



Mathcad® Prime® 2.0
Installation and Administration
Guide
Datecode M010

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About This Guide

How to Read This Guide

The *Mathcad Prime 2.0 M010 Installation and Administration Guide* is written primarily for the system administrator — the person responsible for installing and maintaining Mathcad and any FLEXnet Publisher administering Mathcad licenses. It assumes you have a basic familiarity with Windows and network administration.

For Mathcad installation, this installation and administration guide targets the Windows platform. Dialog box titles, menu options, and other elements mentioned in this guide reflect Windows operation, navigation, and object names.

For the System Administrator

The following sections contain important information for persons installing and administering Mathcad and FLEXnet Publisher:

Before You Begin on page 14	An introduction to the concepts covered and terminology used in this manual.
Installing Mathcad on page 13	Instructions for performing an installation of Mathcad.
License Management on page 23	Instructions for installing and configuring a FLEXnet Publisher license server.
Installing and Configuring Quality Agent on page 43	Instructions for installing and configuring the Quality Agent application.

For the End User

End-users of Mathcad must refer to the Mathcad Help Center as their primary source of information, although the following sections of this guide may be of interest as well:

Before You Begin on page 14	An introduction to the concepts covered and terminology used in this manual.
Borrowing Licenses on page 41	Instructions for borrowing a Mathcad license.

Other Sources of Information

You can refer to the following sources of information as you install, configure, and license Mathcad across your enterprise.

- Mathcad Customer Support Site—Contains information on obtaining and managing licenses as well as a searchable Knowledge Base.
<http://www.ptc.com/support/mathcad.htm>
- *Mathcad Prime 2.0 M010 Read This First*—Contains last-minute changes to the product and documentation:
<http://www.ptc.com/appserver/cs/doc/refdoc.jsp>. Use this web site to search for the relevant document.
- *Installing Creo 2.0: Creo Parametric, Creo Direct, Creo Layout, and Creo Simulate*—Includes additional information about installing and using FLEXnet Publisher, including information on using FLEXnet Publisher on platforms other than Windows.
<http://www.ptc.com/appserver/cs/doc/refdoc.jsp>. Use this web site to search for the relevant document.
- *FLEXnet Licensing End User Guide*—Includes additional information about installing and using FLEXnet Publisher.

Technical Support

Contact PTC Technical Support if you encounter problems using the software. Contact information for PTC Technical Support is available on the PTC Customer Support Site.

<http://www.ptc.com/support/>

You must have a Service Contract Number (SCN) to receive technical support. If you do not have an SCN, contact PTC using the instructions in the *PTC Customer Service Guide* under CONTACTING TECHNICAL SUPPORT.

http://www.ptc.com/support/cs_guide/cs_guide.pdf

Comments

We welcome your suggestions and comments on our documentation. Please submit your feedback to mathcad-documentation@ptc.com.

When you submit feedback, remember to include the version number and name of the documentation piece with your comments.

Before You Begin the Installation

This section provides information you should be familiar with before you begin the installation, such as system requirements, coexistence and upgrade, file conversion, and compatibility.

What You Receive

- Read This First—Notifies you of any changes you must make, such as machine settings and recommended operating system patches.
- Mathcad DVD—Contains the installation program for Mathcad. This package contains the Mathcad program and associated Help Center.
- *Mathcad Prime 2.0 M010 Installation and Administration Guide* (this document)—Provides information on license management, installation of software, and software maintenance.

Order of Installation

If you need to install both Mathcad and FLEXnet Publisher, you can install them in any order.

System Requirements

- Pentium-compatible 2xP4 2.4GHz or later
- Windows XP Home SP3 or Professional Edition SP3, Windows XP Professional x64 Edition SP2, Windows Vista x32 or x64 Edition, Windows 7 x32 or x64 Edition; Windows XP SP3, XP-x64 SP2, Vista, or Windows 7 recommended
- Windows Installer 3.0 or later

-
- Microsoft .NET Framework 4.0 Client Profile
 - Microsoft .NET Framework 4.0 Extended
 - 512 MB of RAM
 - 1.6 GB of hard disk space (400 MB for Mathcad with one language installed, 250 MB for prerequisites, 1.2 GB temporary space during installation)
 - DVD drive and Internet connection (required for license acquisition)
 - SVGA or later graphics card, 1024 x 768, 32-bit color monitor
 - Keyboard and mouse or compatible pointing device
 - Internet Explorer 6.0 and Adobe Reader 5.0 or later are required for full functionality of the Help system.

Download the software from Microsoft or Adobe, respectively:

<http://www.microsoft.com/windows/products/winfamily/ie/default.msp>

<http://www.adobe.com/products/acrobat/>

Note

The 64-bit version of Mathcad runs as a native 64-bit application. This version utilizes more than 4 GB of memory.

Coexistence and Upgrade

Mathcad Prime 2.0 M010 can be installed side-by-side with any previous versions of Mathcad Prime, except for Mathcad Prime 2.0. The following limitations apply:

- You must install the products in an ascending order (Mathcad Prime 1.0, and then Mathcad Prime 2.0 M010).
- If you have both Mathcad Prime 1.0 and Mathcad Prime 2.0 M010 installed on your computer, by default Mathcad files open with the latest version. If you want files to open in Mathcad Prime 1.0, you must set file association manually. Right-click a file, select **Open with**, and then click the desired program from the shortcut menu.
- Mathcad Prime 1.0 integrations with Windchill Workgroup Manager, Windchill Product Point, Pro/ENGINEER, Creo Elements/Pro, and Creo Parametric, will no longer work.
- If you previously registered Mathcad Prime 1.0 with Windchill Workgroup Manager (using the Application Management utility), you must repeat the procedure and register Mathcad Prime 2.0 M010.

-
- If you have several versions of Mathcad Prime installed on your computer and you would like to remove some, you must uninstall all of them in descending order. Then install only the ones you want in ascending order.
 - After installing Mathcad Prime 2.0 M010, you can only use its XMCD, MCD Converter to convert legacy Mathcad worksheets into Mathcad Prime 2.0 M010.

Note

You must uninstall earlier versions of Mathcad Prime 2.0 M010 (Alpha) before installing Mathcad Prime 2.0 M010.

XMCD, MCD File Conversion

To convert Mathcad XMCD or MCD files to Mathcad Prime 2.0 M010 MCDX format, you must have Mathcad 15.0 M010 or later installed. Otherwise, the converter does not function properly. You can download Mathcad 15.0 M010 from <http://www.ptc.com/products/mathcad/mathcad-15-0/free-trial.htm>. You can use your Mathcad Prime 2.0 M010 license for Mathcad 15.0 M010.

The installation of Mathcad 15.0 M010 requires uninstalling any previous versions of Mathcad 14.0 or Mathcad 15.0 from your computer. If you want to reinstall Mathcad 14.0 at a later date, you will need to back up your license file (`license.dat`) from `C:\Program Files\Mathcad\Mathcad 14\licenses`. You must back up the license file outside of the Mathcad installation folder to ensure that it is not deleted. If you use a license server, you do not have to back up your license file.

Upward Compatibility

Mathcad Prime 2.0 M010 is upward compatible. You can open MCDX files created with Mathcad Prime 1.0 and Mathcad Prime 2.0.

License Management

To serve floating licenses and registered-user licenses, you must use FLEXnet Publisher 10.8.6.2 or later. FLEXnet Publisher 10.8.6.2 for Windows is available for download at <http://free-dl.ptc.com/install/setup.exe>. You must be logged in to your PTC account to view the page.

Note

You can also use the FLEXnet Publisher executable for Linux, Solaris, or 64-bit Windows provided with other PTC products. You cannot use a FLEXnet Publisher executable provided by another vendor, as it does not include PTC's vendor daemon.

Under regular usage, license administration places little load on your server or network. The FLEXnet Publisher license daemon and PTC vendor daemon both require approximately 3 MB of memory when running. Additionally, aside from license check-out and check-in, and periodic signals sent out to verify the continued presence of the license server, Mathcad generates no network traffic to the FLEXnet Publisher when running. However, as more workstations access the license server, network traffic may become an issue, and your log file will grow more quickly.

To use Mathcad, you need the appropriate license file. Mathcad is sold with either floating, locked, or registered-user licenses.

- Floating licenses can be used by any workstation on your network.
- Locked licenses can only be used on specified workstations.
- A 30-day, full functionality license that can be used by any workstations on your network, and will expire after 30 days.
- Registered-users are administered from a license server, but always allocated to a particular workstation, regardless of whether the workstation is running Mathcad at the time.

Only if your installation is on active maintenance support, you are entitled to home-use licenses. For more information refer to the PTC Maintenance Support Terms and Conditions on the Global Maintenance Support page.

To request a license, know the Host ID of the computer to which you intend to assign the license. In most cases, the Host ID will be the MAC address of the active network adapter. For more information on types of licenses and the Host ID, see [Obtaining a License on page 25](#).

Home-user licenses must be renewed on a yearly basis on the Global Maintenance Support page, or by contacting your local support office.

Note

For more information on License Management refer to [License Management on page 23](#).

Vendor Daemon for FLEXnet Publisher

In addition to a license file, FLEXnet Publisher also requires a vendor daemon to properly serve Mathcad licenses. This vendor daemon actually dispenses a license to your machine when you start Mathcad. Without it, Mathcad cannot check out a license at start up.

The vendor daemon is provided as part of the FLEXnet Publisher installation.

Setting the Language Default

To run the installation utility in a language other than English, see [Changing the Installation Default Language on page 15](#). To run Mathcad and Mathcad Help Center in a language other than English, see [Running Mathcad and Mathcad Help Center in Other Languages on page 20](#).

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Installing Mathcad

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Before You Begin

Before installing Mathcad, make sure that all of the required system components are installed.

If all of the required system components have been installed, proceed to install Mathcad.

Note

- *Only persons with administrative privileges can install Mathcad onto a workstation. If you lack administrator privileges for the workstation onto which you are installing, or are not sure you have administrator privileges, contact your system administrator.*
- *Mathcad Prime cannot be installed from an encrypted folder. You must unencrypt the installation folder in order for installation to proceed.*

About PTC Installation Assistant

PTC Installation Assistant installs Mathcad Prime 2.0 M010. You can access PTC Installation Assistant from the Mathcad DVD in your software shipment. You can perform the following tasks, using PTC Installation Assistant:

- Download and install Mathcad Prime 2.0 M010 from PTC.com.
- Perform a simple installation. Alternatively, customize the installation to add specific features and configurations.
- Reconfigure an existing installation.

Accessing PTC Installation Assistant

You can access PTC Installation Assistant from the Mathcad DVD in your software shipment. You can also download the Assistant from the Web by following the link on your PTC Software Order Confirmation e-mail. After downloading the installation package from the Web, extract the contents to a folder on your computer or onto a network server location depending on how you want to configure your installation.

Starting PTC Installation Assistant

You can start PTC Installation Assistant by running `setup.exe` from the root directory of either the Mathcad DVD or the downloaded installation files. Other than using the default of English, you can run the Assistant in French, German, Italian, Spanish, Simplified Chinese, Traditional Chinese, Korean, Japanese, and

Russian. See the next section for details. If you are starting the Assistant from a Mathcad DVD, the Assistant starts automatically if your computer has autorun enabled for your DVD drive. If it does not happen, follow one of these methods:

- Start Windows Explorer, browse to the DVD drive, and double-click the `setup.exe` icon.
- At an MS-DOS prompt, type `<dvdrom>:\setup.exe`, where `<dvdrom>` is the DVD drive letter.
- From the task bar, select **Start ▶ Run**, and enter `<dvdrom>:\setup.exe`.

Changing the Installation Default Language

You can run PTC Installation Assistant in languages other the default language of the operating system. To specify the desired language name, type the `LANG` variable at the command prompt:

```
<dvdrom>:\setup.exe -LANG:<lang>
```

For example, to run PTC Installation Assistant in Chinese, specify `chs` for `<lang>` at the command prompt:

```
<dvdrom>:\setup.exe -LANG:chs
```

All of the values for the `LANG` variable follow:

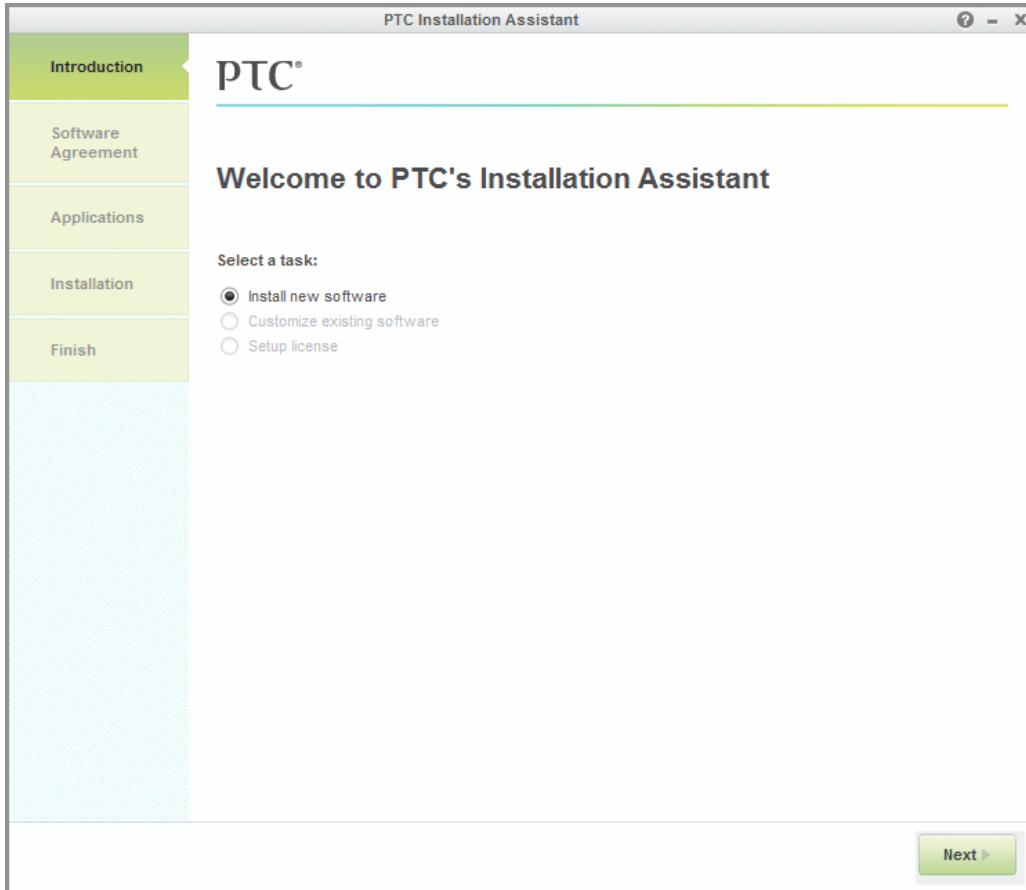
- Chinese Simplified—`chs`
- Chinese Traditional—`cht`
- French—`french`
- German—`german`
- Italian—`italian`
- Japanese—`japanese`
- Korean—`korean`
- Spanish—`spanish`
- Russian—`russian`
- English—`C`



Installing Mathcad Prime

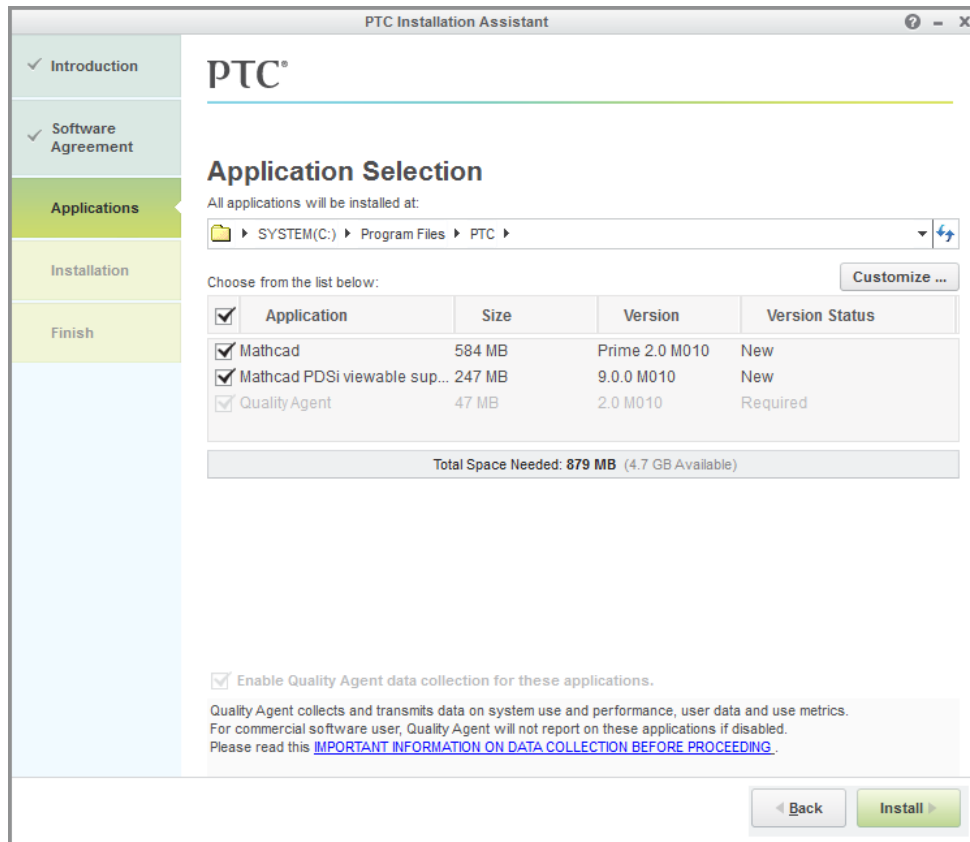
Using PTC Installation Assistant, you can install Mathcad Prime 2.0 M010 using a simple installation process. You can also customize the installation using the Assistant. A simple installation process is described below:


1. Start the Assistant. The Welcome screen appears.
2. Click **Install new software**.

If you want to install additional Mathcad Help Center languages on an existing Mathcad installation, click **Install New Software**.



3. Click **Next**. The **Sign Agreement** screen appears. The PTC Customer Agreement, or the license agreement, is in the language you chose to run the Assistant in. If you are running the Assistant in a language other than English (see [Changing the Default Language on page 15](#)), click  to open a PDF file with the English license agreement. To print the license agreement, click .
4. Accept the PTC Customer Agreement and click **Next**. The **Application Selection** screen appears.



5. Specify an installation folder or retain the default folder.
6. To refresh the changed folder display, click .
7. View the list of applications and check whether you are installing the correct version of the software and whether the disk space requirements are met.
8. Select one or more applications from the list:
 - **Mathcad**—Installs Mathcad Prime and Mathcad Help Center. Mathcad Help Center is installed in English and your operating system locale.
 - **Mathcad PDSi viewable support**—Installs a component that enables Mathcad Prime when integrated with Windchill to generate PDF rendering of the worksheet. This component is required when using Windchill integration.
 - **Quality Agent**—Installs an application that gathers and sends reports to PTC on the performance and usage of Mathcad Prime.

Note

Mathcad Prime installation always installs the Quality Agent application. You can disable the Quality Agent reporting once you have configured your license. If you intend to use Mathcad Prime with a 30-day, full functionality license, reporting is always enabled. For more information on Quality Agent, refer to [Installing, Configuring, and Using PTC Quality Agent on page 43](#).

9. Perform one of the following steps:
 - Click **Install** to install the applications without any customization.
 - Select the applications and click **Customize**, customize their installation, click **OK** to close the **Application Custom Setting**, and click **Install**. For more information on customizing the Mathcad Prime installation, see [Customizing the Installation on page 18](#).
10. Click **Finish** after the applications are installed to close the Assistant.

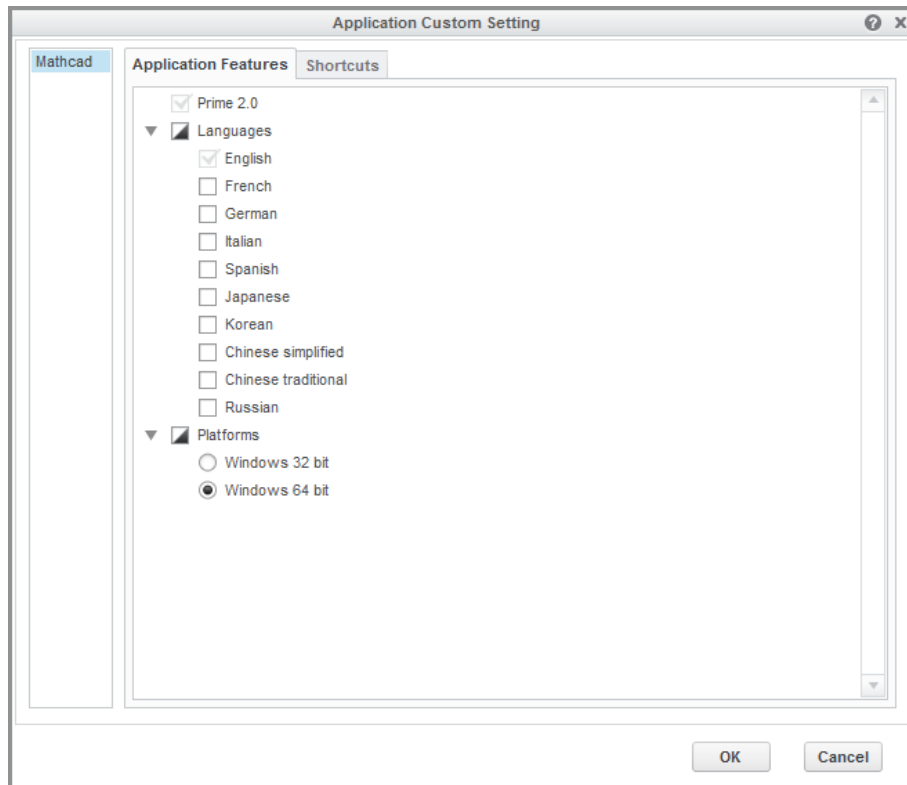
Note

To configure licenses, see [License Management on page 23](#).

Customizing the Installation

You can customize the installation of Mathcad Prime using the following procedure:

1. In the **Application Selection** screen, click the application to customize and click **Customize**. The **Application Custom Setting** dialog box opens. The applications available for customization appear on the left pane. The customization tabbed pages appear on the right pane.



2. Customize Mathcad Prime as follows:
 - In the **Application Features** tab, under **Languages**, select the Mathcad Help Center languages you want to install.
Note
Mathcad Prime is installed with all available languages.
 - In the **Application Features** tab, under **Platforms**, the relevant platform is selected by default. However, you can select **Windows 32 bit** or **Windows 64 bit**.
 - In the **Shortcuts** tab, select the locations to create a shortcut to Mathcad.
3. Click **OK** and proceed with the installation.

Installing Help Center on a Web Server

You can install Help Center on any servlet container, application server, or Web server that supports the JSP 2.0 and Servlet 2.4 standards. For Tomcat and Jetty servlet containers, place Help Center in the document root directory. If you use Websphere, you can use its interface to install Help Center.

Note

You must have an instance of Help Center at the product installation path or at a custom location to install Help Center on a Web server.

To install Help Center on a Web server, follow these steps:


1. Browse to the Help Center installation folder:
`<mathcad_prime_install_path>\Help`
2. Double-click the `web_deploy.bat` batch file. Specify the path of the document root directory of the servlet container. For example, for Tomcat servlet container, specify the `<servlet_document_root>\webapps` as the path.

The `web_deploy.bat` batch file performs the following data copy operations:

- Copies Web configuration data placed in the `web_deploy` folder at the Help Center installation location to the `MathcadPrimeHelp` folder in the document root directory of the servlet container.
- Copies the Help Center data from the Help Center installation location to the `MathcadPrimeHelp` folder in the document root directory of the servlet container.

Note

If a `MathcadPrimeHelp` folder exists in the document root directory of the servlet container, you are prompted to remove, move, or rename the existing `MathcadPrimeHelp` folder and then rerun the batch file.

3. To distribute the Help Center files from the `<servlet_document_root>\MathcadPrimeHelp` folder, start Mathcad, click the Mathcad button , and then click **Mathcad Options**.
4. In the **Mathcad Prime 2.0** dialog box, click the **Options** tab.
5. Click **Use Help at an alternate location** and then specify the Help Center URL in the following format:
`http://<server_name>:8080/MathcadPrimeHelp`
6. Click **Close**.

Running Mathcad and Mathcad Help Center in Other Languages

You can run Mathcad Prime and Mathcad Prime Help Center in the following languages: English, French, German, Italian, Spanish, Japanese, Korean, Simplified Chinese, Traditional Chinese, and Russian.

Running Mathcad in Other Languages

This section provides information about running Mathcad in a language different from your operating system locale.

1. Click the Windows Start button and then click **Run**. The **Run** dialog box opens.
2. In the **Open** box, type "C:\Program Files\Mathcad\Mathcad Prime 2.0\MathcadPrime.exe" /culture:en-US. In this example, C is the drive where Mathcad Prime is installed, and en-US is the desired language and locale.

You can use the following command arguments for other languages:

Language	Command Argument
English	en-US
French	fr-FR
German	de-DE
Italian	it-IT
Japanese	ja-JP
Korean	ko-KR
Russian	ru-RU
Spanish	es-ES
Simplified Chinese	zh-CN
Traditional Chinese	zh-TW

Running Mathcad Help Center in Other Languages

This section provides information about running Mathcad Help Center in a language different from your operating system locale.

1. Click F1 to open Mathcad Help Center.
2. Open the **Configuration** tab and select **Language**.

Note

*The **Language** option is available only if Mathcad Help Center was installed with several languages. If you want to have Mathcad Help Center available in languages you did not install it with, you must run the PTC Installation Assistant, select **Install new software** and customize **Mathcad**.*

-
3. Select the desired language.
 4. Select one of the following:
 - To apply the settings to the current help center session click **Submit**.
 - To apply the settings to future help center sessions, click **Save Configuration Settings** and click **Submit**.

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License Management

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About License Management

Mathcad licenses types are as follows:

- A floating license (server)—For administering floating licenses only from a license server. Licenses are allocated to workstations from a common pool, on a first-come-first-serve basis.
- A locked license (workstation)—For use on a workstation, without a license server. Locked licenses must be reallocated from one workstation to another through the PTC Customer Support Web site.
- A registered-user license (server)—For administering locked licenses from a server, rather than individual workstations. Registered-user licenses are allocated to workstations with an options file, provided by the FLEXnet Publisher installer. For instructions on how to edit the options file, see [Editing the Options File on page 35](#).
- A home-use license (workstation)—Granted as a maintenance entitlement (in the quantities indicated below) for active maintenance accounts. Home-use licenses are term licenses, set to expire at the end of the current maintenance period. If you renew your maintenance contract, you are able to reissue your home-use licenses.

Home-use licenses are restricted to the same users accessing the purchased licenses and must be installed on personal computers not located or used in the workplace. Home-use licenses are not allowed to be used in the workplace by additional users. Permitted users can perform commercial and production work with home-use licenses on their personal computers.

Mathcad Express—0 licenses

Mathcad Professional

- Individual—1 license
- Floating—2 licenses
- Global—2 licenses

Mathcad Education

- Student Edition—0 licenses
- Professor Edition—1 license
- University Edition—1 home-use per every 10 licenses

Pro/ENGINEER and Creo Elements/Pro Packages

- There is no home use for any Mathcad licenses sold within a package
- A 30-day, full functionality license that does not require a license server.

Mathcad requires the use of a license server for floating and registered-user licenses. Locked license files and 30-day, full functionality license files reside on the workstation, and they do not require a license server.

If you have server-based licenses and want to run Mathcad while disconnected from your network — for example, on a laptop while out of the office — temporarily borrow a license from the server. This borrowed license is stored on the workstation, so Mathcad does not need to access the license server at startup. For instructions on how to borrow licenses, see [Borrowing Licenses on page 41](#).

Note

If you have a locked or home-use license file, you do not need to install and configure FLEXnet Publisher. Save your license file to the `License` folder of the Mathcad installation on the appropriate workstation.

Using Mathcad Express


With Mathcad Express, you can try out the basic features of Mathcad before you purchase a licensed version of the product. Premium features of Mathcad are locked for use. The locked features are marked with a lock icon. To use Mathcad Express, you do not need a license. If the License Wizard opens when you start Mathcad, exit the wizard. An indicator bar beneath the ribbon shows that you are running Mathcad Express. To purchase a license and to make all the locked features available, click **Upgrade**.

Obtaining a License

When started, Mathcad searches for a license. If available, the license is allocated to the workstation, and Mathcad opens. If a license is not available, Mathcad Express opens. For the first use, the **Mathcad License Wizard** opens. This section provides step-by-step instructions on how to obtain a license and activate Mathcad Prime.

Obtaining a 30-Day, Full Functionality License

1. Start Mathcad. If you open Mathcad for the first time, the **Mathcad License Wizard** opens. If it does not open, click the **Activate** button, at the top of the worksheet.

Alternatively, click the Mathcad button , and then click **Mathcad Options**. In the **Mathcad Prime 2.0** dialog box, click the **License** tab, and click **Get License**.

2. In the **Mathcad License Wizard**, select **Request a 30-day, full functionality license**. The **Login** screen appears.
3. If you have a PTC.COM user account, type in your user name and password and click **Next**.

If you do not have a user account, click **I am new to PTC.COM and need to create an account**, and then click **Next**. In the **Create PTC Account** screen, fill in the required information and click **Create Account**.

4. In the **Acquire License** screen, select the products needing licenses, and click **Acquire license**. A license file is generated via the internet and is automatically downloaded to your computer.
5. Click **Exit**. A counter for the remaining term of your 30-day, full functionality license appears.

Obtaining a Node-Locked License

1. Start Mathcad. If you open Mathcad for the first time, the **Mathcad License Wizard** opens.
2. If you want to purchase a Mathcad Prime 2.0 M010 license, close the **Mathcad License Wizard**, click **Upgrade** below the ribbon, and follow the on-screen instructions to purchase a Mathcad Prime license and to receive a product code.

If you already purchased a Mathcad Prime 2.0 M010 license, proceed to the next step.

3. After you have obtained a product code, open Mathcad.
4. If the **Mathcad License Wizard** does not open, click **Activate**.

Alternatively, click the Mathcad button , and then click **Mathcad Options**. In the **Mathcad Prime 2.0** dialog box, click the **License** tab, and click **Get License**.


5. In the **Mathcad License Wizard**, in the **Welcome** screen, select **Activate purchased license** and click **Next**. The **Login** screen appears.
6. If you have a PTC.COM user account, type in your user name and password and click **Next**.

If you do not have a user account, click **I am new to PTC.COM and need to create an account**, and then click **Next**. In the **Create PTC Account** screen, fill in the required information and click **Create Account**.

-
7. In the **Provide Information** screen, type the product code that you received in your PTC Fulfillment Confirmation letter.
 8. Verify the Host ID.
 9. Select the relevant license options:
 - **I am requesting a Home Use license**—Retrieves your home-use license that expires at the end of the maintenance term. If you do not select this option, you are requesting your primary license.
 - **I am upgrading from a Single User**—Retrieves a Single User Upgrade license based on your having a prior version of Mathcad. Type the prior version product code in the spaces provided.
 10. In the **Acquire License** screen, select the products needing licenses, and click **Acquire License**.

The Mathcad License Wizard retrieves your license file and configures it for use with the versions that you selected. When the configuration is complete, the licensed versions are listed.
 11. Click **Exit**.

Configuring Mathcad Prime to Work with an Existing License File

1. Start Mathcad.
2. If you open Mathcad for the first time, the **Mathcad License Wizard** opens automatically. Close the **Mathcad License Wizard**.
3. Click the Mathcad button , and then click **Mathcad Options**. In the **Mathcad Prime 2.0** dialog box, click the **License** tab, select **File** and point to the license file.

Note

*To configure the license server, in the **License** tab, select **Server** and specify the server name and the **Port**.*

4. Click **Apply**.
5. Click **Exit**.

Obtaining a Floating or Registered-User License File

To obtain your license files, use your PTC user account to log on to the PTC Customer Support site at <http://www.ptc.com/support/mathcad.htm>. If you do not have a PTC user account, follow the instructions on the Web site to create one. After you log in, start the PTC Installation Assistant, and then click **Configure New**

Software. Enter the Sales Order Number from your Fulfillment Confirmation letter to process your request. You must provide the Host ID for each server in your request.

To determine the Host ID for a server:

1. At a command prompt, enter `ipconfig /all`.
2. Find the 12-digit number labeled “Physical Address”, in the form XX-XX-XX-XX-XX-XX.
3. In PTC Installation assistant, type the previous number in the **Host ID** box.

Note

The Host ID or MAC address identifies the active network adapter on a workstation. Mathcad attempts to match the Host ID in a locked or home-use license file against all detected MAC addresses at startup. As long as any available address matches, Mathcad starts.

After you complete your request, your licenses arrive by email as attachment files. To use your licenses, save the license file to your server, as a *.dat file. Then, install FLEXnet Publisher.

If you intend to serve licenses from multiple servers, see [Using Multiple License Servers on page 37](#) before you obtain your license files.

Using the License Service

This section provides information on how to install and use the license service.

Generating or Updating Licenses

The FLEXnet Publisher installer is available for download at <http://free-dl.ptc.com/install/setup.exe>. Perform the installation to a server on your network accessible by Mathcad users. Otherwise, Mathcad cannot obtain a license from the server.

Note

Obtain a license file before you install FLEXnet Publisher, as the installer validates your license file.


After you have received an e-mail from PTC with the product codes for your software order, generate or update licenses using PTC Installation Assistant as follows:

1. Download the installation package and extract it to a folder on your computer.
2. Start the Assistant. The Welcome screen appears.


3. Select either **Setup license** or **Install new software** depending on whether you only want to generate licenses or want to install the software after generating the licenses.
4. Click **Next**. The **Sign Agreement** screen appears.
5. Read and accept the PTC Customer Agreement.
6. Click **Next**. The **License Identification** screen appears.

7. Type your Sales Order Number or your product code in the corresponding text box and click **Install Licensing**. If the product code matches your software order, a license file is automatically generated and stored in your "All users"\application data\ptc\licensing\ folder.

The complete path of the license file appears in the **Source** column of the **License Summary** area. This area displays all license files or license servers available for use on your computer.

8. To add or remove license files or license servers, click one of the following buttons in the **License Summary** area:
 - —Adds a license file or a license server. Type the license file name or the server name in the **Source** text box. The status of availability of the

license source appears in the **Status** column. If you have received a license file via e-mail, drag and drop the <license.dat> file into an empty text box instead of typing the license file name.


- —Removes an existing license file or license server.
9. To complete the license setup, click one of the following buttons depending on the options you have selected on the Welcome screen:
- Click **Next** if you have selected **Install new software** to proceed with the installation.
 - Click **Finish** to close the Assistant if you have selected **Setup license**.

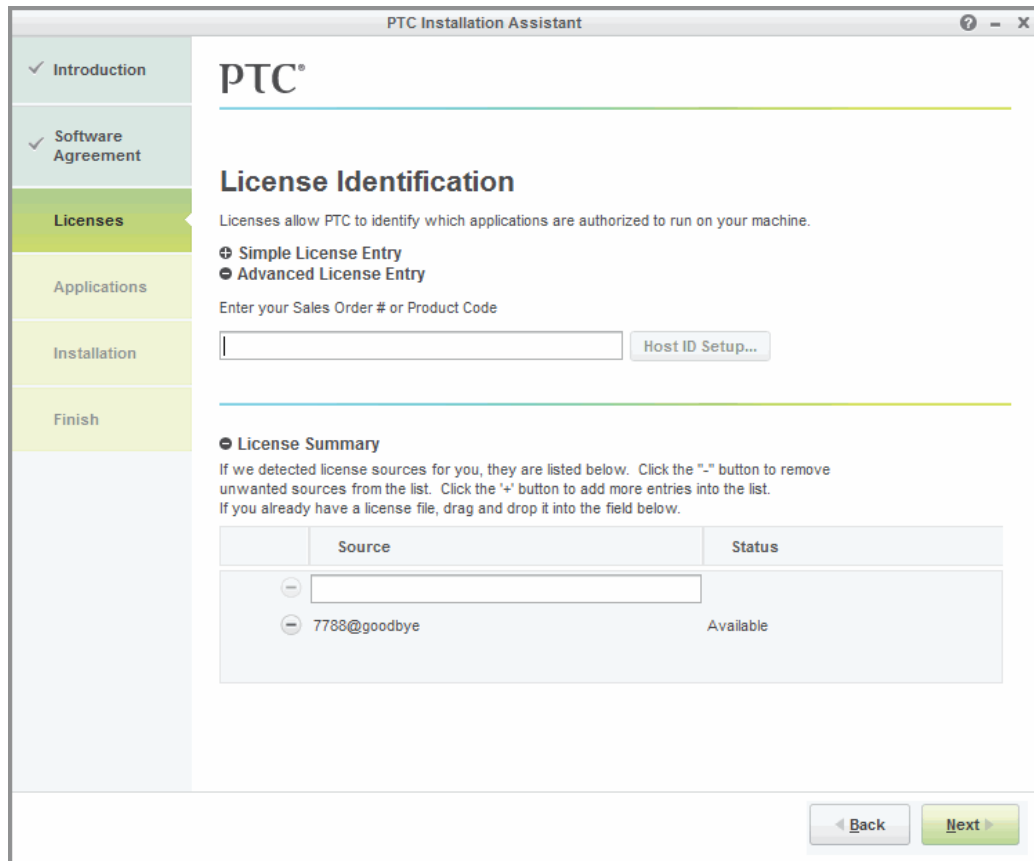
Installing PTC License Server

After you have received an e-mail from PTC with the product codes for your software order, install PTC License Server using one of the following installers:

- PTC Installation Assistant—Generate licenses and install the license server if the generated license requires a license server for administration.
- Standalone PTC License Server—Follow the installation instructions in the document at the [Reference Documents](#) page.

To use PTC Installation Assistant to install PTC License Server on a network server, follow this procedure:

1. Start the Assistant. The Welcome screen appears.
2. Select either **Install new software** or **Setup license**.
3. Click **Next**. The **Sign Agreement** screen appears.
4. Read and accept the PTC Customer Agreement.
5. Click **Next**. The **License Identification** screen appears.
6. Click  next to **Advanced License Entry** to expand the area and configure a license server.



7. Type your Sales Order Number or your product code in the corresponding text box.
8. Click **Host ID Setup** to open the **Host ID Setup** dialog box.

Host ID Setup

Sales Order # or Product Code

BG37011D7290-RJGQ-KT9J

Choose from the Host ID below.

Machine ID	Port	Host
00-50-56-AF-00-4B vmxnet3 Ethernet Ad...	7788	SPLV1


Triad Server

Complete the additional information below.

Machine ID	Port	Host
	7788	
	7788	

Install Licensing

The product code from the previous step appears in the dialog box.

- a. For a single server installation, the host ID and the port number of the local computer appears. To change the default port to avoid conflicts with other software, or to match the firewall settings, type an alternate value in the **Port** text box.
- b. For a triad server installation, follow these steps:
 - i. Click  next to **Triad Server** to expand the area.
 - ii. Provide the host ID, port number, and the host name for the other two servers.
- c. Click **Install Licensing**. An authentication dialog box to connect to PTC.com may open if your user access has not already been validated. If so, provide your credentials and click **Log In**.

The license server is installed and appears in the **License Summary** area of the **License Identification** screen.

9. To complete the license setup, click one of the following buttons depending on the options you have selected on the Welcome screen:
 - Click **Next** if you have selected **Install new software** to proceed with the installation.
 - Click **Finish** to close the Assistant if you have selected **Setup license**.

License Service Utilities

PTC provides a suite of utilities with its FLEXnet Publisher installation, located in the `bin` folder:

<code>lmtools</code>	Starts the FLEXnet Publisher utility LMTOOLS, similar to the shortcut icon created in Start ▶ Programs ▶ PTC ▶ PTC License Server ▶ PTC License Server Tools . Functionality includes customer configuration of the license service, starting and stopping the <code>lmgrd</code> license server(s), server and licensing status, as well as diagnostic tools.
<code>lmutil</code>	Provides optional arguments to check the server and licensing status. Refer to the <i>FLEXnet Licensing End User Guide</i> .
<code>ptcflush</code>	Releases licenses. This may be necessary if there are network problems.
<code>ptchostid</code>	Returns the Host ID, with required formatting, used for license requests.
<code>ptcsetup</code>	Allows you to reconfigure an existing installation. Use <code>ptcsetup</code> for modifications or reconfigurations only. It cannot install FLEXnet Publisher.
<code>ptcshutdown</code>	Shuts down a license server process for administrative maintenance of the license server. On Windows systems, you can also use LMTOOLS to stop a license server process. See License Administration Tools in the <i>FLEXnet Publisher Licensing End User Guide</i> .
<code>ptcstartserver</code>	Starts a license server process. On Windows systems, you can also use LMTOOLS to start a license server process.
<code>ptcstatus</code>	Displays information on server status and the current usage and availability of licenses.

Using the License Service Utilities

The FLEXnet Publisher installer automatically configures the license server. No additional configuration is required to begin serving Mathcad licenses. However, as your needs change, you may need to perform maintenance or configuration tasks on the FLEXnet Publisher. PTC provides a set of utilities in the `bin` folder of your FLEXnet Publisher installation for this purpose.

Note

If your organization already uses FLEXnet Publisher or FLEXlm to meter another application, read [Licensing Both Mathcad and Other Applications on page 37](#) before proceeding.

Changing Your License File

If you receive a new license file, run the `ptcsetup` utility (`ptcsetup.bat`). When prompted, specify the new license file. The utility stops the current license server process, replaces the existing license file with the new one, and restarts the license server. This utility does not reinstall FLEXnet Publisher.

Checking the HOSTID of a Computer

To check the HOSTID of a computer, run the `ptchostid` utility (`ptchostid.bat`). This utility determines the ID for a computer and returns it in the desired format. Use this HOSTID when you request a license file.

Releasing Licenses

If you experience network disruptions, you may need to reclaim all licenses on the server and then allow users to reobtain them. To reclaim any licenses in-use, run the `ptcflush` utility (`ptcflush.bat`). You can run `ptcflush` only once every twelve minutes.

For a list of arguments allowed by `ptcflush`, run the utility from a command prompt. Values for all of the arguments can be obtained with the `ptcstatus` utility.

Stopping and Restarting the License Server Process

Occasionally, you may need to stop the license server process for administrative maintenance. To do so, run the `ptcshutdown` utility (`ptcshutdown.bat`). After you have completed the maintenance operation, you can restart the license server process with the `ptcstartserver` utility (`ptcstartserver.bat`).

Checking the Status of Your Licenses

To check the number of floating or registered-user licenses in use, run the `ptcstatus` utility (`ptcstatus.bat`). You can execute this utility in either normal or verbose mode (`ptcstatus -v`). Verbose mode provides additional information about your licenses, such as their version number and expiration date.

If you require more detailed information about the status of your licenses or license server, you can perform a status enquiry using the PTC License Server tools (`lmtools.exe`):

1. Start the PTC License Server tools from **Programs ► PTC ► PTC License Server** in the **Start** menu.
2. On the **Service/License File** tab, select **FLEXlm server for PTC**.

-
3. Click **Perform Status Enquiry**, located on the **Server Status** tab. If the service has been configured properly, you should see a status report that shows:
 - License server name.
 - Port number used by the license service.
 - License file in use.
 - Status of the server and the PTC vendor daemon.
 - Number of licenses in use and their assigned workstation. The report indicates borrowed licenses with the word *linger*, followed by the length of the borrowing period in seconds and in parentheses after the workstation information.
 4. If the status report is incorrect, verify that the server has been configured properly. On the **Config Services** tab:
 - Click **FLEXlm server for PTC** in the **Service Name** list.
 - Confirm the path to the licensing service daemon (`lmgrd.exe`, located in the `i486_nt\obj` folder of your FLEXnet Publisher installation).
 - Confirm the path to the license file (`license.dat`, located in the `licensing` folder of your FLEXnet Publisher installation). If this information is incorrect, run the `ptcsetup` utility to point the license service to the proper license file.
 - Confirm the path to the log file used by the PTC license management service. The default is `ptclmgrd.log` in the `licensing` folder of your FLEXnet Publisher installation. If your license server hosts multiple services, you should create an individual log for each service.
 - Verify that **Use Services** is selected.
 - Double-check that paths to files are absolute and include the name of the file.

Editing the Options File

With the options file created, you can tailor the installation to your particular environment. The default options file contains two lines:

```
REPORTLOG +"C:\Program Files\FLEXnet Publisher\licensing\ptcreport.log"  
TIMEOUTALL 7200
```

If you purchased a 5-seat floating Mathcad license, you can edit the options file to add the lines:

```
INCLUDE MATHCAD HOST Eng1  
INCLUDE MATHCAD HOST Eng2  
INCLUDE MATHCAD HOST Eng3  
INCLUDE MATHCAD HOST Eng4  
INCLUDE MATHCAD HOST Eng5
```

MATHCAD is the metered application and Eng1, Eng2, ... are the specific workstations allowed to use Mathcad.

Supported FLEXnet Publisher Keywords

The vendor daemon used by Mathcad supports the full set of FLEXnet Publisher options file keywords. The following keywords may prove useful in administering licenses:

- **BORROW_LOWWATER**—Specifies the number of licenses that cannot be borrowed.
- **DEBUGLOG**—The log file used by the vendor daemon for debug information.
- **EXCLUDE**—Prevents access to the specified feature.
- **EXCLUDE_BORROW**—Prevents the borrowing of a license for the specified feature.
- **EXCLUDEALL**—Prevents access to all features served by the vendor daemon.
- **GROUP**—Defines a group of users for use with any options.
- **HOST_GROUP**—Defines a group of hosts for use with any options.
- **INCLUDE**—Allows use of the specified feature, if a valid license is available.
- **INCLUDE_BORROW**—Allows a user to borrow licenses.
- **INCLUDEALL**—Allows a user to use all features served by the vendor daemon.
- **MAX**—Limits usage for a particular feature or group, prioritizing usage among users.
- **NOLOG**—Turns off logging of certain items in the debug log file.
- **REPORTLOG**—Specifies the report log file to be written. This file can be read by `SAMreport`, available from Flexera Software.
- **RESERVE**—Reserves licenses for the specified feature for the specified user or group.
- **TIMEOUTALL**—Allows the server to reclaim inactive licenses after a specified number of seconds.

More information on using these and other keywords is available in the FLEXnet Publisher documentation.

Customizing a Registered-user License

If you purchased a registered-user license, you are bound by the license agreement to restrict Mathcad usage to the proper number of workstations. One way to do this is with the **RESERVE** keyword:

```
RESERVE 1 MATHCAD HOST Eng1
```

This would reserve one Mathcad license exclusively for the workstation Eng1. You can also create a group of user names or host names, using the GROUP or HOST_GROUP keywords.

Licensing Both Mathcad and Other Applications

If you are already serving licenses for other applications with FLEXlm or FLEXnet Publisher for Windows, you can manage licenses for all your applications from one server. Install FLEXnet Publisher. After installation completes, FLEXnet Publisher displays all licenses served from the server. When configuring FLEXnet Publisher to meter Mathcad, make sure the Mathcad license service is selected on the **Config Services** tab.

Tip

To prevent name conflicts between Mathcad license files and those for other applications, save your Mathcad license files to a folder named “Mathcad” within your existing license folder.

Note

Do not merge your Mathcad license with licenses of other software vendors into a combined license file for use on the same license server. Although the server can handle combined license files, license files from PTC use a vendor-specific HOSTID. The HOSTID makes PTC license files incompatible with license files using a FLEXnet Publisher HOSTID.

Using Multiple License Servers

FLEXnet Publisher supports the usage of multiple servers to administer licenses. With Mathcad, you can use load-balancing or triad servers. However, you must provide information on your server set up when requesting licenses for use in multiple-server environments.

With load-balancing, you can split your licenses between any number of servers anywhere on your network. Triad servers are three servers located on the same subnet and physically close to each other. Proximity reduces the chance for delays due to network traffic. The servers must exchange periodic heartbeats with each other. As long as the FLEXnet Publisher service is running on two of the servers, it achieves quorum and administers licenses.

When generating either type of license, you must provide information for each server that will be administering licenses. In addition, when attempting to load-balance your licenses, you must specify how many licenses are allocated to each server.

To administer licenses on a load-balanced system:

-
1. Request license files for each server using the PTC Customer Support site. Allocate the desired number of licenses to each server.
 2. Install FLEXnet Publisher on each license server. When prompted for the license file, use the file that corresponds to that server.
 3. When you install Mathcad, point each installation to the proper license server. If you install Mathcad silently, create a version of `SilentInstall.bat` customized for each license server.


You can instead configure each workstation to query each server in a predetermined order, until Mathcad obtains a license. See [Configuring Workstations to Query Multiple Servers on page 38](#).

To administer licenses on a triad server:

1. Request your license file, following the instructions in [Obtaining a 30-Day, Full Functionality License on page 25](#). Provide information for each server in the triad and designate which server will act as the “master.”
2. When your license files arrive, copy them to the appropriate server. Edit the license file before you install each of the license servers, specifying the hostname of each of the triad partners. If this is not done, the license files will be different on each of the three triad partners and the license server will not start.
3. Install FLEXnet Publisher on each triad server.
4. When prompted for a server name during Mathcad installation (or editing `SilentInstall.bat`), use the same server you designated as “master” in step 1.

Configuring Workstations to Query Multiple Servers

On each workstation, define a list of servers:

1. Click the Mathcad Button , and then click **Mathcad Options**. Click the **Licensing** tab.
2. In the **Source list**, specify the list of servers in the order that they should be queried. See the two examples below:

```
7788@Server1;7788@Server2[; ...]
```

```
7788@Server2;7788@Server1[; ...]
```

`Server1` and `Server2` are your license servers, and `7788` is the port the server uses to administer Mathcad licenses.

Each workstation queries servers in the order listed when checking out a license. If a server is unavailable, the workstation queries the next server on the list until it either checks out a license or runs out of servers. If the workstation

runs out of servers, Mathcad uses the value of the predefined environment variable `LM_LICENSE_FILE` to acquire a license.

If you are serving licenses for multiple applications from the same server, you can use the environment variable `[VENDOR]_LICENSE_FILE` instead of `LM_LICENSE_FILE`. By doing so, you can specify exactly which servers each application should query, rather than forcing each application to query each server, regardless of whether that server has the appropriate license. For example, if you wanted to use two servers to serve licenses for another application but only one of those servers would serve Mathcad licenses, you would set the following two environment variables:

```
LM_LICENSE_FILE=7788@Server1
[OTHERAPP]_LICENSE_FILE=27000@Server1;27000@Server2
```

This setting prevents Mathcad from querying `Server2` for a license, since `Server2` has no Mathcad licenses.

Tip

When using `[VENDOR]_LICENSE_FILE`, remember that FLEXnet Publisher checks `LM_LICENSE_FILE` before checking `[VENDOR]_LICENSE_FILE`. If you use both variables, `LM_LICENSE_FILE` should only list servers with licenses for all metered applications. Querying extraneous servers listed in `LM_LICENSE_FILE` slows Mathcad down at startup.

Troubleshooting Your FLEXnet Publisher Installation

The following issues are common with installing, configuring, and running FLEXnet Publisher. If your problem is not listed, consult the Knowledge Base on the PTC Support site.

If you want to point Mathcad at a different license server or file, click the Mathcad Button, and then click **Mathcad Options**. Click the **Licensing** tab and then click **Update License**. Supply the name of the new license server or location of the new license file to use.

License server machine is down or not running (-96, 7)

Causes: The license server or file name was most likely misspelled when specified or has changed, or the registry key containing this information is corrupt. Mathcad waits for a license until the request times out and returns this error.

Solution: Enter the correctly spelled license server or file name. Restart Mathcad without using the license switch.

Cannot write data to license server (-17, 13)

Causes: The FLEXnet Publisher is not accessible.

Solution: Confirm that the server is running and available by pinging it from the workstation, and confirm that the server can ping the workstation as well. If necessary, check that hostnames are resolving properly on your network with the Windows utility `nslookup.exe`. Verify that the server name is correct in the license file and that the host names are correct in any options file. Check that the port number specified in the license file (or any environment variable) corresponds to the server port used by FLEXnet Publisher.

Cannot connect to license server (-15, 570)

Causes: The license server process (`lmgrd.exe`) is stopped or disabled, or you are using the wrong license file for the Mathcad service.

Solution: Check the **Config Services** tab for the license server process (indicated by the name specified in step 4 of [Using the License Service Utilities on page 33](#)). If necessary, reenable or restart the service. If the service is running, verify that it is using the license file supplied by PTC.

You may also have multiple license server processes running on the server. Consolidate all services under one license server process, or move the Mathcad license service to another server.

Desired vendor daemon is down (-97, 121)

Causes: The vendor daemon is missing or in the wrong location, or you made a change to a Cadence license dongle on the Mathcad server metering.

Solution: Check that the vendor daemon is located in the same folder as the FLEXnet Publisher daemon, `lmgrd.exe`; if it is not, find the file on the server and move it to this folder. If you made a change to a Cadence license dongle, reboot the server.

Note

This error may also occur if the FLEXnet Publisher daemon cannot create its temporary folder (`C:\FLEX1m`), or any of the files within it.

Invalid host (-9)

Causes: The volume serial number in your single-user license file is incorrect.

Solution: Request a replacement license file.

USER/HOST on EXCLUDE list for feature (-38, 147)

Causes: Comment lines in the options file (`ptc.opt`) are erroneously being interpreted as commands.

Solution: Delete the comment lines.

User based license has no specified users (-84)

Causes: The options file is missing, the hostname in the options file is not set properly, or you have more allowed users than licenses for a particular feature.

Solution: Confirm that the options file is in the same folder as your license file and that the hostname is set to the Mathcad server metering.

If you have more allowed users than available licenses, either delete the appropriate number of INCLUDE lines in the options file, or contact PTC or your distributor to purchase extra licenses.

Unable to obtain a license on Windows XP

Causes: Mathcad was unable to locate the FLEXnet Publisher. If you are running Mathcad on Windows XP, you may have a firewall enabled, which is interfering with communication to and from the server.


Solution: Disable the firewall, or allow an exception for the Mathcad executable (`mathcad.exe`). If this does not resolve the issue, see License server machine is down or not running (-96, 7) for additional guidance.

Borrowing Licenses

If you normally access a FLEXnet Publisher for a license when you run Mathcad but occasionally need to use Mathcad without network access, you can borrow a license from the server for use while disconnected from the network. The maximum borrowing period is 10 days.

Note

A license can only be borrowed from within Mathcad.

1. To borrow a license, use your FLEXlm floating license to open Mathcad.
2. Click the Mathcad Button , and then click **Mathcad Options**. The **Mathcad Options** dialog box opens.
3. Click the **Licensing** tab and then click **Borrow**.

Borrowed licenses are checked out from the available pool until they expire, regardless of whether the workstation using the borrowed license is running Mathcad. If you have a pool of 25 floating licenses and borrow one, the workstations on your network can only use the remaining 24 licenses until the borrowed license returns to the pool.

Note

Borrowing a registered-user license also reduces the overall number of licenses. However, since the license is already allocated to the workstation, it does not reduce the number of licenses available to other users.

Mathcad automatically selects the maximum borrowing period. To borrow a license for a shorter duration, select a different return date. Click **OK** to borrow the license.

Borrowed licenses appear in the status report with the text (linger: xxxxxx) appended to the end, where the six-digit number xxxxxx indicates the duration of the borrowing period in seconds. To generate a status report, read the section [Using the License Service Utilities on page 33](#).

Transferring a License File to Another Server or Workstation

To transfer a license file to another computer, you must deallocate a current license, then request the license file for the new computer. To do so, use the **Reconfigure Software Licenses** option available at the PTC Customer Support Web site at <https://www.ptc.com/appserver/lm/rsl/reconfig.jsp>.

3

Installing, Configuring, and Using PTC Quality Agent

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This chapter contains information on PTC Quality Agent.

Improving Quality of PTC Products

Quality Agent is an application that gathers and sends reports to PTC on the performance and usage of PTC applications. It also reports the system information of a user. It serves as a medium to help PTC improve the quality of its products.

Installing Quality Agent

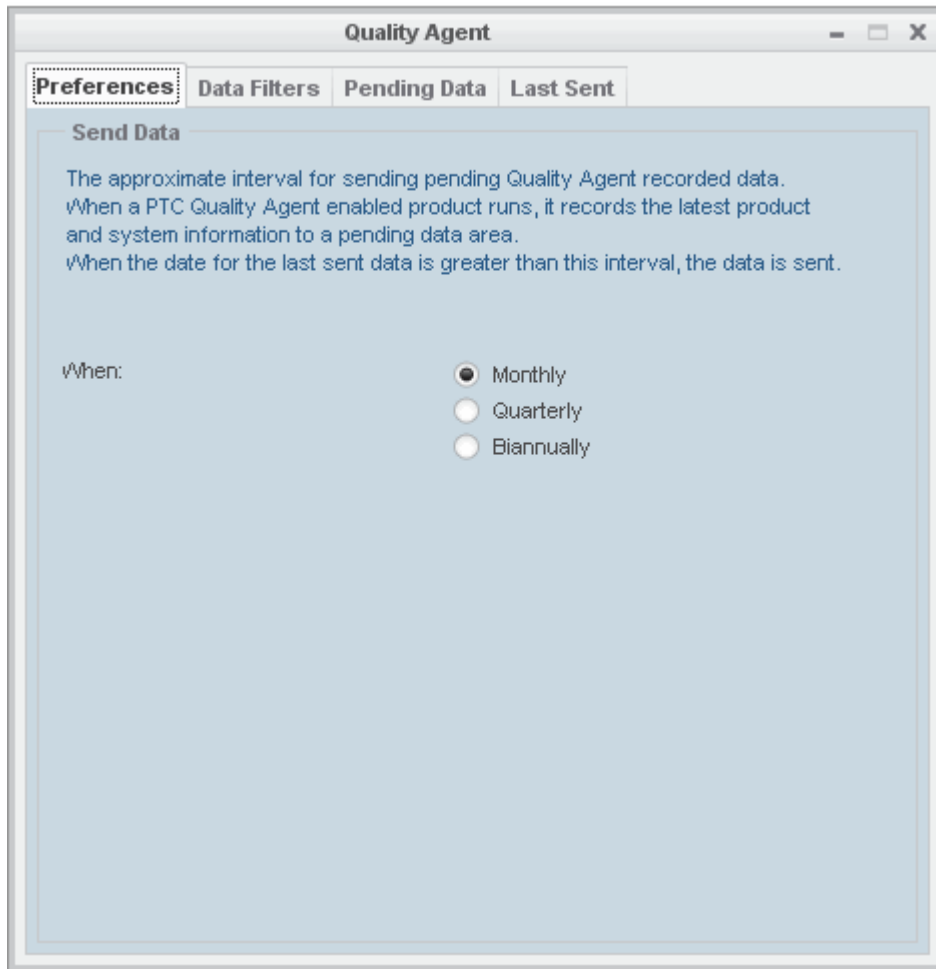
Quality Agent is installed by default when you install Mathcad Prime. Quality Agent reporting is enabled by default. A single installation of Quality Agent can be used with all the PTC applications for which you have enabled Quality Agent reporting.

Note

- *When customizing Mathcad Prime that runs with a node-locked license or a floating license, if you clear the **Enable Quality Agent** check box on the **Application Custom Setting** screen, this selection supersedes the selection that you made on the **Application Selection** screen. Quality Agent reporting is not enabled in this case.*
- *If you are using Mathcad Prime with a 30-day, full functionality license, reporting is enabled by default and you cannot disable it. If you purchase a license, you can disable Quality Agent reporting via Mathcad options dialog box.*
- *Quality Agent is a 32-bit application. Even if you choose to install Quality Agent in the default Program Files folder, it is installed under the Program Files (x86) folder.*

Configuring Quality Agent

After installing Quality Agent, you can configure it as per your company's requirements. To open the **Quality Agent** dialog box, browse to the installation path or use a previously created shortcut.



The tabs on the above dialog box contain the configurable settings.

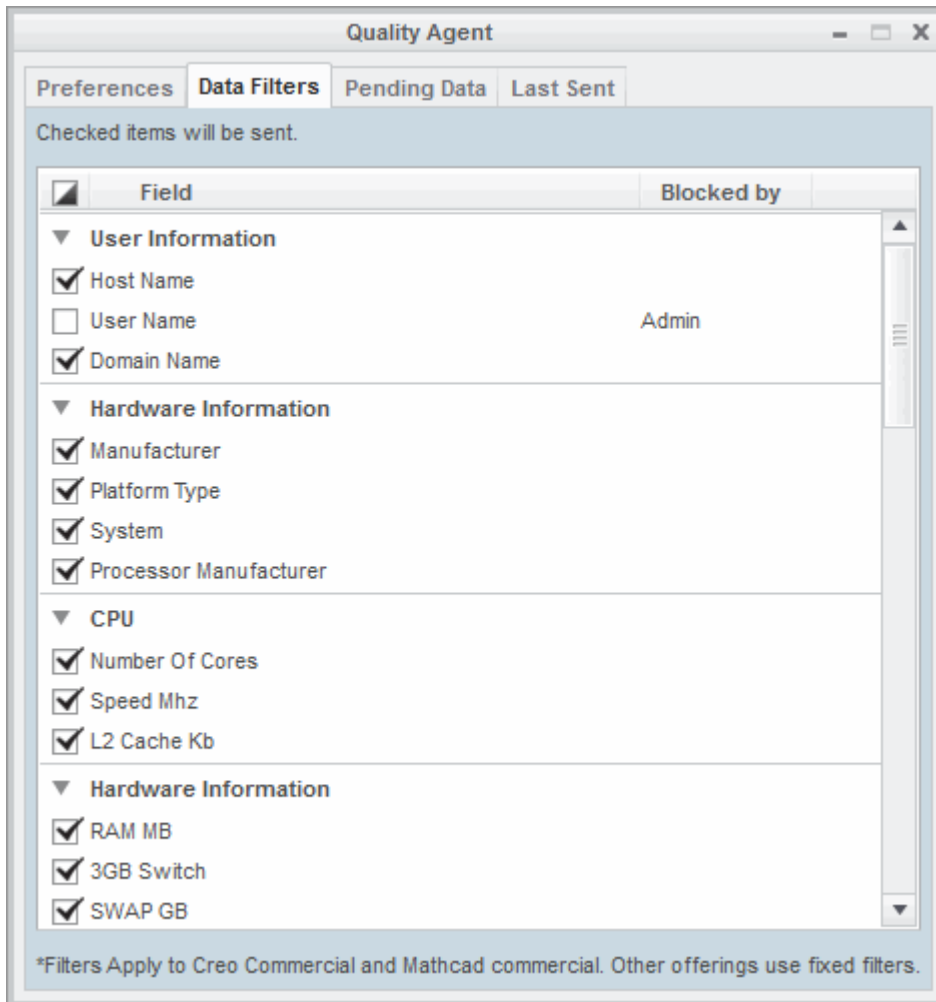
Preferences Tab

The settings in this tab do not apply to Mathcad. For other PTC applications, this tab defines how often information about the application is sent to PTC. For Mathcad, each time you close the application, Quality Agent sends a report to PTC, regardless of the frequency you specify here. If you do not have write permissions to the installation folder, you can view the preferences but cannot change the settings.

Data Filters Tab

The settings in this tab do not apply to Mathcad. For other PTC applications, this tab defines which product and system information is sent to PTC. For Mathcad, you cannot configure the Mathcad data report regardless of the license type you have.

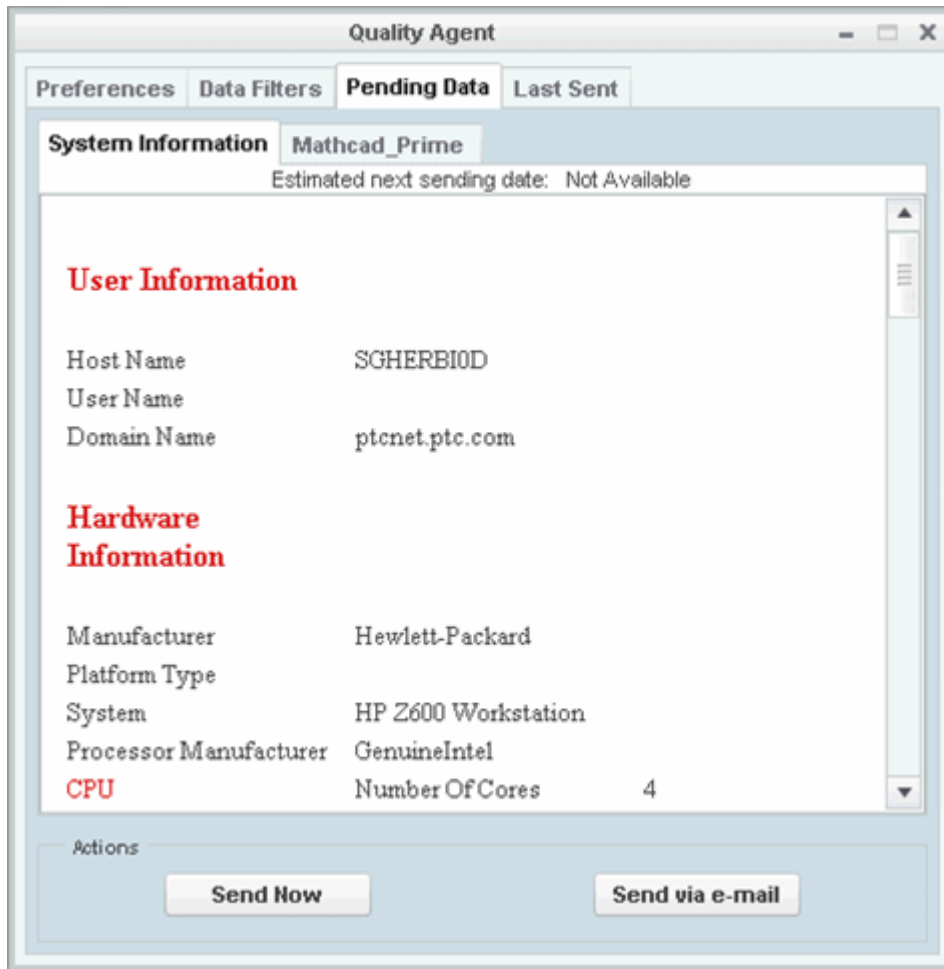
If you install Mathcad with a purchased license, you can only choose whether or not to send a data report via Mathcad options. If you install Mathcad with a 30-day, full functionality license, the system information is always sent. If you do not have write permissions to the installation folder, you can view the preferences but cannot change the settings. You cannot filter information that PTC considers mandatory.



The customized preferences and data filters are stored at <All User Profiles>\Application Data\PTC\QualityAgent\Filters.

Pending Data Tab

You can view the collected product and system information on the **Pending Data** tab, under **System Information** and under **Mathcad_Prime**.

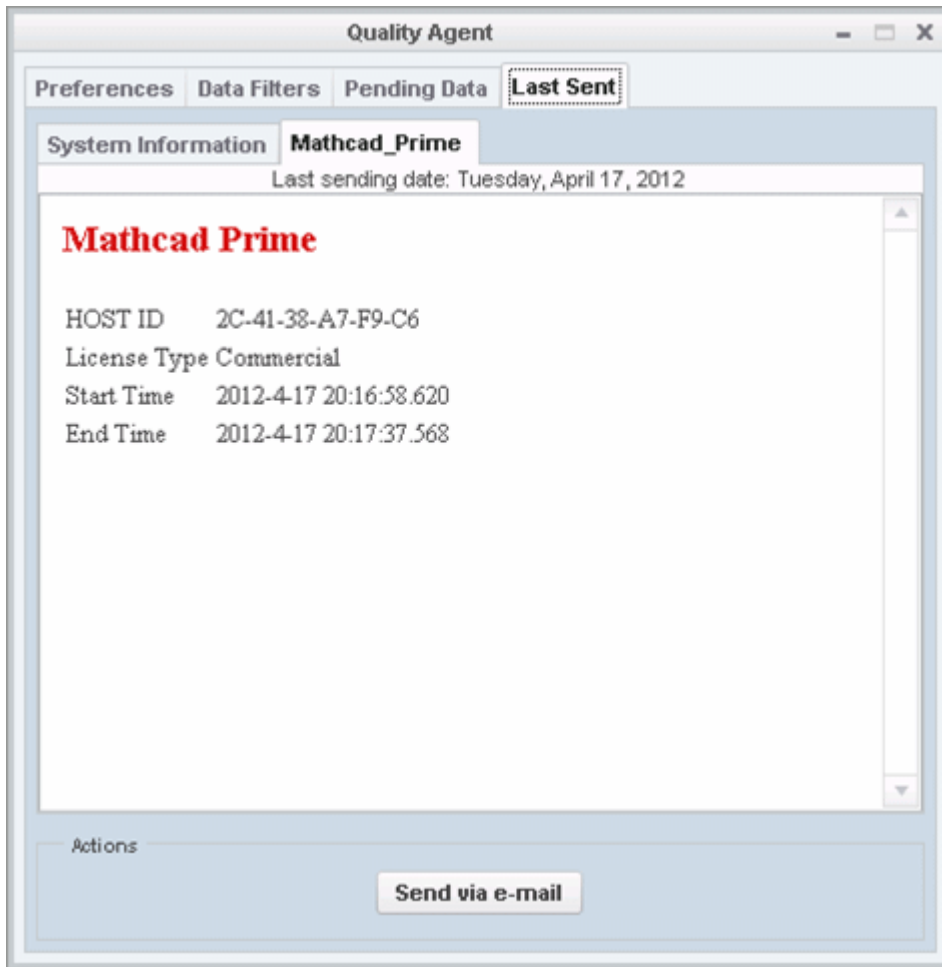


Click a button to perform one of the following actions:

- **Send Now**—For the application tab that is active, sends the product and system information to the database. For example, if the **Mathcad Prime** tab is active, it sends the product and system information for Mathcad Prime to the database.
- **Send via e-mail**—For the application tab that is active, enables you to send a report in HTML format to a designated PTC Technical Support Engineer. For example, if the **Mathcad Prime** tab is active, you can send a report for Mathcad Prime to a PTC Technical Support engineer or to your e-mail address.

Last Sent Tab

You can view product and system information that was last collected and transferred to PTC on the **Last Sent** tab.



Click **Send via e-mail** to send an aggregated report in HTML format for the active application tab to a designated PTC Technical Support Engineer or to your e-mail address.

Using Quality Agent

Quality Agent automatically collects information related to the application and system information and transfers it to PTC. For most PTC applications, the information transfer is based on the filter settings in the **Data Filters** tab and the frequency settings in the **Preferences** tab. For Mathcad, the information transfer is based on predefined filters and it is sent each time you close Mathcad. For each session, Quality Agent checks for new data before the transfer. The information is automatically encrypted and transferred using the SSL methodology.

You can open the **Quality Agent** dialog box to view the pending data to be transferred to PTC on the **Pending Data** tab. You can click the **Send via-email** button to send the Mathcad Prime application-related and system information

report in a HTML format to a designated PTC Technical Support Engineer and to your e-mail address. Both you and PTC Technical Support can then review the information simultaneously.

A

Installing Mathcad in Silent Mode

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This appendix for system administrators provides information on how to perform a silent installation of Mathcad.

Guidelines and Advantages of a Silent Installation

Mathcad application installed for the first time using PTC Installation Assistant can be reinstalled during subsequent installation sessions in silent (nongraphics and noninteractive) mode. The silent installation process with command-line arguments uses an XML file with application-specific configuration settings. To perform a silent installation, provide the path to the corresponding XML file as an argument when running `setup.exe` from the DVD root directory at the command prompt. See [Command Syntax for a Silent Installation on page 53](#) for more information.

Remember the following points for a silent installation:

- You must run the Assistant only from the DVD when installing Mathcad application for the first time.
- You cannot generate and download a license or install PTC License Server in silent mode. The installer cannot connect to PTC.com in silent mode. However, you can edit the XML file to point to the location of the license file, define the server and port number, or define the list of triad license sources. For more details, see [Editing the LICENSEPATHFORM Node on page 58](#).
- You cannot copy an existing installation while performing a silent installation.

Some of the advantages of a silent installation follow:

- You can efficiently mass-deploy Mathcad across a large enterprise.
- You can source all the configuration settings, such as, installation location, list of triad license sources, and startup commands for installing Mathcad from an XML file.

Workflow for a Silent Installation

A system administrator can follow the workflow described below for a silent installation of Mathcad on a network location or on a client computer:

1. Perform a typical product installation with the configuration that you want to use for future installations.
 - a. Open a command shell and run `setup.exe` from the root directory of the DVD. PTC Installation Assistant starts.
 - b. On the Welcome screen click **Install new software**.

Note

- *Downloading a license file or installing PTC License Server must be done in a separate installation session.*
- *A license source is not validated during the silent installation process. Hence, you must ensure the accuracy of the license source list that is configured in the commands (.psf files) for starting the Mathcad application.*

- c. Select **I accept the license agreement** and click **Next**.
- d. Select the applications to install, customize your installation, and specify any other site-specific configurations.
- e. Click **Install** to begin the installation.
- f. Click **Finish** to close the Assistant.

The XML file for Mathcad is stored with a .p.xml extension at
<Mathcad installation directory>\Mathcad Prime
2.0\bin\pim\xml.

2. Copy the XML file to a temporary location on your disk, for example, D:\temp\ptc, and edit it as required. See [Editing the XML Files on page 54](#) for information on how to edit the various nodes of an XML file.
3. Perform a silent installation of Mathcad using the command syntax as described in the next section.

Command Syntax for a Silent Installation

To perform a silent installation of Mathcad, open a command shell, and run `setup.exe` from the root directory of the DVD as follows:

```
<dvd>:\setup.exe -xml "<path to the .xml file stored  
in a temporary location>"
```

Where `dvd` is the DVD drive letter or the location of the downloaded DVD image.

The arguments you can use with `setup.exe` during a silent installation follow:

Command Syntax	Description
<code>setup.exe <no arguments></code>	Runs the installer interactively
<code>setup.exe -help</code>	Displays all the arguments to use with the installer
<code>setup.exe -v</code>	Displays the version of the installer
<code>setup.exe -xml <file1> -xml <file2>....</code>	Performs a silent installation as per the directives in the specified XML files

Command Syntax	Description
setup.exe -xml <file1> [-destination <directory>]	[Optional] Overrides the destination specified in the XML file
setup.exe -xml <file1> [-licensesource <string>]	[Optional] Overrides the license source specified in the XML file
setup.exe -xml <file1> [-translate_lp_ path space <character>]	[Optional] Replaces the whitespace characters in the installation path in the XML file

Consider the example of performing a silent installation of Mathcad. Open a command shell and enter the following command:

```
E:\>setup.exe -xml "D:\temp\ptc\mathcad.p.xml"
```

- E—The drive letter
- D:\temp\ptc\mathcad.p.xml—The location for the mathcad.p.xml file

Locating the XML Files

On a successful installation, an XML file for Mathcad is created. The file format is mathcad.p.xml. The file location is <Mathcad installation directory>\Mathcad Prime 2.0\bin\pim\xml.

Editing the XML Files

You can edit and customize the XML file stored at <Mathcad installation directory>\Mathcad Prime 2.0\bin\pim\xml with the settings required for future installations. In such cases, copy the XML file to a temporary location and edit the nodes in the XML files using a text editor or an XML editor. The following sections describe the various nodes in the XML file that can be edited.

Note

PTC recommends you not to edit the XML files unless there is a specific need to do so.

Editing the PROPERTY Node

You can edit the following name attributes of the PROPERTY node:

INSTALLBASE

Use the `INSTALLBASE` name attribute to change the root path for installing Mathcad in the current session. The default value is usually the `PTC` folder under the `Program Files` folder.

- Before editing the `INSTALLBASE` name attribute, the `PROPERTY` node appears as shown:

```
<PROPERTY name="[INSTALLBASE]">"F:\Program Files\PTC"</PROPERTY>
```

- After editing the `INSTALLBASE` name attribute, the `PROPERTY` node appears as shown:

```
<PROPERTY name="[INSTALLBASE]">"[PROGRAMFILES]\PTC"</PROPERTY>
```

The `[PROGRAMFILES]` variable in the above example represents the default program location on a local computer. You can use this variable instead of the absolute path `F:\Program Files` to make the default program location accessible on all the computers. For a 32-bit application running on a 64-bit computer, you can also use the `[PROGRAMFILESx86]` variable as shown in the following example:

```
<PROPERTY name="[INSTALLBASE]">"[PROGRAMFILESx86]\PTC"</PROPERTY>
```

The `[PROGRAMFILESx86]` variable represents the default program location for a 32-bit application on a 64-bit computer.

LP

The `LP` name attribute designate the load path of the installed Mathcad application folder. You can edit the path as required. For example, you can use the `LP` name attribute to remove the whitespace characters. Before editing the `LP` name attribute, the `PROPERTY` node appears as shown:

```
<PROPERTY name="[LP]">[INSTALLBASE]/Mathcad/Mathcad Prime 2.0</PROPERTY>
```

After editing the `LP` name attribute, the `PROPERTY` node appears the same:

```
<PROPERTY name="[LP]">[INSTALLBASE]/Mathcad/Mathcad Prime 2.0</PROPERTY>
```

See [Command Syntax for a Silent Installation on page 53](#) for more information.

Editing the SHORTCUT Node

A `SHORTCUT` node represents shortcut definitions associated with certain package nodes. A `SHORTCUT` node is processed in order to create the shortcuts for a package that is being installed. In a `SHORTCUT` node, you must edit only the `create` attribute for each of the `PROGRAMSMENU`, `STARTMENU`, `DESKTOP`, and `QUICKLAUNCH` subnodes. A value `Y` set for the `create` attribute creates the shortcuts.

A sample SHORTCUT node in an XML file that creates a shortcut in the start menu, on the desktop and a quick launch shortcuts, is as shown:

```
<SHORTCUT allusers="Y" id="prime_shortcut" showenvironment="N">
<NAME>Mathcad Prime 2.0</NAME>
<STARTMENU create="Y"/>
<DESKTOP create="Y"/>
<QUICKLAUNCH create="Y"/>
</SHORTCUT>
```

Editing the LANGUAGE Node

Note

Editing the LANGUAGE, PLATFORM, and PACKAGE nodes is not trivial. For editing these nodes you must manually edit the CDSECTION nodes. Instead, PTC recommends that you perform a template-based installation graphically with the required language, platform, and package settings.

A LANGUAGE node represents the languages supported on the DVD media for the installation of the Mathcad Help Center. Individual LANGUAGE nodes are created in the XML file for each of the supported languages. You can edit the following attribute of the LANGUAGE node:

Attribute	Value
install	Set this attribute to Y or N depending on whether you want to install Mathcad Help Center in that language. If the required attribute is set to Y do not change the install attribute.

A sample LANGUAGE node in an XML file follows:

```
<LANGUAGE install="Y" installed="N" name="usascii"
required="Y">English</LANGUAGE>
<LANGUAGE install="N" installed="N" name="japanese">Japanese</LANGUAGE>
```

Editing the PLATFORM Node

A PLATFORM node represents the operating systems supported on the DVD media for the installation of Mathcad. Individual PLATFORM nodes are created in the XML file for each of the supported operating systems. You can edit the following attribute of the PLATFORM node:

Attribute	Value
install	Set this attribute to Y or N depending on whether you want to install the Mathcad application on that operating system. At least one platform entry must have the install attribute set to Y.

A sample PLATFORM node in an XML file follows:

```
<PLATFORM install="N" installed="N" name="i486_nt">Windows 32 bit</PLATFORM>
<PLATFORM install="Y" installed="N" name="x86e_win64">Windows
64 bit</PLATFORM>
```

Editing the PACKAGE Node

PACKAGE nodes in an XML file represent the required and the optional packages selected for the Mathcad application on the **Customize** dialog box of the Assistant. There may be many PACKAGE nodes in an XML file. You can edit the following attribute of the PACKAGE node:

Attribute	Value
install	For a specific PACKAGE node, set this attribute to Y or N depending on whether you want to install the package with the Mathcad application.

A sample PACKAGE node in an XML file follows:

```
<PACKAGE hidden="N" install="Y" label="Prime 2.0" name="prime_base"
parent="" required="Y">
<MSI_NAME>prime_msi</MSI_NAME>
<FEATURE>PRIME_HELP</FEATURE>
</PACKAGE>
```

Editing the CDSECTION Nodes

Edit the CDSECTION node only if you want to edit the LANGUAGE, PLATFORM, or the PACKAGE nodes. Check for the following attributes before you edit the CDSECTION nodes:

- For each LANGUAGE node, locate the CDSECTION nodes with the language attribute reflecting the appropriate language.
- Then locate the CDSECTION nodes with the platform attribute reflecting the appropriate operating system.
- Finally locate the CDSECTION nodes with the name attribute reflecting the package to be installed with Mathcad.

If all the attributes for the above nodes are to be considered for the installation, set the `install` attribute of the CDSECTION node to Y. Otherwise, set the attribute to N.

A sample CDSECTION node in an XML file follows:

```
<CDSECTION install="N" language="german" name="PRIME_HELP" size="43455884">
ptc0.cab</CDSECTION>
```

Editing the LICENSEPATHFORM Node

LICENSEPATHFORM nodes in an XML file represent the possible Mathcad license types that you can set up during the silent installation. To set up a license, remove the comment marks around the relevant license type and edit its value.

To set up licenses in a silent installation, select the node you wish to remove its comments according to the required license type:

- For Server based installation for floating licenses, remove the comments from the following node, and edit it:

```
<!-- Example for silent install with server based install
<MSIARGUMENT>LICENSEPATHFORM="ServerAndPort" LICENSEPATH="7788@localhost"
</MSIARGUMENT>
-->
```

A sample LICENSEPATHFORM node that defines the server and the port number in an XML file follows:

```
<MSIARGUMENT>LICENSEPATHFORM="ServerAndPort" LICENSEPATH="7788@localhost"
</MSIARGUMENT>
```

- For locked licenses, remove the comments from the following node, and edit it:

```
<!-- Example for silent install with locked license file
<MSIARGUMENT>LICENSEPATHFORM="FilePath"
LICENSEPATH="c:\temp\ptc_licensing\license.dat"</MSIARGUMENT>
-->
```

A sample LICENSEPATHFORM node that defines the location of a license file in an XML file follows:

```
<MSIARGUMENT>LICENSEPATHFORM="FilePath"
LICENSEPATH="d:\temp\mathcad_licensing\license.dat"</MSIARGUMENT>
```

In this example, the LICENSEPATH attribute was edited.

- For defining a list of triad license sources, remove the comments from the following node, and edit it:

```
<!-- Example for silent install with triad license sources
<MSIARGUMENT>LICENSEPATHFORM="SourceList"
LICENSEPATH="7788@localhost;7788@host2;7788@host3"</MSIARGUMENT>
-->
```

A sample LICENSEPATHFORM node that a list of triad license sources in an XML file follows:

```
<MSIARGUMENT>LICENSEPATHFORM="SourceList"
LICENSEPATH="7790@localhost;7790@host2;7790@host3"</MSIARGUMENT>
```

In this example, the port numbers were edited.

Installing Quality Agent in Silent Mode

To silently install Quality Agent, you must copy the `qualityagent.xml` file found at `<mathcad_dvd>\pim\xml\` locally to your computer. Edit the `"install="` attribute of the MSI entry to be `"Y"` and then perform the silent installation at the command prompt.