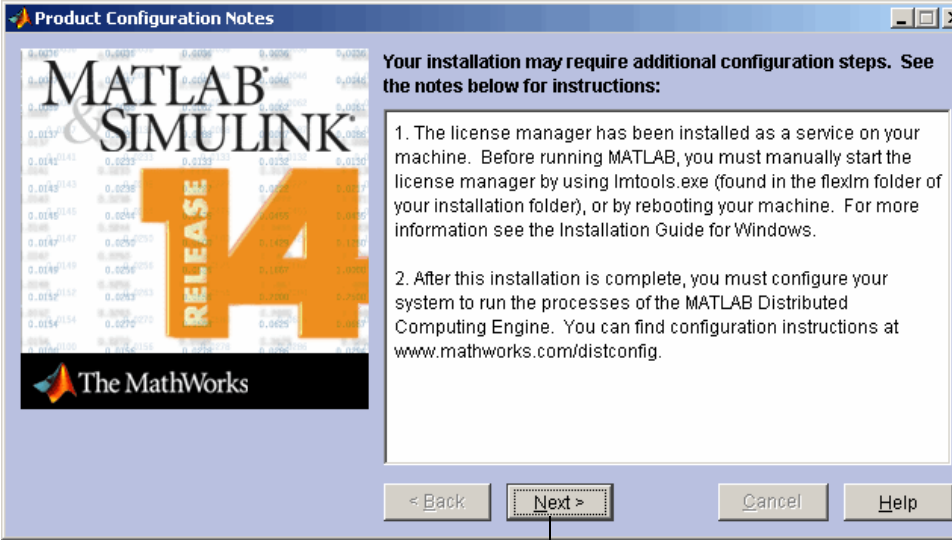
Click Install.

As it copies files to your hard drive, the installer displays a status dialog box to show the progress of the installation. If you are installing products that are not on CD 1, the installer prompts you to insert another CD in your CD-ROM drive.

For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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**11** In the **Product Configuration Notes** dialog box, the installer provides information about post-installation tasks. These tasks are described later. Click **Next** to continue.

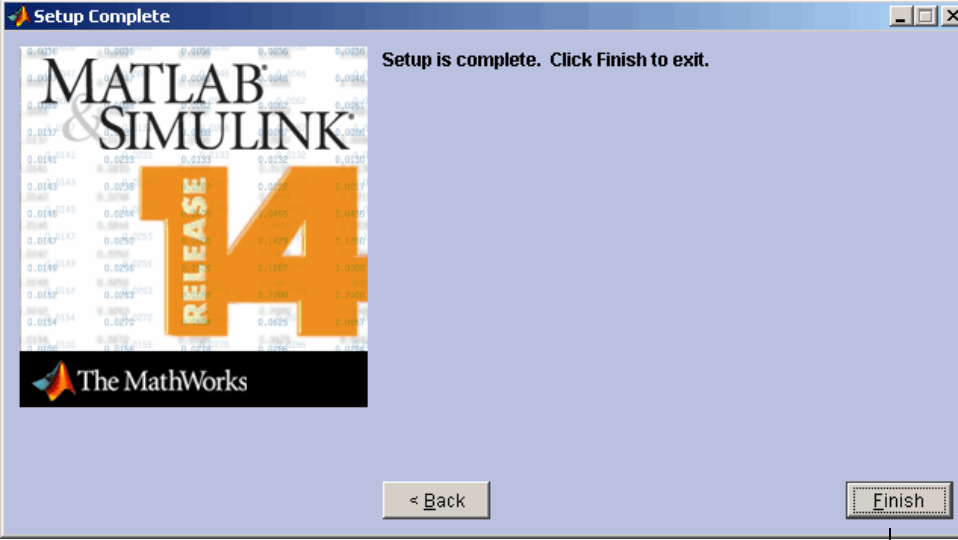


Click Next.

For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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12 When the MathWorks Installer finishes, it displays the **Setup Complete** dialog box. Click **Finish** to exit the installer.



Click Finish.

For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

# Distributed Computing Trial on One Windows Computer

## Step 3: Download and Install the Latest Version of MDCE

Because the latest version of MDCE (v2.0) was released after R14SP3, it is not included on the R14SP3 product CDs. You must go to The MathWorks Web site and download this version of MDCE and install it on your computer.

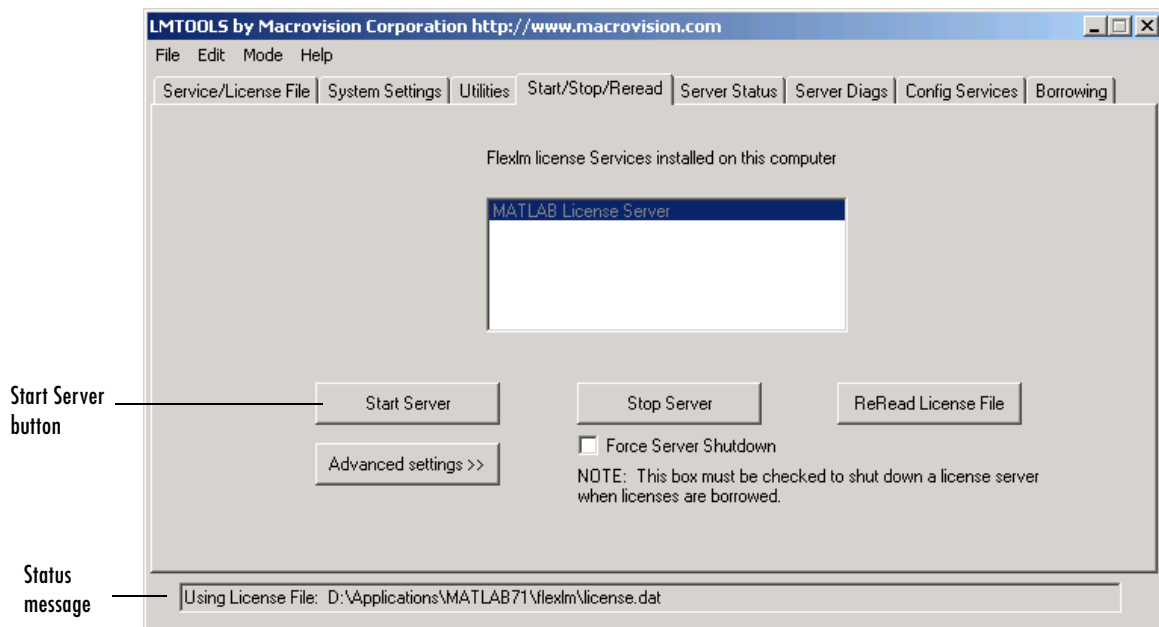
- 1 Download the software.
  - If you are a trial user, you have received a link to a location where you can download these products.
  - If you are a licensed user, go to The MathWorks Web site, [www.mathworks.com/web\\_downloads/](http://www.mathworks.com/web_downloads/), and download the product from your account.
- 2 Run the installer (`installer.exe`).
- 3 In the **License Information** dialog box, specify the same PLP you used in “Step 2: Install Distributed Computing Products and MATLAB.”
- 4 In the **License File** dialog box, specify the full path of the License File that was processed by the installer during the installation.  
`$MATLAB\flexlm\license.dat`
- 5 Choose to install this version of MDCE into your existing MATLAB folder, overwriting the current version of MDCE.

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## Step 4: Start the License Manager

To run the MDCE, the license manager must be running.

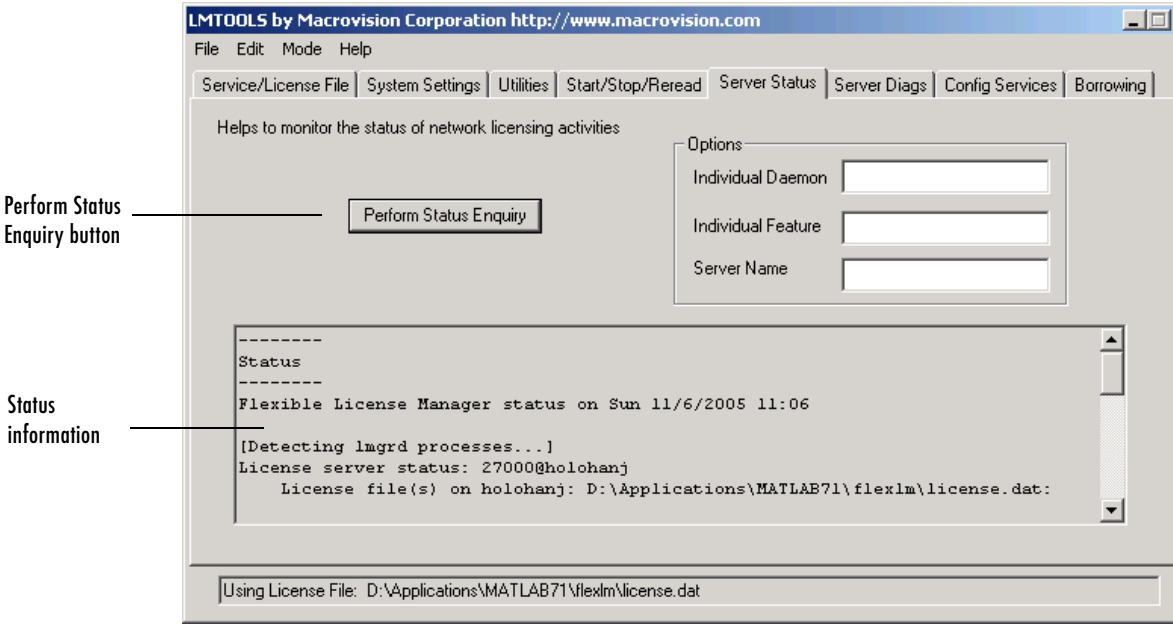
- 1 Navigate to the `$MATLAB\flexlm` folder.
- 2 Start the Macrovision LMTOOLS utility by double-clicking the `lmtools.exe` file.
- 3 Click the **Start/Stop/Reread** tab and click the **Start Server** button. Look for the status message “Server Start Successful” in the bottom of the LMTOOLS window.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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- 4 To make sure the license manager is running, click the **Server Status** tab and click the **Perform Status Enquiry** button. LMTOOLS displays status information. You should see a message stating that the server is up.



For help, contact the MathWorks install support team at 1-508-647-7000 or [http://www.mathworks.com/support/contact\\_us/](http://www.mathworks.com/support/contact_us/).

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## Step 5: Test Worker Licensing

To verify that MDCE workers can start correctly on the worker nodes and perform a license checkout, perform the following procedure:

- 1 Open a DOS command window and run the following command:

```
$MATLAB\bin\win32\matlab.exe -logfile output.txt -dmlworker  
-nodisplay -r exit
```

where \$MATLAB refers to the MDCE installation folder.

- 2 Enter the following command in the DOS command window to look at the output file, output.txt:

```
more output.txt
```

If the worker was able to check out a license, the file should contain information similar to the following:

```
To get started, type one of these: helpwin, helpdesk, or demo.  
For product information, visit www.mathworks.com.  
. . .
```

If the license checkout failed, the file output.txt should contain information similar to the following:

```
License Manager Error ...  
Feature:          MATLAB_Distrib_Comp_Engine
```

```
FLEXlm error:  
For further information, refer to the FLEXlm End User Manual,  
available at "www.macrovision.com".
```

For more information, see The MathWorks Support page at <http://www.mathworks.com/support> and search for "license manager error -1"

# Distributed Computing Trial on One Windows Computer

## Stage 2 of 3: Configuring the MATLAB Distributed Computing Engine for Use with Job Manager on Windows

The mdce service must be running on a computer being used for job managers or workers. This service manages the job manager and worker processes. One of the major tasks of the mdce service is to recover job manager and worker sessions after a system crash, so that jobs and tasks are not lost as a result of such accidents.

In the following instructions, \$MATLAB refers to the location of your installed MATLAB® Distributed Computing Engine. Where you see this term used in the instructions that follow, substitute the path to your location.

### Step 1: Install the mdce Service

- 1 Log in as a user with administrative privileges.
- 2 Open a DOS command window by selecting **Start > Run**, then in the **Open** field, type  
`cmd`
- 3 Navigate to the directory with the control scripts.  
`cd $MATLAB\toolbox\distcomp\bin\win32`
- 4 Install the mdce service by typing the command  
`mdce install`
- 5 Start the mdce service by typing the command  
`mdce start`

Once installed, the mdce service starts running each time the machine reboots. The mdce service continues to run until explicitly stopped or uninstalled, regardless of whether a job manager or worker session is running.

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## Step 2: Start the Job Manager

To start the job manager, enter the following commands in a DOS command window.

- 1 Navigate to the directory with the startup scripts.  
`cd $MATLAB\toolbox\distcomp\bin\win32`
- 2 Start the job manager, using any unique text you want for the name `<MyJobManager>`.  
`startjobmanager.bat -name <MyJobManager> -v`
- 3 Verify that the job manager is running on the intended host.  
`nodestatus.bat`

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**Note** If you have more than one job manager on your cluster, each must have a unique name.

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## Step 3: Start the Workers

For each worker, enter the following commands in a DOS command window.

- 1 Navigate to the directory with the startup scripts.

```
cd $MATLAB\toolbox\distcomp\bin\win32
```

- 2 Start the workers, using the text for <MyJobManager> that identifies the name of the job manager you want this worker registered with. Enter this text on a single line.

```
startworker -jobmanagerhost <job manager hostname>  
-jobmanager <MyJobManager> -v
```

To run more than one worker session, give each worker a unique name by including the -name option on the startworker command, and run it for each worker.

```
startworker ... -name <worker1 name>  
startworker ... -name <worker2 name>
```

- 3 Verify that the worker is running.

```
nodestatus
```

# Distributed Computing Trial on One Windows Computer

## Stage 3 of 3: Testing Your Installation of the MATLAB Distributed Computing Engine with a Job Manager

This procedure verifies that your distributed computing products are installed and configured correctly.

### Step 1: Verify the Connection

To verify the connection from the client session to the job manager, follow these instructions.

- 1 Open a DOS command window and go to the control script directory.

```
cd $MATLAB\toolbox\distcomp\bin\win32
```

- 2 Run `nodestatus` to verify your configuration and connection.

```
nodestatus.bat
```

If successful, you should see the status of your job manager. Otherwise, refer to the troubleshooting section of the MATLAB Distributed Computing Engine System Administrator's Guide.

### Step 2: Run a Distributed Job

- 1 Start MATLAB.

- 2 At the MATLAB prompt, enter the following command, replacing the text `MyJobManager` with the name you gave your job manager when you started it, and replacing `JobManagerHostname` with the hostname of your computer. You still need the quotes around the name and host of your job manager. Enter this text on a single line.

```
results = dfeval(@sum, {[1 1] [2 2] [3 3]},  
'jobmanager', 'MyJobManager', 'LookupURL', 'JobManagerHostname')
```

# Distributed Computing Trial on One Windows Computer

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If you get the following output, your installation is configured and operating correctly.

```
results =  
    [2]  
    [4]  
    [6]
```

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