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## PathMATE Installation Guide

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# Preface

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## Audience

The *PathMATE Installation Guide* is written for engineers, system administrators, and others who want to install and get started with PathMATE.

## Software Requirements

PathMATE requires Windows XP Professional, Windows 7, 32 bit or 64 bit, and a supported UML editor: Rational Software Modeler (RSM) v7.0 or higher, Rational Software Architect (RSA) v7.0 or higher, or Rational Rhapsody v7.0 or higher.

## Conventions

The *PathMATE Installation Guide* uses these conventions:

- **Bold** is for clickable buttons and menu selections.
- *Italics* are for path and file names, and other text that needs special emphasis.
- *Blue italics* in the electronic version of the guide are for active links. Click the link to go to the indicated heading.
- A **NOTE** contains important information, or a tip that saves you time.
- All path names assume you have installed the Pathfinder software in the default directory, *C:\pathmate\...*

## Related Documents

The *PathMATE Quick Start Guide* contains more information about how to become familiar with PathMATE. It explains how to develop a simple model, and how to transform the model with PathMATE. To open the *Quick Start Guide*:

- For Rational Software Modeler (RSM) or Rational Software Architect (RSA) see *C:\pathmate\doc\QuickStartGuide\_RSM.pdf*
- For Rational Rhapsody see *C:\pathmate\doc\QuickStartGuide\_Rhapsody.pdf*

## Contents of this Guide

Download the latest version of PathMATE from the Pathfinder website. [Download PathMATE](#) on page 3 explains how. Then:

- If you are a new user, turn to [Install and Prepare UML Editor](#) on page 4. If you have already installed PathMATE on your machine and you need to upgrade to the latest version, turn to [Upgrade PathMATE](#) on page 11.
- If you need to install or upgrade a PathMATE transformation map, turn to [Install Optional PathMATE Transformation Maps](#) on page 18.
- If you have difficulty with any of the operations explained here, turn to [the Troubleshooting Guide](#) on page 14.

# Download PathMATE

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PathMATE is a powerful set of software development tools that you can use to create complex embedded systems from UML models. The PathMATE Installation Guide explains how to install PathMATE on your computer. This section explains how to download PathMATE from [www.pathfindermda.com](http://www.pathfindermda.com).

1. Point your browser to <http://www.pathfindermda.com>. The Pathfinder Solutions home page opens.
2. Click **PathTECH Login** in the horizontal menu bar.
3. Log into PathTECH with User ID *demo*. Please contact your sales representative to obtain your password.



**Figure 1-1. PathTECH Login**

4. Follow the brief instructions in the PathTECH Support Area. Download the install files for the PathMATE Environment and any optional Transformation Maps.

Whether you need to install PathMATE for the first time, or upgrade your PathMATE installation, install the base PathMATE toolset before you install any other PathMATE components.

# ***Install and Prepare UML Editor***

## **Install UML Editor**

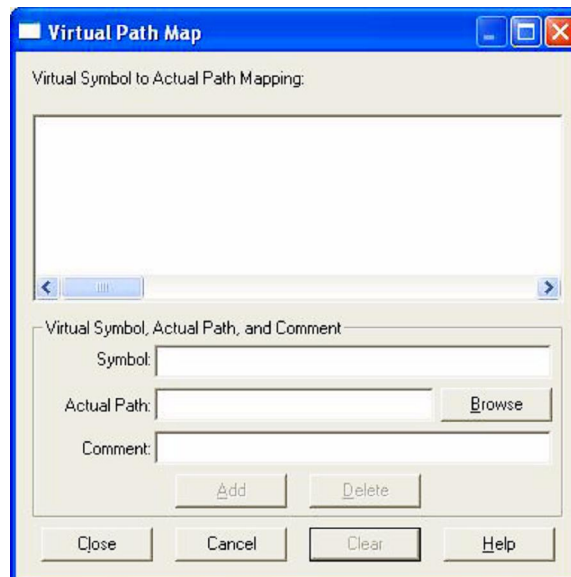
Obtain the install programs and a license file for the supported UML editor that you will be using to create your models. Install the editor using the instructions provided by the vendor.

## **Prepare Rational Rose**

If you are not using Rational Rose to create models, skip to the next step.

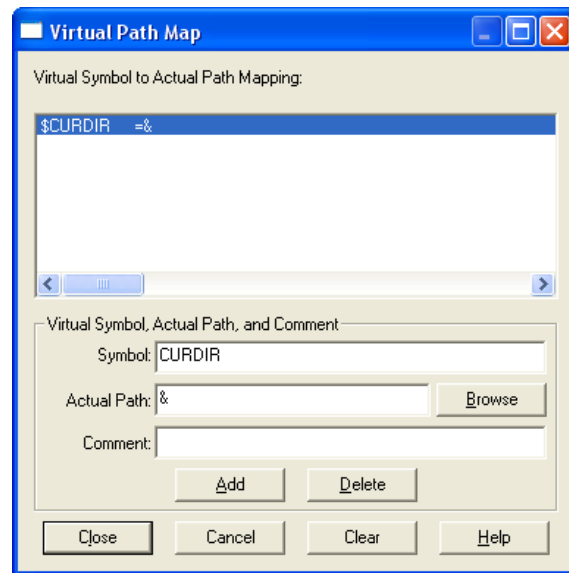
The PathMATE toolset transforms models developed in Rational Rose into executable code. The models that you work with in Rational Rose require that you define the current directory (CURDIR) symbol in Rose. To define the symbol:

1. Start Rational Rose.
2. Click **File > Edit Path Map...** in the top menu bar.  
Virtual Path Map opens.



**Figure 1: Virtual Path Map**

3. Enter *CURDIR* in the *Symbol* field.
4. Enter *&* in the *Actual Path* field and click **Add**.  
The new mapping appears under *Virtual Symbol to Actual Path Mapping*.



**Figure 2: Virtual Path Map**

5. Close the Virtual Path Map dialog box.



# Install PathMATE

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The installation procedure for PathMATE involves these steps:

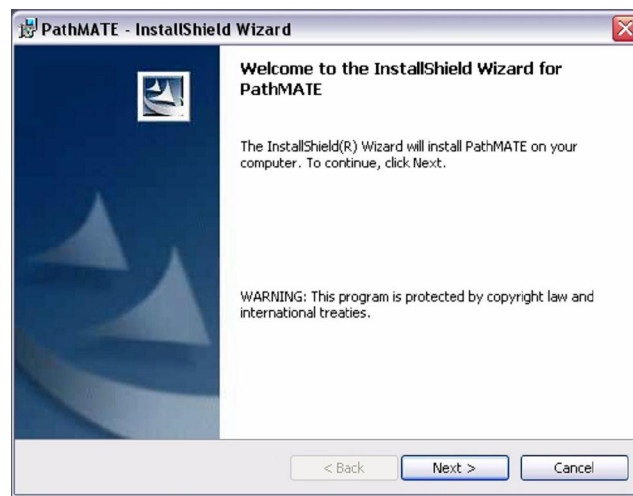
1. Install PathMATE.
2. Obtain a PathMATE license.
3. For Rational Rose users, add PathMATE to Rational Rose.

## Install PathMATE

To install PathMATE:

1. Locate *pathmate-x-xx-xxx.exe* in the download directory, and double-click the filename.

The installation wizard opens (Figure 3: PathMATE Installation Wizard).



**Figure 3: PathMATE Installation Wizard**

2. Follow the prompts in the installation wizard to install the program.  
At the end of the installation process, a dialog box prompts you to restart your computer for the configuration changes made to PathMATE to take effect.
3. Click **Yes** to restart your computer.

## Obtain a License

To obtain a PathMATE license, perform the steps below:

1. Determine the host name and host id of the computer where the license will be installed.

For a *node locked license*, perform the steps below on the computer where you will use PathMATE.

For a *floating license*, perform the steps below on the computer that will host the PathMATE license server. The license server must run the Windows operating system and must be accessible through the network by all PathMATE users.

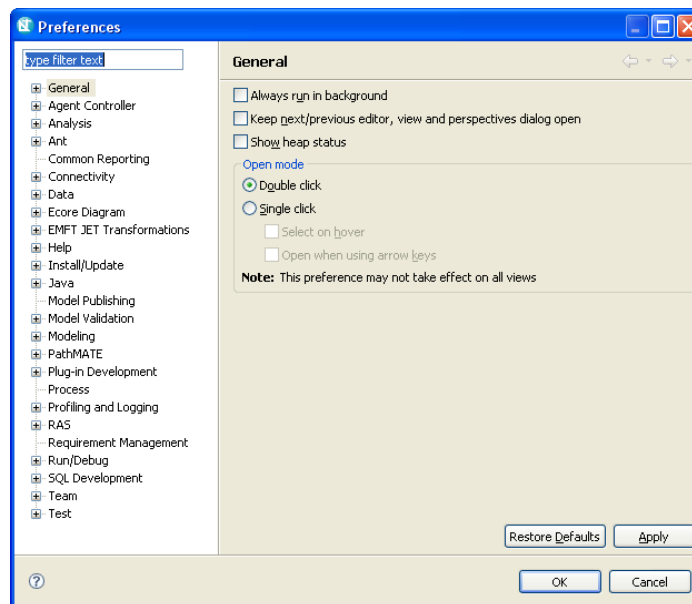
### ***Finding the License Host Name and Id***

#### **Method 1: From Rational Software Developer or Eclipse**

1. If you are using Rational Software Developer, start it from the Windows desktop.

If you are using Rose, select **Start > Programs > Pathfinder Solutions > Eclipse** in the Windows desktop.

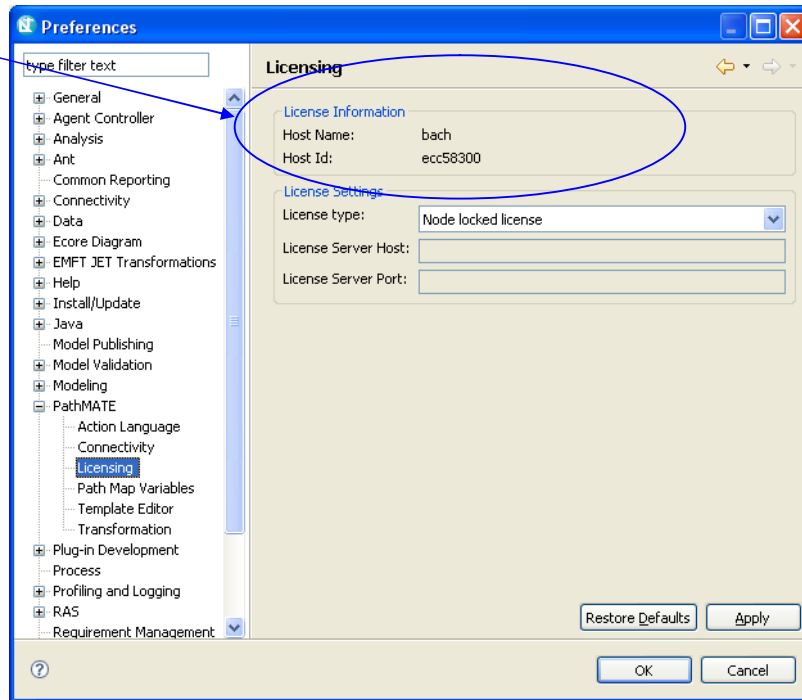
4. From the main menu select **Windows > Preferences**. The Preferences Dialog appears.



**Figure 2-3. Preferences Dialog – General**

5. Select **PathMATE > Licensing** from the tree on the left side of the dialog.

License Host  
Name and Id

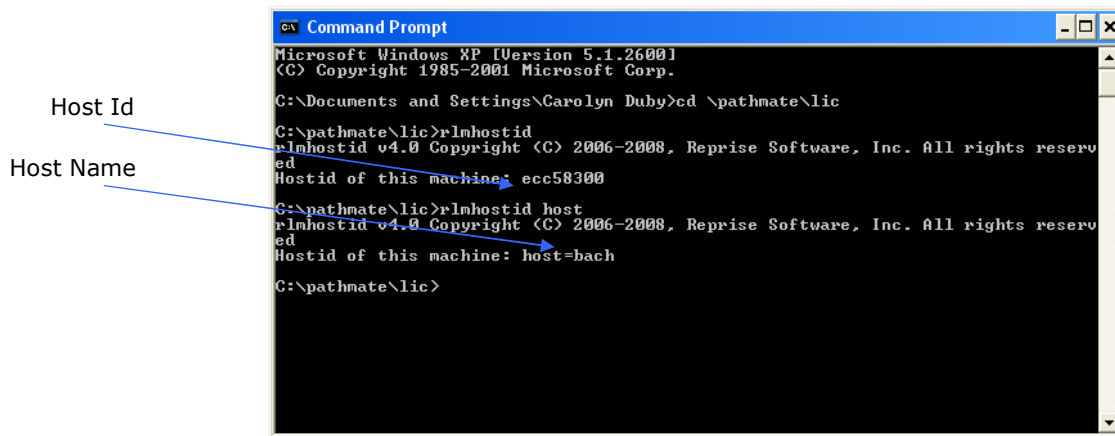


**Figure 2-3. Preferences Dialog – PathMATE - Licensing**

6. The license host name and id are located in the *License Information* section near the top right of the dialog. Select the host name and host id strings, copy them and paste them into an email message. Email the license host information to [plms@pathfindermda.com](mailto:plms@pathfindermda.com).
7. Close Rational Software Developer or Eclipse.
8. When you receive your license from Pathfinder by return e-mail, save node locked .lic file in *C:\pathmate\lic*. If you are using a floating license, see *Install a Floating License* on page 20 and *Connecting PathMATE Clients to the License Server* on 24.

#### **Method 2: Using the Command Line**

1. From the Windows desktop select **Start > Run**. The Run dialog will appear.
2. Enter *cmd* in the Open field. Click OK. The Command Prompt opens.
3. Enter *cd <pathmate\_root>\lic* to change to the lic subdirectory of the PathMATE install tree where <pathmate\_root> is the location where PathMATE is installed. The default location is *c:\pathmate*.



**Figure 4: Finding the License Host Id and Name using Command Prompt**

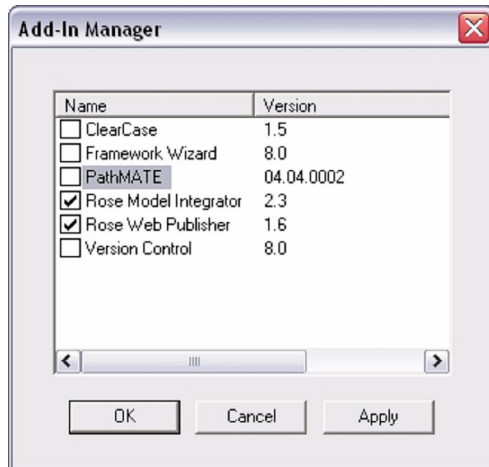
4. Enter `rlmhostid` to get the license host id.
5. Enter `rlmhostid host` to get the license host name.
6. E-mail the license host id and license host name to [plms@pathfindermda.com](mailto:plms@pathfindermda.com).
7. When you receive your license from Pathfinder by return e-mail, save node locked .lic file in `C:\pathmate\lic`. If you are using a floating license, see [Install a Floating License](#) on page 20 and [Connecting PathMATE Clients to the License Server](#) on 24.

## Add PathMATE to Rational Rose

If you are not using Rational Rose, skip this step.

To complete the installation for Rational Rose, and to verify that PathMATE is installed correctly:

1. Launch Rational Rose.
2. Select **Add-Ins > Add-In Manager** in the top menu bar.  
The Rational Rose Add-In Manager opens (Rational Rose Add-In Manager).



**Figure 2-7. Rational Rose Add-In Manager**

3. Check the box next to *PathMATE*.
4. Click **OK** to close the Add-In Manager.
5. Select **Tools** in the top menu bar and check the list of items in the drop-down menu.

If *PathMATE Generate* and *PathMATE Options* appear in the drop-down menu, PathMATE is ready to use with Rational Rose. If the installation was unsuccessful, please contact Pathfinder Solutions.

# ***Upgrade PathMATE***

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The upgrade procedure for PathMATE involves three steps:

1. Uninstall the previous version of PathMATE.
2. Install PathMATE.
3. For Rational Rose users, add PathMATE to Rational Rose.

## **Uninstall the Previous Version of PathMATE**

To uninstall a previous version of PathMATE:

1. Select **Start > Settings > Control Panel** in the Windows desktop to open the control panel.
2. Double-click *Add or Remove Programs*.
3. Select *PathMATE* and remove it.

Check the install directory and verify that all files except the .lic file are removed. The uninstaller does not remove files generated from any samples you may have built. You must use Windows Explorer to remove these files from *C:\pathmate*.

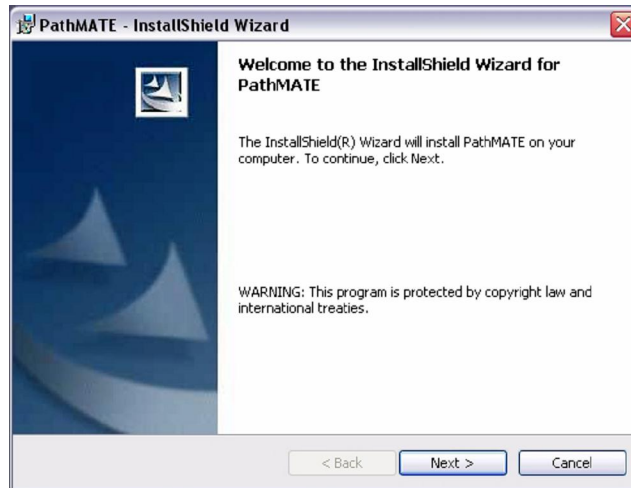
Use the Windows Add or Remove Programs utility to uninstall previous versions of PathMATE Transformation Map for C and PathMATE Transformation Map for Java. These are optional components and may not be installed on your system.

## **Install PathMATE**

To install PathMATE:

1. Locate *pathmate-x-xx-xxx.exe* in the download directory, and double-click the filename.

The installation wizard opens (Figure 3: PathMATE Installation Wizard).



**Figure 3-1. PathMATE Installation Wizard**

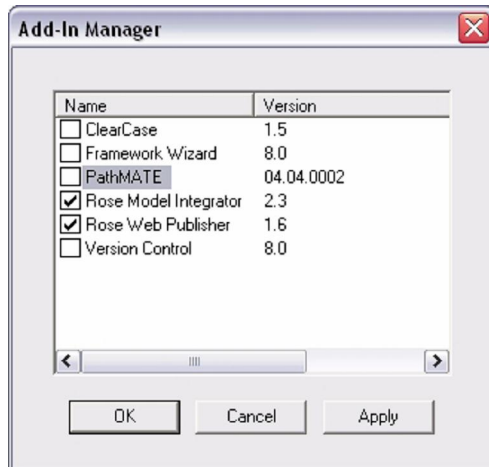
2. Follow the prompts in the installation wizard to install the program.  
At the end of the installation process, a dialog box prompts you to restart your computer for the configuration changes made to PathMATE to take effect.
3. Click **Yes** to restart your computer.

### **Add PathMATE to Rational Rose**

If you are not using Rational Rose, skip this step.

To complete the installation, and to verify that PathMATE is installed correctly:

1. Launch Rational Rose.
2. Select **Add-Ins > Add-In Manager** in the top menu bar.  
The Rational Rose Add-In Manager opens (Rational Rose Add-In Manager).



**Figure 3-2. Rational Rose Add-In Manager**

3. Check the box next to *PathMATE*.
4. Click **OK** to close the Add-In Manager.
5. Select **Tools** in the top menu bar and check the list of items in the drop-down menu.

If *PathMATE Generate* and *PathMATE Options* appear in the drop-down menu, PathMATE is ready to use with Rational Rose. If the installation was unsuccessful, please contact Pathfinder Solutions (see the *Troubleshooting Guide* on page 14).



# Verifying Your Installation

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Follow these steps to ensure your installation was set up correctly:

1. Instantiate the SimpleOven example.
2. Transform SimpleOven to code.
3. Build and execute SimpleOven.

Before starting ensure you are in the Eclipse Resource perspective.

**Use Window > Open Perspective.**

## Instantiate the SimpleOven Example

1. In Eclipse, click **File > New > Example**.
2. In the wizard filter field type *SimpleOven*
3. **For RSM/RSA:** select the *SimpleOven* example system under the *PathMATE* folder and click **Next**.
3. **For Rhapsody:** select the *SimpleOven* example system under the *PathMATE for Rhapsody* folder and click **Next**.
4. In the *ProjectName* field enter *SO-verify* and click **Finish**.
5. See the new project *SO-verify* in the Eclipse Project Explorer.

## Transform SimpleOven to Code

1. In the Eclipse Project Explorer select the project *SO-verify* and click **File > New > Other**.
2. In the wizard filter field type *PathMATE*
3. Select the *PathMATE Project* under the *PathMATE* folder and click **Next**.
4. **For RSM/RSA:** Select the *SimpleOven SYSTEM MODEL.emx* model file in the *SO-verify* project and click **Next**.
4. **For Rhapsody:** Select the *SimpleOven.rpy* model file in the *SO-verify* project and click **Next**.
5. See the new project on the Eclipse Project Explorer.

## Build and Execute SimpleOven

1. The PathMATE transformation project editor is open in the center Eclipse pane. Select the deployment *Single Process C++*, and click **Edit** on the right side of the Transformation field (on the right side of the pane).
2. In the *Transformation Maps* window ensure the *PathMATE C++* and *Build file generation* Maps appear in order. If not, use the Add and/or Up/Down buttons to adjust.
3. In the Project Explorer expand the *SO-verify* project and browse to the *cpp* folder. Open *properties.txt* – this is the markings file.

4. Specify the version of Visual Studio you have installed by uncommenting the line specifying the TargetIDE property (around line 7) and changing its value as appropriate. E.g. set this to *VS8* for Visual Studio 2005, or to *VS9* for Visual Studio 2008:

`System, SimpleOven, TargetIDE, VS8`

5. Save the changes to *properties.txt*. In the PathMATE pane click **Transform**. Browse to the *cpp* folder, and see the generated code in the *cpp/gc* folder, and go into the *cpp/MAIN* folder and open the main VS project solution file, *MAIN.sln*.

Now build and execute the SimpleOven system in Visual Studio.

# Troubleshooting Guide

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If the FAQ below does not address your problem, please call Customer Service for help.

## Frequently Asked Questions

*Q: What should I do if I receive a "connection refused" error message when attempting to connect to the license server or access the license administration web page?*

A: If there is a firewall hardware device on the network or Windows firewall software running on the license server, the ports used by the license server must be open on all firewalls. The required ports and how to set them follow:

Required Port	How to Configure
Reprise License Manager	The last parameter of the HOST line in the PathMATE license file: HOST <host_name> <host_id> <port>
Pathfinder ISV Server	The last parameter of the ISV line in the license file: ISV pathfinder pathfinder <port>  If no port is specified, the license software chooses a free port. If the license server needs to be accessed across a firewall, select a port and specify on the ISV line in the PathMATE license file.
Reprise Web Server Port	The default port is 9000. To change the port, open the properties for the service that starts the license server. (See the Install a Floating License section for further instructions on how to access the license server Windows service.) Add the -ws <port> option to the command line for the service.

*Q: What should I do if one of the ports required by the license server is in use?*

A: Consult the table above showing the ports required by the license server and how to configure them. Change either the license file or the parameters to the license server command. Start the license server.

*Q: What should I do if I receive a message that tells me my PathMATE license has expired, or I have some other problem with my PathMATE license?*

A: Contact Pathfinder Solutions Administration at 888-662-7284 x102, or write to [admin@pathfindermda.com](mailto:admin@pathfindermda.com). To initiate a request for a new license, follow the instructions in [Obtain a License](#) on page 6.

*Q: What should I do if PathMATE Generate doesn't appear in the Rational Rose Tools menu?*

A: You may have to use the Rose Add-In Manager to add PathMATE's functions to the tools menu. Select **Add-Ins > Add-In Manager...** in Rose's top menu bar, then select the checkbox for PathMATE in the Add-In Manager.

*Q: What should I do if Rational Rose or Rational Software Modeler says that my license is not current, or I have some other problem with my UML editor license?*

A: You should contact your IBM representative, explain the circumstances, and ask for an evaluation license.

## Support

If you have technical trouble with the installation process, or any other technical questions about PathMATE, please contact Pathfinder Solutions Support at 888-662-7284 x103 or [support@pathfindermda.com](mailto:support@pathfindermda.com). Your inquiry will receive a prompt response.

# ***Install Optional PathMATE Transformation Maps***

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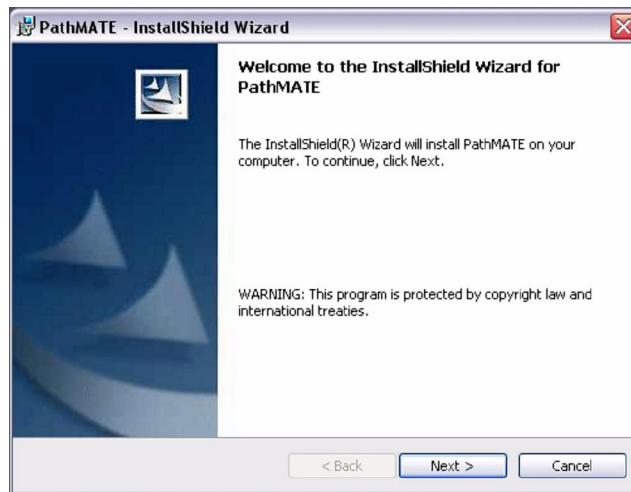
This section explains how to install the optional C Map and Java Map. They do not come bundled with the base PathMATE product, so you can update them separately. The procedures assume that you have not installed a previous version of the C Map or the Java Map. If you have installed a previous version and you need to upgrade, you must uninstall the previous version before you execute the steps in the installation procedure.

## **Install the C Map**

To install the C Transformation Map:

1. Locate *pathmate\_c-x-xx-xxx.exe* in the download directory on your local drive, and double-click the filename.

The installation wizard opens (Figure 3: PathMATE Installation Wizard).



**Figure 6-1. PathMATE Installation Wizard**

2. Follow the prompts in the installation wizard to install the program.
3. When the installation procedure is complete, check *c:\pathmate\design\c\...* to verify that the C Map is installed correctly.

## **Install the Java Map**

To install the Java Transformation Map:

1. Locate *pathmate\_java-x-xx-xxx.exe* in the download directory on your local drive, and double-click the filename.

The installation wizard opens (Figure 3: PathMATE Installation Wizard).



**Figure 6-2. PathMATE Installation Wizard**

2. Follow the prompts in the installation wizard to install the program.
3. When the installation procedure is complete, check *c:\pathmate\design\java\...* to verify that the Java Map is installed correctly.

## ***A. Install a Node Locked License***

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Follow these steps to install a node locked license:

1. Exit Rational Software Developer and/or Eclipse if they are open.
2. Log in using an account with Administrator privileges.
3. Copy the license file to *<pathmate\_root>\lic*.
4. Restart Rational Software Developr or Eclipse.

## B. Install a Floating License

Follow these steps to install a floating license on the license server:

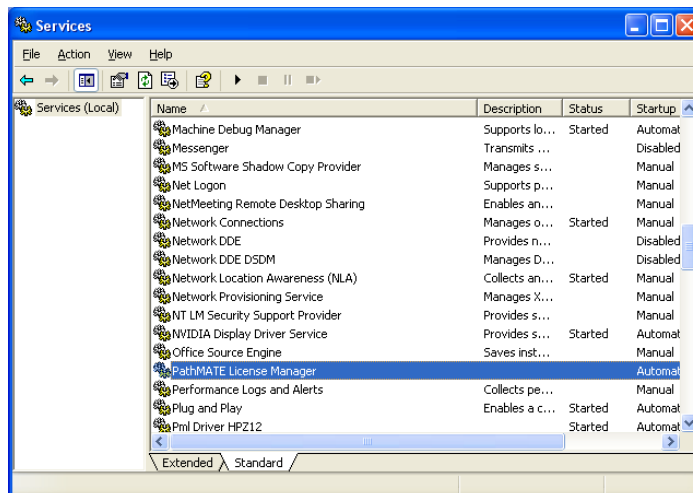
1. Log into the license server using an account with Administrator privileges.
2. Copy the license file to `<pathmate_root>\lic`.
3. Install a service that starts the PathMATE license server. Open a command prompt and enter:

```
cd c:\pathmate\lic
```

```
rlm -install_service -service_name "PathMATE License Manager"  
-dlog <pathmate_root>\lic\license_manager.log -c  
<pathmate_root>\lic
```

**NOTE:** Always use fully qualified paths for the `-dlog` and `-c` options. The license manager will not start properly if relative paths are used.

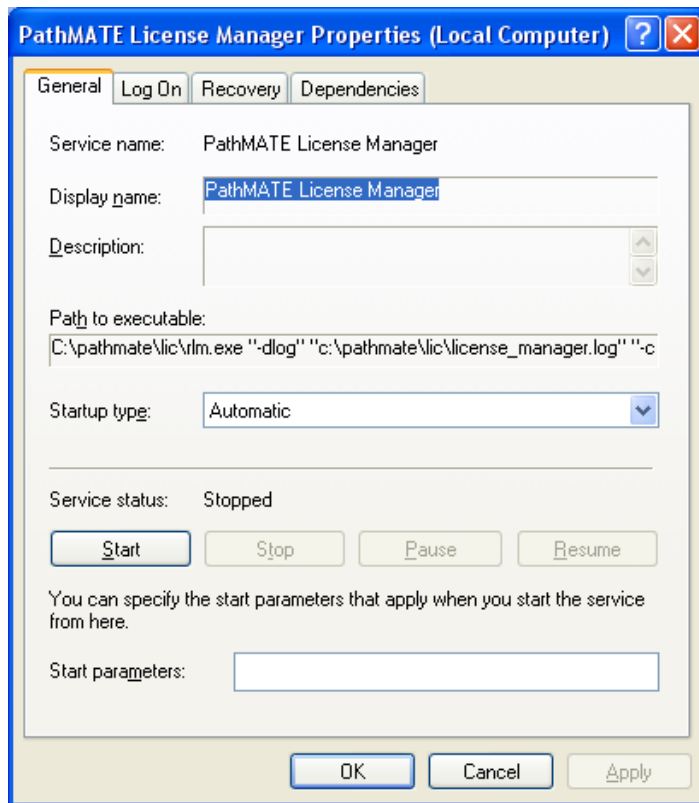
6. From the Windows desktop, select **Start > Control Panel**. The Control Panel opens.
7. Open **Administrative Tools > Services**.
8. Select the *Standard* tab. See [Figure 5: Standard Services](#).



**Figure 5: Standard Services**

Double click the PathMATE License Manager service. The service properties dialog appears. See [Figure 6: License Manager Service Properties](#).





**Figure 6: License Manager Service Properties**

9. Click **Start** to start the license server. A progress dialog will appear briefly while the license server starts. The PathMATE License Manager service will start the license manager automatically when the license server restarts. A manual start is only required immediately following installation.
10. Click **OK** to dismiss the service properties dialog.
11. Verify that the license server is running properly by entering the following commands in a command prompt:

```
cd c:\pathmate\lic
rlmstat
```

*Figure 7: Verifying License Server Status* shows an example of a good status. If the license server is not running, rlmstat will print an error message "Error connecting to "rlm" server" followed by details of the error condition.

```

Command Prompt
(C) Copyright 1985-2001 Microsoft Corp.
C:\Documents and Settings\Carolyn Duby>cd \pathmate\lic
C:\pathmate\lic>rlmstat
rlmstat v4.0 Copyright (C) 2006-2008, Reprise Software, Inc. All rights reserved

rlm status on bach (port 2764), up 00:04:17
rlm software version v4.0 (build:4)
rlm comm version: v1.1
Startup time: Fri May 16 10:30:39 2008
Todays Statistics (00:04:17), init time: Fri May 16 10:30:39 2008
Recent Statistics (00:04:17), init time: Fri May 16 10:30:39 2008

      Recent Stats      Todays Stats      Total Stats
      00:04:17          00:04:17          00:04:17
Messages:    9 (0/sec)    9 (0/sec)    9 (0/sec)
Connections: 6 (0/sec)    6 (0/sec)    6 (0/sec)

----- ISU servers -----
      Name    port Running Restarts
pathfinder 2288   Yes      0
C:\pathmate\lic>

```

**Figure 7: Verifying License Server Status**

12. Open the license server log file located in  
`<pathmate_root>\lic\license_manager.log`. Inspect the license  
server error log for problems encountered during startup.

Each PathMATE installation accessing this license server must be configured with the license server name and port number. See [Connecting PathMATE Clients to the License Server](#) for instructions on how to configure PathMATE clients.

## C. Connecting PathMATE Clients to the License Server

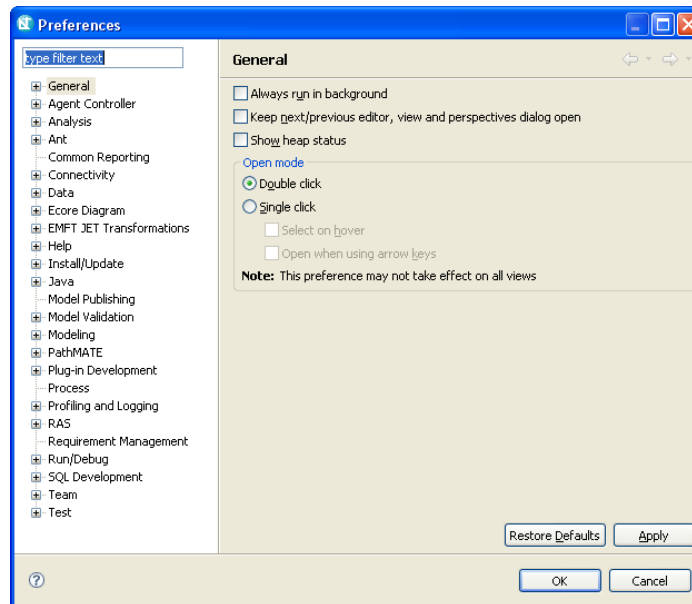
---

Follow these steps on each computer where PathMATE will be used:

1. Log in using an account with Administrator privileges.
2. If you are using Rational Software Developer, start it from the Windows desktop.

If you are using Rose, select **Start > Programs > Pathfinder Solutions > Eclipse** in the Windows desktop.

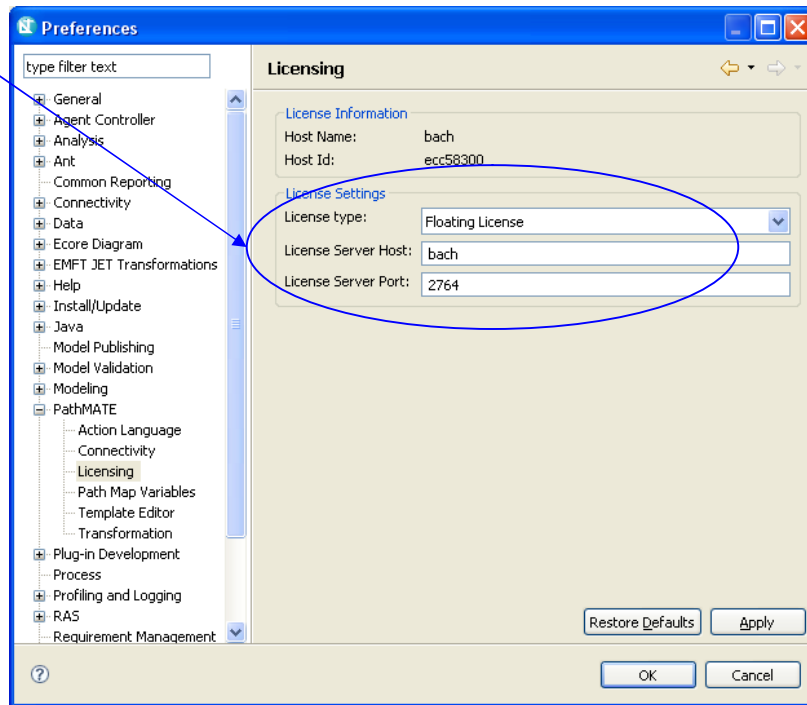
3. From the main menu select **Windows > Preferences**. The Preferences Dialog appears.



**Figure 2-3. Preferences Dialog – General**

4. Select **PathMATE > Licensing** from the tree on the left side of the dialog.

License  
Settings



**Figure 2-3. Preferences Dialog – PathMATE – Licensing**

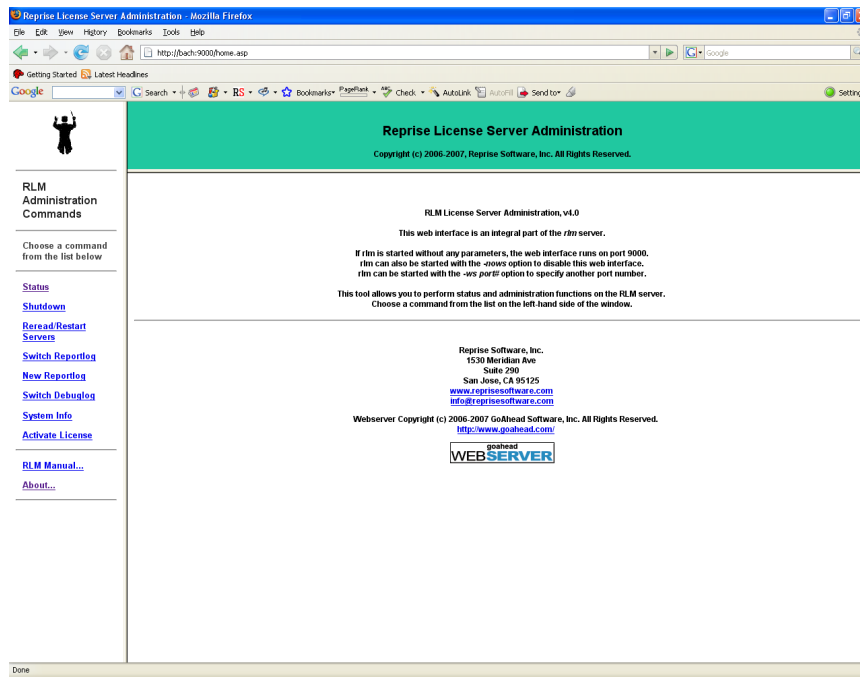
5. Open the PathMATE license file and find the HOST line. The HOST line:  

```
HOST host_name host_id port
```
6. In the License type field, select Floating License.
7. In the License Server Host field, enter the *host\_name* specified on the HOST line of the license file.
8. In the License Server Port, enter the *port* specified on the HOST line of the license server.
9. Click Ok.
10. Exit Rational Software Developer or Eclipse.
11. Follow the instructions in the [Verify Installation of License](#) section on page 26 to ensure that PathMATE checks out a license properly.

## D. Adminstrating the License Server

Follow these steps to determine if the PathMATE license server is operating properly or to change how the license server is configured:

1. Open a web browser. Enter the url `http://<licenseserverhost>:9000`. The Reprise License Server Administration page appears.

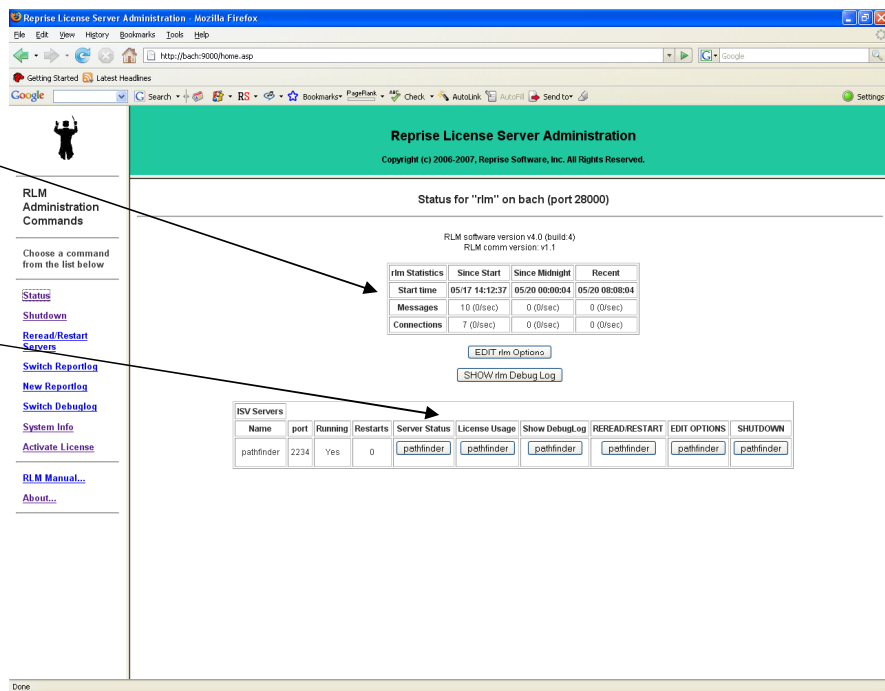


**Figure 8: License Manager Administration Page**

2. Click on the Status link on the left side of the browser window. The status of the license server displays appears.

License  
Server  
Status

Pathfinder  
ISV Server  
Commands



**Figure 9: License Server Status Web Page**

3. The Status page shows the status of the rlm license manager server and the pathfinder ISV server. Click the pathfinder button in the ISV table to perform one of the following:

Command Name	Command Description
Server Status	Show pathfinder ISV server status. Show number of available licenses.
License Usage	Show which licenses are checked out and by whom.
Show DebugLog	Display the contents of the license server log file.
REREAD/RESTART	If the Pathfinder ISV server is not running, start it. If it is running already, read a new version of the license file.
SHUTDOWN	Shutdown the Pathfinder ISV server. This does not shut down the main rlm server process.

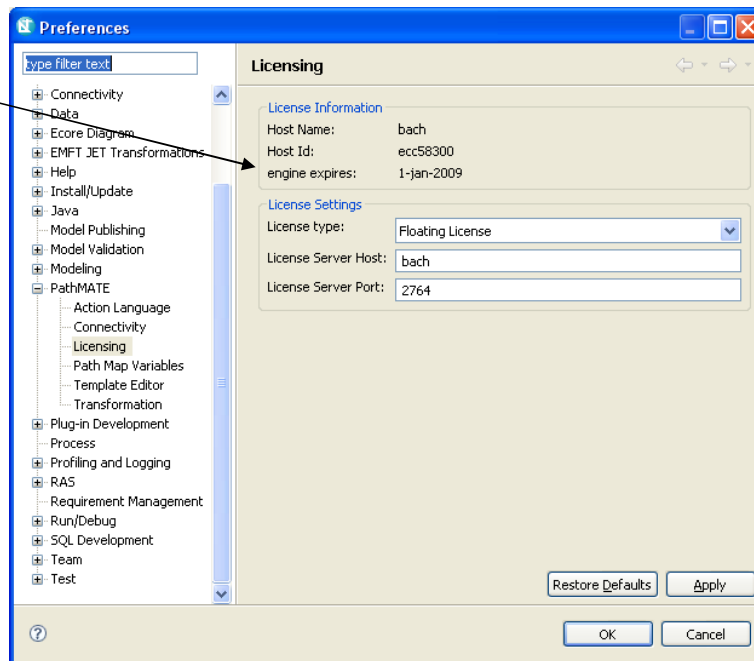
## ***E. Verify Installation of License***

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Follow these steps after changing the license configuration on each computer where PathMATE will be used:

1. If you are using Rational Software Developer, start it from the Windows desktop.  
If you are using Rose, select **Start > Programs > Pathfinder Solutions > Eclipse** in the Windows desktop.
2. From the main menu, select **Windows > Open Perspective > Other**. The Open Perspective dialog appears.
3. Select the Modeling perspective. Click Ok.
4. From the main menu, select **Windows > Show View > Action Language**. Opening the PathMATE action language view will check out a PathMATE engine license. If an error dialog appeared when opening the action language view, the license was not checked out properly. Check the license server log to make sure it started properly. If the license server started ok, verify that it is using the correct license file.
5. From the main menu select **Windows > Preferences**. The Preferences Dialog appears.
6. Select **PathMATE > Licensing** from the tree on the left side of the dialog.
7. If an engine license and its expiration date appear under the host name and host id, the license is properly installed. See Figure 10: Checking the License Expiration Date.

License  
Expiration  
Date



**Figure 10: Checking the License Expiration Date**



## ***F. Glossary***

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<b>C Map</b>	Templates and run-time mechanisms used with PathMATE to generate C code.
<b>CURDIR</b>	Current directory
<b>Floating license</b>	A license installed on a license server. Valid for a specified number of seats.
<b>Java Map</b>	Templates and run-time mechanisms used with PathMATE to generate Java code.
<b>Node locked license</b>	A license valid only on the machine where it is installed.
<b>PathMATE</b>	Pathfinder Model Automation and Transformation Environment
<b>PathTECH</b>	The portal for downloading the PathMATE installer and related files, accessed via login at the top of the <a href="http://www.pathfindermda.com">www.pathfindermda.com</a> page.