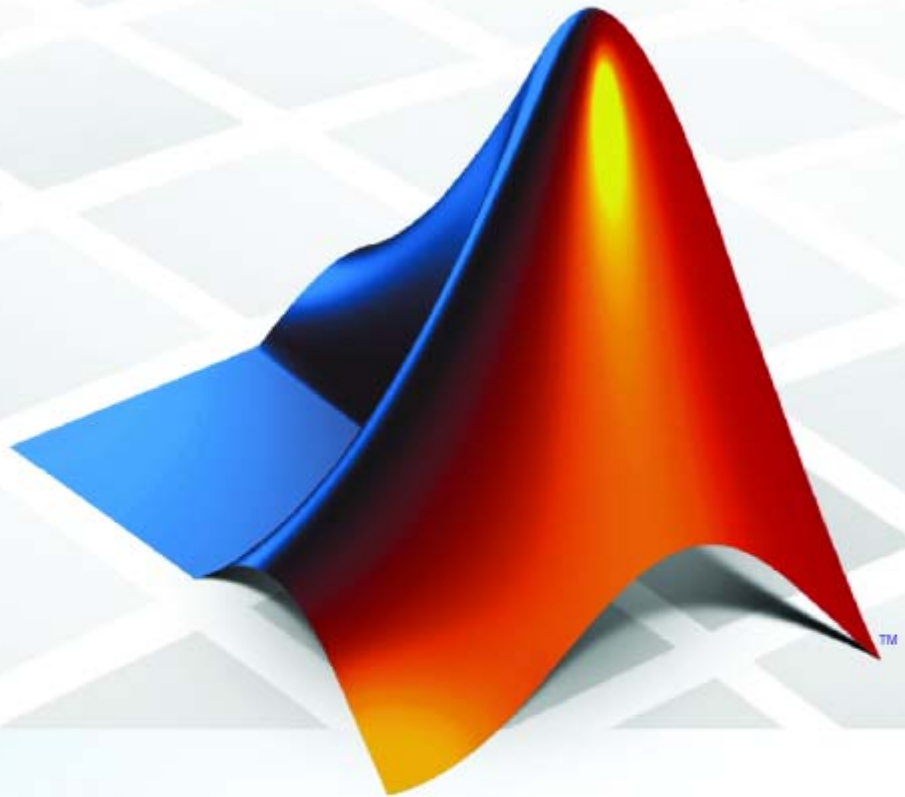


# PolySpace<sup>®</sup> 7

## Installation Guide



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*PolySpace® Installation Guide*

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# Before You Begin

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- “Timing Information” on page 1-7
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## Hardware and Software Requirements

In this section...
“PolySpace Product Requirements” on page 1-2
“PolySpace Plug-In Requirements” on page 1-3
“PolySpace Software License Requirements” on page 1-5
“UNIX/Linux Installation Requirements” on page 1-6
“PolySpace Documentation Requirements” on page 1-6

### PolySpace Product Requirements

Please check that the following requirements are met before installing PolySpace® software on a server or client workstation.

Product	32-Bit Client	32-Bit Server	64-Bit Client	64-Bit Server
RAM	512 MB minimum  1024 MB ECC recommended	2 GB minimum  4 GB ECC recommended	2 GB minimum  4 GB ECC recommended	8 GB minimum  16 GB ECC recommended
Processor	<ul style="list-style-type: none"> <li>• Intel® Pentium (Pentium 4 and above)</li> <li>• Intel Celeron</li> <li>• Intel Xeon</li> <li>• Intel Core</li> <li>• AMD Athlon™</li> <li>• AMD® Opteron</li> <li>• AMD Sempron</li> <li>• SPARC®</li> <li>• ultraSPARC</li> </ul>		<ul style="list-style-type: none"> <li>• Intel Pentium (Pentium 4 and above)</li> <li>• Intel Celeron</li> <li>• Intel Xeon</li> <li>• Intel Core</li> <li>• AMD64</li> <li>• SPARC</li> <li>• ultraSPARC</li> </ul>	

Product	32-Bit Client	32-Bit Server	64-Bit Client	64-Bit Server
Operating system	<ul style="list-style-type: none"> <li>• <b>Linux</b> – Red Hat Enterprise Linux<sup>®</sup> Workstation (v.4 or v.5), and OpenSuSE Linux 10.1</li> <li>• <b>Solaris</b> – Solaris<sup>™</sup> 10</li> <li>• <b>Windows</b> – Windows<sup>®</sup> XP (Service Pack 1, 2 or 3), Windows Server<sup>®</sup> 2003, and Windows Vista<sup>™</sup></li> </ul> <p>For Windows systems, you must also install Microsoft<sup>®</sup> .NET Framework 3.5</p>			
Disk space	2 GB			
Swap space	At least twice the RAM size.			

---

**Note** The Mathworks recommends using a Linux PC.

---

## PolySpace Plug-In Requirements

Please check that the following requirements are met before installing PolySpace Model Link<sup>™</sup> SL, PolySpace Model Link TL, PolySpace UML Link<sup>™</sup> RH, and PolySpace C++ add-in for Visual Studio<sup>®</sup> software.

Product	Plug-In Software	Release	Operating System
PolySpace Model Link SL	MATLAB <sup>®</sup>	R2007a, R2007b, R2008a, R2008b, and R2009a	Windows
	Real-Time Workshop <sup>®</sup> Embedded Coder <sup>™</sup>	R2006b, R2007a, R2007b, R2008a, R2008b, and R2009a	Windows

<b>PolySpace Model Link TL</b>	MATLAB	R2007a, R2007b, R2008a, R2008b, and R2009a	Windows
	TargetLink® (dSPACE®)	3.0, 2.1 and 2.2	Windows
<b>PolySpace UML Link RH (C and C++ only)</b>	Rhapsody® (Telelogic®)	7.1, 7.2 and 7.3	Windows
<b>PolySpace C++ add-in for Visual Studio (C++ only)</b>	Microsoft Visual Studio .NET 2003	7.1 (SP1)	Windows
	Microsoft Visual Studio 2005	8.0	Windows
<b>PolySpace C/C++ plug-in for Eclipse IDE</b>	Eclipse IDE	3.3.2 and 3.4.0	Windows

## PolySpace Software License Requirements

PolySpace software provides two licensing options that, when combined with the supported installation types, provide flexibility in redeploying product licenses to different users.

PolySpace software provides the following license options:

License Option	Protection	Description
<b>Designated Computer (Individual)</b>	MAC address or serial disk number of the designated computer	DC licenses are used only for PolySpace client software. DC licenses are appropriate for users who want to install and administer the client software themselves.  A DC license is provided in a text file.
<b>Concurrent</b>	MAC address or serial disk number of the FLEXnet® server	Concurrent licenses are used for both PolySpace client and server software. Concurrent licenses are appropriate for organizations that use license keys to control software access.  Concurrent licenses require a FLEXnet license manager.

---

**Note** For more information, see the *PolySpace License Installation Guide*. This document describes the licensing options in detail, and how to install the FLEXnet license manager.

---

## **UNIX/Linux Installation Requirements**

### **Configuration**

Ensure that the /tmp folder contains at least 10 MB of free space.

### **Environment Settings**

- User's path must include *PolySpaceInstallDir/bin* (to launch the product without using the absolute path).
- The PolySpace license file needs to be placed in *PolySpaceInstallCommon/etc/license.dat*.
- PolySpace Graphical User Interfaces require **CDE** Window manager on Solaris Open Software environment and **Gnome** on Linux. Behavior on other Window managers is not guaranteed.

See "PolySpace Software Installation Directories" on page 1-13 for an explanation of the PolySpace installation directories.

### **Access Rights**

Read and Execution access rights are required for all the PolySpace installation.

## **PolySpace Documentation Requirements**

The PolySpace documentation requires Adobe® Acrobat® Reader. If you do not have Acrobat Reader installed on your system, you can download it from [www.adobe.com](http://www.adobe.com).

---

**Note** The PolySpace documentation requires Access™ Reader release 5.0 or later.

---

## **Timing Information**

The installation procedure lasts about 5 minutes (PolySpace install).

## CD-ROM Contents

Depending on the products you purchased, the PolySpace CD-ROM allows you to install one or more of the available PolySpace products:

- **PolySpace® Client™ for C/C++** — Allows you to verify and review C and C++ source code.
- **PolySpace® Server™ for C/C++** — Allows you to verify C and C++ source code on a dedicated server.
- **PolySpace Client for Ada** — Allows you to verify and review Ada83 and Ada95 source code.
- **PolySpace Server for Ada** — Allows you to verify Ada83 and Ada95 source code on a dedicated server.
- **PolySpace Model Link SL** — Allows you to verify and review C source code generated using Real-Time Workshop Embedded Coders software from a Simulink® model.
- **PolySpace Model Link TL** — Allows you to verify and review C source code generated using TargetLink code generator from a Simulink model.
- **PolySpace UML Link RH** — Allows you to verify and review C, C++, and Ada source code generated from Rhapsody software.

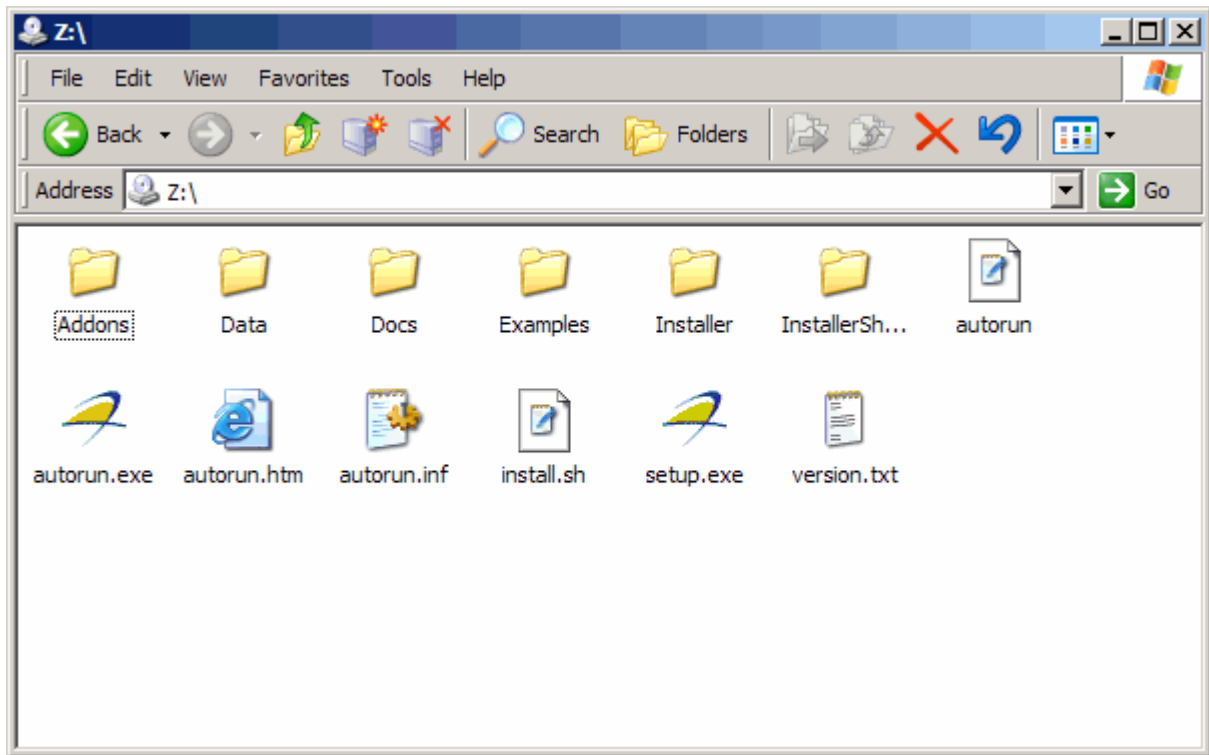
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**Note** The difference between PolySpace Server and PolySpace Client is described in “PolySpace Installation Options” on page 1-11.

---

The CD-ROM contains 6 subfolders and program files, as shown in the figure below.





Important subfolders and programs are described below:

- `Setup.exe` runs the Graphical Install Wizard on a Windows platform.
- `install.sh` runs the shell script Install Wizard on a UNIX® platform. The `-console` option enables you to execute the command in a console mode. Running `install.sh -h` gives option and usages.
- `version.txt` contains the complete version number of the PolySpace product that has been burned on the CD-ROM.
- The `Addons` subfolder contains some useful free or under GPL license tools, available for Windows and / or UNIX platforms.
- The `Docs` subfolder contains all the documentation associated to PolySpace products, in HTML and PDF formats.

---

**Note** The PolySpace License Installation Guide is located in this subfolder. It describes installation and available license protection mechanisms.

---

- The **Data** subfolder contains PolySpace data.
- The **Examples** subfolder contains sample verification results from PolySpace tools (using PolySpace Client, Server and Model Link for each language). These results can be displayed with The PolySpace Viewer available with any of the PolySpace products.

---

**Note** Refer to the appropriate Getting Started Guide for a quick description of the PolySpace products for your language:

- *PolySpace Products for Ada Getting Started Guide*
  - *PolySpace Products for C Getting Started Guide*
  - *PolySpace Products for C++ Getting Started Guide*
-

## PolySpace Installation Options

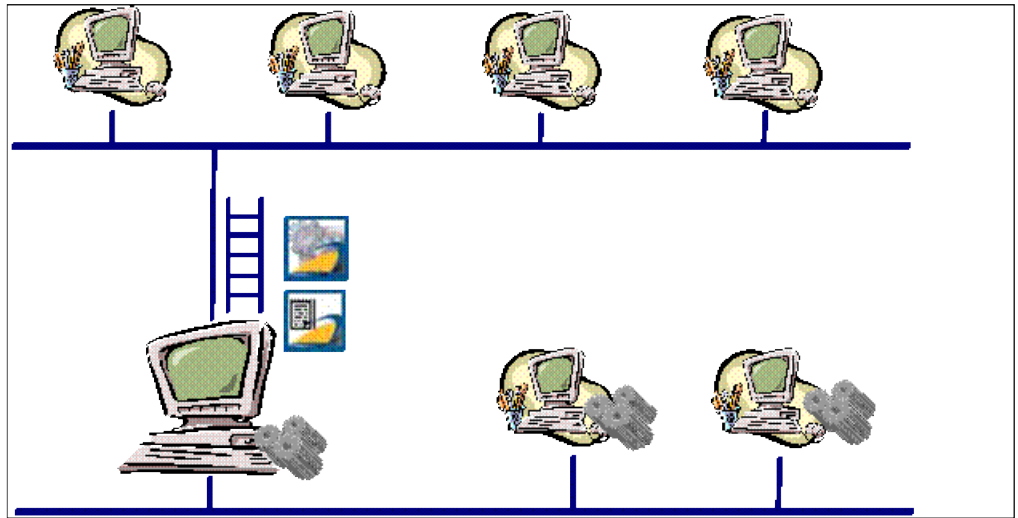
The PolySpace Installation CD allows you to install the following products:

- PolySpace Client for C/C++
  - PolySpace Server for C/C++
- or
- PolySpace Client for Ada
  - PolySpace Server for Ada

A *Client* installation is recommended if you are on a client computer. It allows you to perform local verification, review previously completed code verifications, and send new verification requests to a dedicated server. This option is appropriate for developer workstations. The installation requires approximately 300 to 500 MB of disk space. You must have local administrator rights and have access to the registry in order to complete the installation.

A *Server* installation is recommended when the machine is dedicated to PolySpace software, and will receive verifications coming from Clients. This option is also recommended for CPUs. The installation requires approximately 300 to 500 MB of disk space. You must use a local user login with local administrator rights to complete the installation.

A PolySpace Server can receive PolySpace verification requests from any number of PolySpace Clients.



### **PolySpace® Client/Server Architecture**

Terminology:

- The PolySpace Clients are computers asking for PolySpace code verifications to be performed on CPUs.
- A PolySpace Server which only verifies source code coming from N Clients is named a CPU.
- A PolySpace Server which manages the code verifications coming from N clients is also named the Queue Manager (QM). Note that it can be configured to be only a dispatcher of verifications.
- The PolySpace Server sends code verifications to N CPUs, the computers that run the verifications. It can also be configured as a CPU.

The PolySpace Client, The PolySpace Server, the queuing mechanism (Remote Launcher) and CPUs will refer to this architecture throughout this installation guide.

## PolySpace Software Installation Directories

Three directories are required to install PolySpace software:

- The principal directory contains the kernel of the installed PolySpace release. The default directory is `C:\PolySpace\PolySpaceForLanguage`, where *language* can be either `CandCPP` or `Ada`.
- A common components directory contains the shared components available for any language, such as the Java run time library, the PolySpace Viewer, the Remote Launcher (RL), and any add-ins (such as the PolySpace C++ add-in for Visual Studio and the PolySpace In One Click Toolbar (POC)). The default directory is `C:\PolySpace\PolySpace_Common`.
- A directory contains the Remote Launcher configuration file `polyspace.conf`. The directory is `C:\PolySpace\PolySpace_RLDatas`.

In this document, these three directories are referred to as follows:

- *PolySpaceInstallDir* refers to `C:\PolySpace\PolySpaceForLanguage` (`/usr/local/PolySpace/PolySpaceForLanguage` for UNIX systems),
- *PolySpaceInstallCommon* refers to `C:\PolySpace\PolySpace_Common` (`/usr/local/PolySpace/PolySpace_Common` for UNIX systems).
- *PolySpaceRLDats* refers to `C:\PolySpace\PolySpace_RLDats` (`/etc/PolySpace` for UNIX systems).



# Installing PolySpace Software

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- “Overview” on page 2-2
- “Installing the PolySpace Software” on page 2-4
- “Launching the Installation Wizard in Batch Mode” on page 2-15
- “Configuring PolySpace Software” on page 2-17

# Overview

In this section...
“PolySpace Products” on page 2-2
“PolySpace Client Software” on page 2-2
“PolySpace Server Software” on page 2-2

## PolySpace Products

This chapter describes how to install and configure the following PolySpace products:

- PolySpace Client for Ada
- PolySpace Server for Ada
- PolySpace Client for C/C++
- PolySpace Server for C/C++

## PolySpace Client Software

PolySpace Client software is the management and visualization tool of PolySpace products. You use it to submit jobs for execution by PolySpace Server, and to review verification results. The PolySpace Client software includes the Viewer, DRS/MISRA C® Checker, Report Generator, and Automatic Orange Tester features.

You should install the PolySpace Client software on developer workstations that will send verification jobs to the PolySpace Server.

The installation requires approximately 300 to 500 MB of disk space.

## PolySpace Server Software

PolySpace Server software is the computational engine of PolySpace products. You use it to run jobs posted by PolySpace Clients, and to manage multiple servers and queues. The PolySpace Server software includes the Remote Launcher, Report Generator, DRS/MISRA C Checker, and HTML Generator features.



You should install the PolySpace Server software on machines dedicated to PolySpace software that will receive verifications coming from Clients, and on CPUs.

The installation requires approximately 300 to 500 MB of disk space.

# Installing the PolySpace Software

In this section...
“Before Starting the Installation” on page 2-4
“Installing the Software” on page 2-4
“Configuring the PolySpace Server Software” on page 2-11
“PolySpace Software Icons” on page 2-14

## Before Starting the Installation

Before starting the installation process, ensure that you have the following:

- The PolySpace CD-ROM.
- A `license.dat` file accessible on the disk.
- A local user login with **administrator** rights.
- At least 500 MB of free disk space.

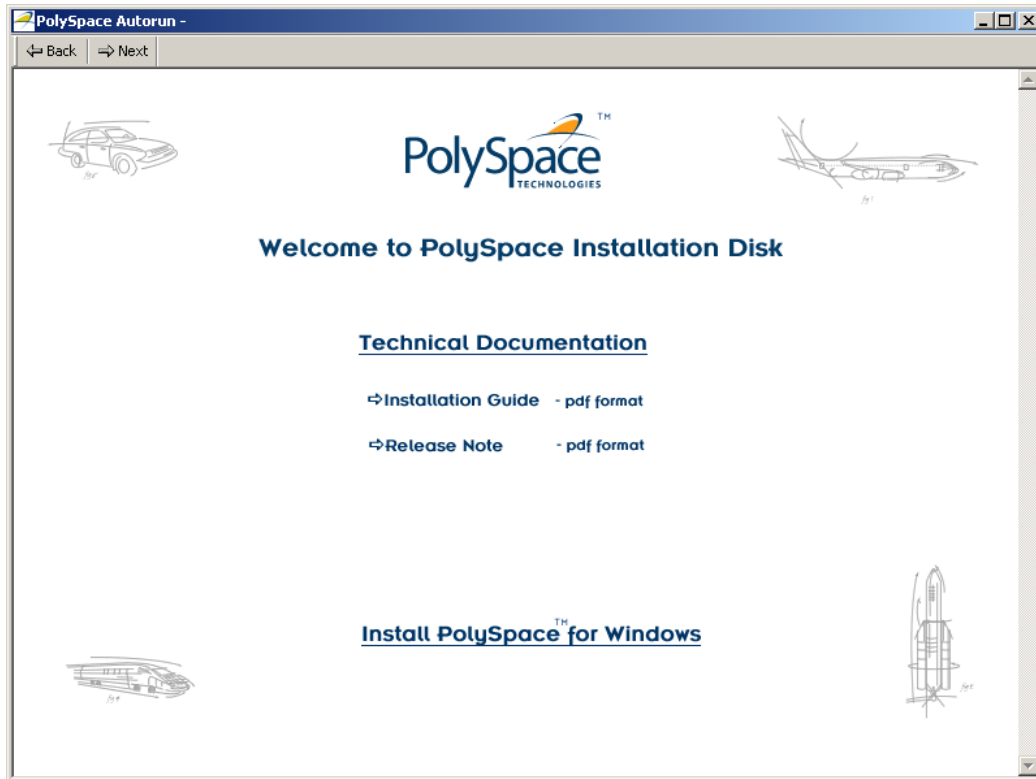
## Installing the Software

PolySpace software provides a Graphical Installation Wizard that guides you through the installation process. This Wizard is available on Solaris, Linux or Windows platforms. This section describes only a complete Windows install.

To install the PolySpace software:

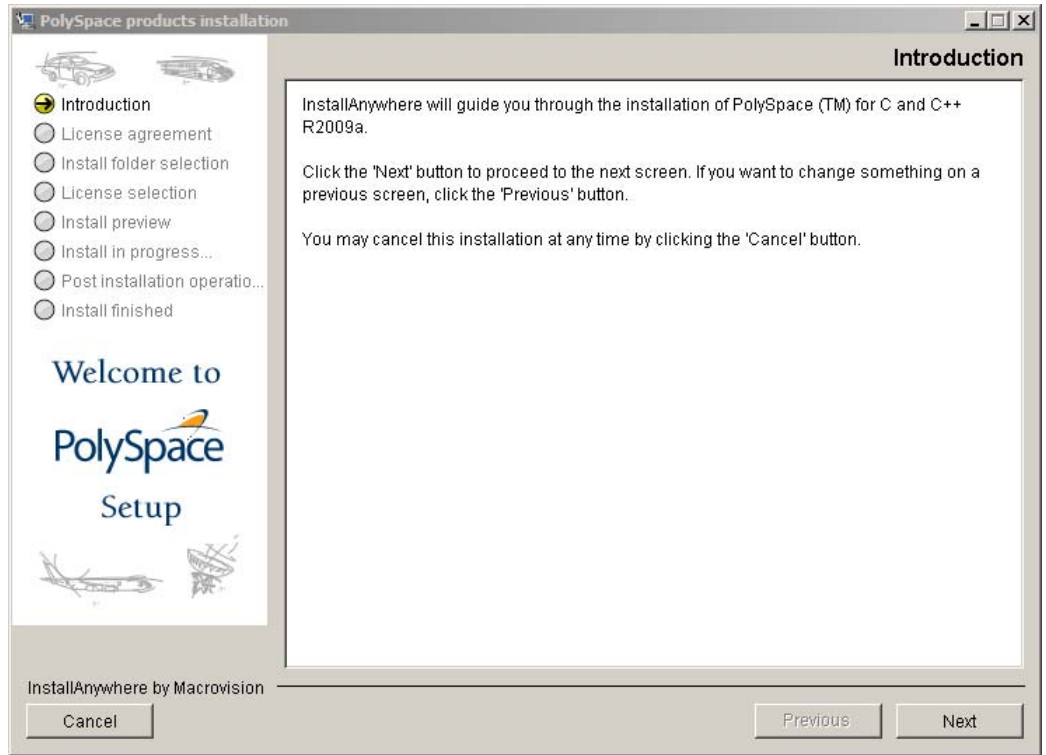
- 1 Insert the PolySpace CD-ROM into your CD-ROM drive.

The PolySpace autorun starts. If no autorun starts after a couple of minutes, you can launch the `setup.exe` program which is located on the CD drive.



**2 Click Install PolySpace for Windows.**

The InstallShield Wizard runs, preparing the Java™ Virtual Machine. This can take between 3 and 5 minutes depending on your computer.

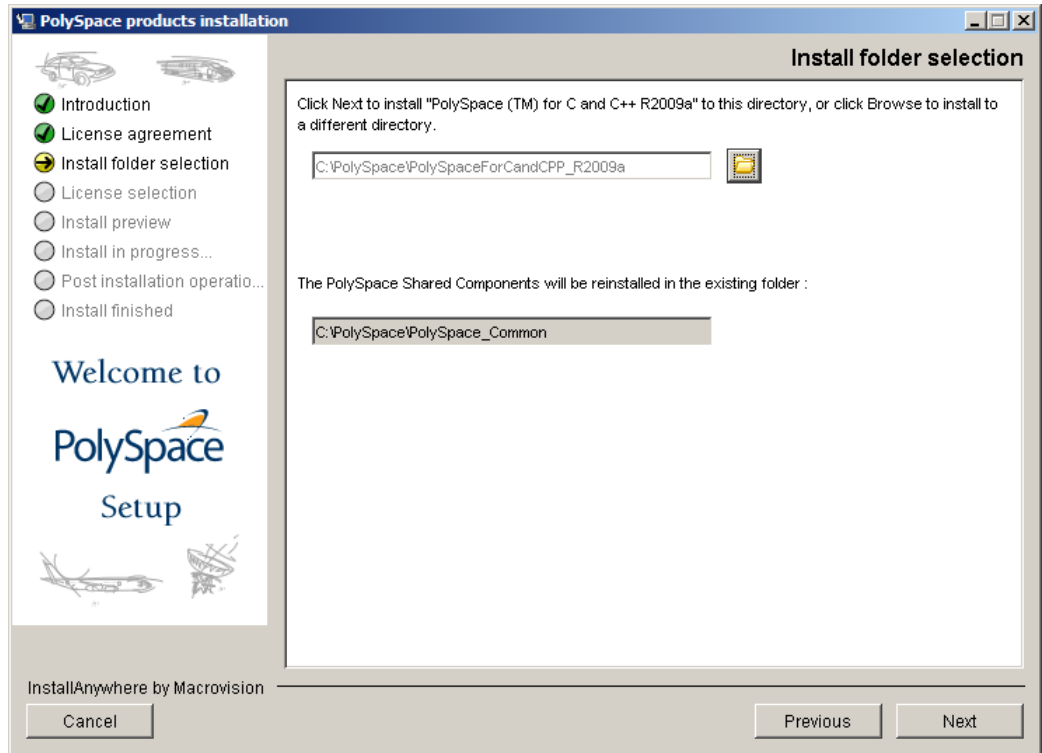


**3** When the PolySpace Installer appears, click **Next**.

The Software License agreement appears

**4** Select **I accept the terms of the license agreement**, then click **Next**.

The directory selection screen appears.



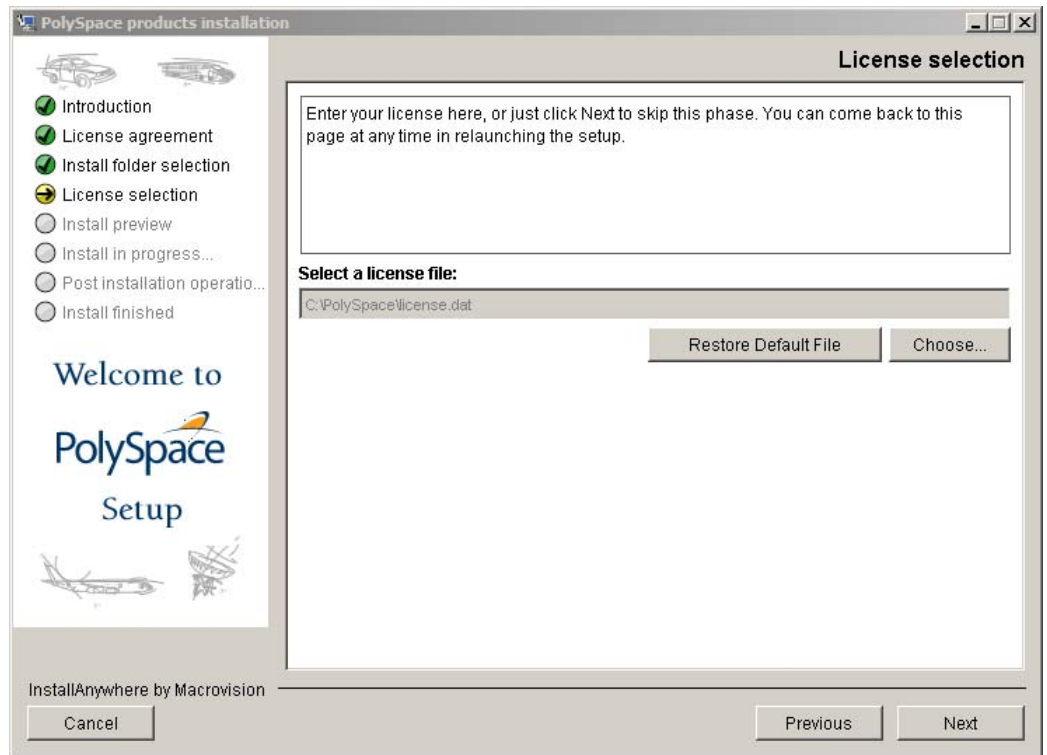
- 5 Select the directories in which to install the PolySpace software and shared components, then click **Next**.

---

**Note** The default directory for the product software is  
 C:\PolySpace\PolySpaceFor $language$  where  $language$  can be either  
 CandCPP or Ada.  
 The default directory for shared components is  
 C:\PolySpace\PolySpace\_Common.

---

The License window appears.



- 6 Click **Browse**, then select your `license.dat` file. Refer to the *PolySpace License Installation Guide* for more information about licensing.

---

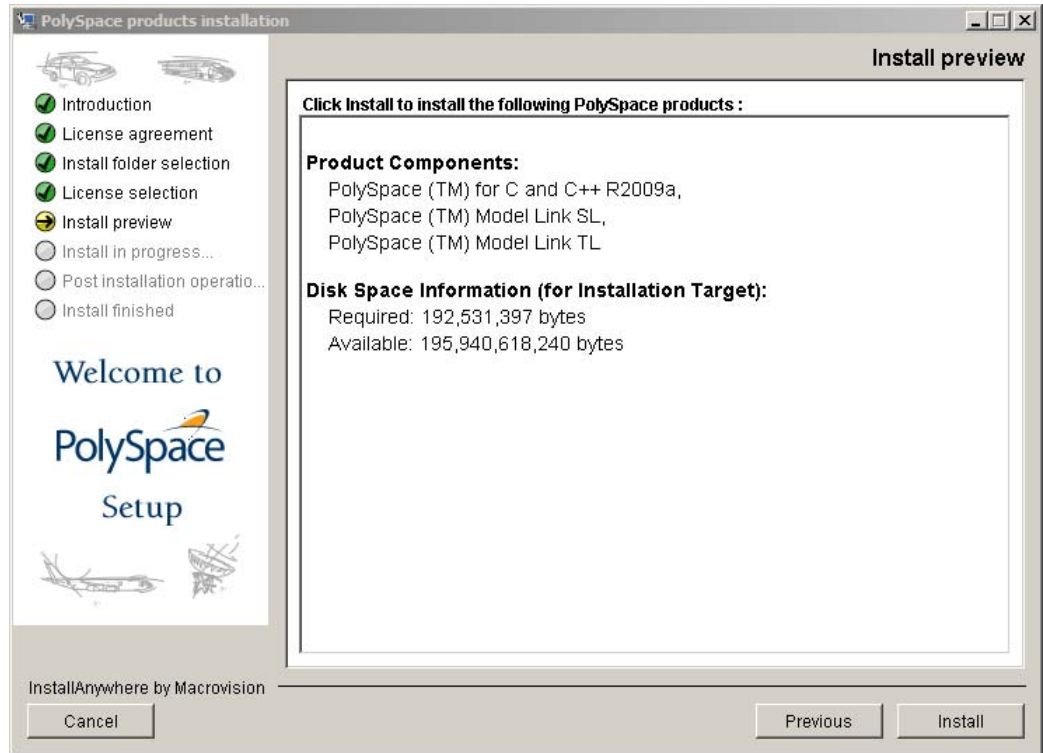
**Note** If you do not have your license file, you can click **Next** to skip this step without selecting a license file. You can then install the license file later.

On Windows, the license file location depends on the License mechanism. By default, It must be located in `PolySpaceInstallCommon/etc`.

---

- 7 Click **Next**.

The Install preview window opens.



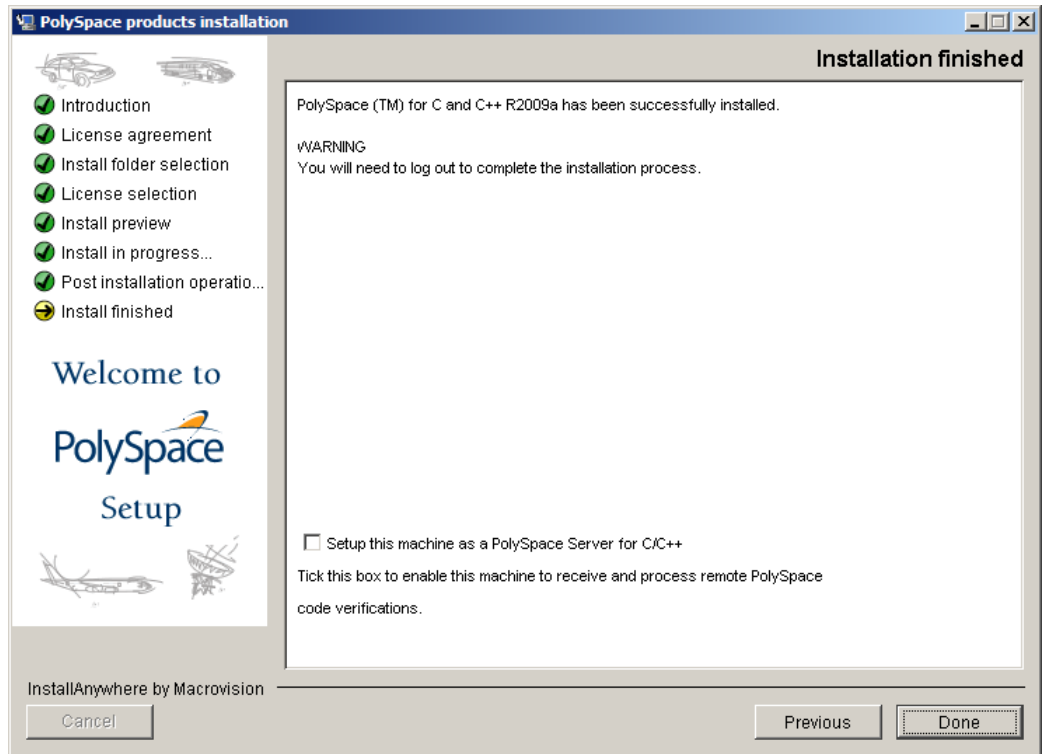
## 8 Click **Install**.

The following things occur:

- PolySpace shared components are installed and configured (this may take a few minutes).
  - When shared component installation is complete, the Shared Components Setup wizard closes, and the product software is installed (this may take a few minutes).
  - When software installation is complete, the Post installation operations window appears.
- 9 Select any post-installation operations you want to complete:
- Launch integrity check — Checks the integrity of the software installation.

### 10 Click Next.

The selected post-installation operations run, and the final setup screen appears.



### 11 If you are installing a PolySpace client, click **Finish**.

The PolySpace Client software installation is complete.

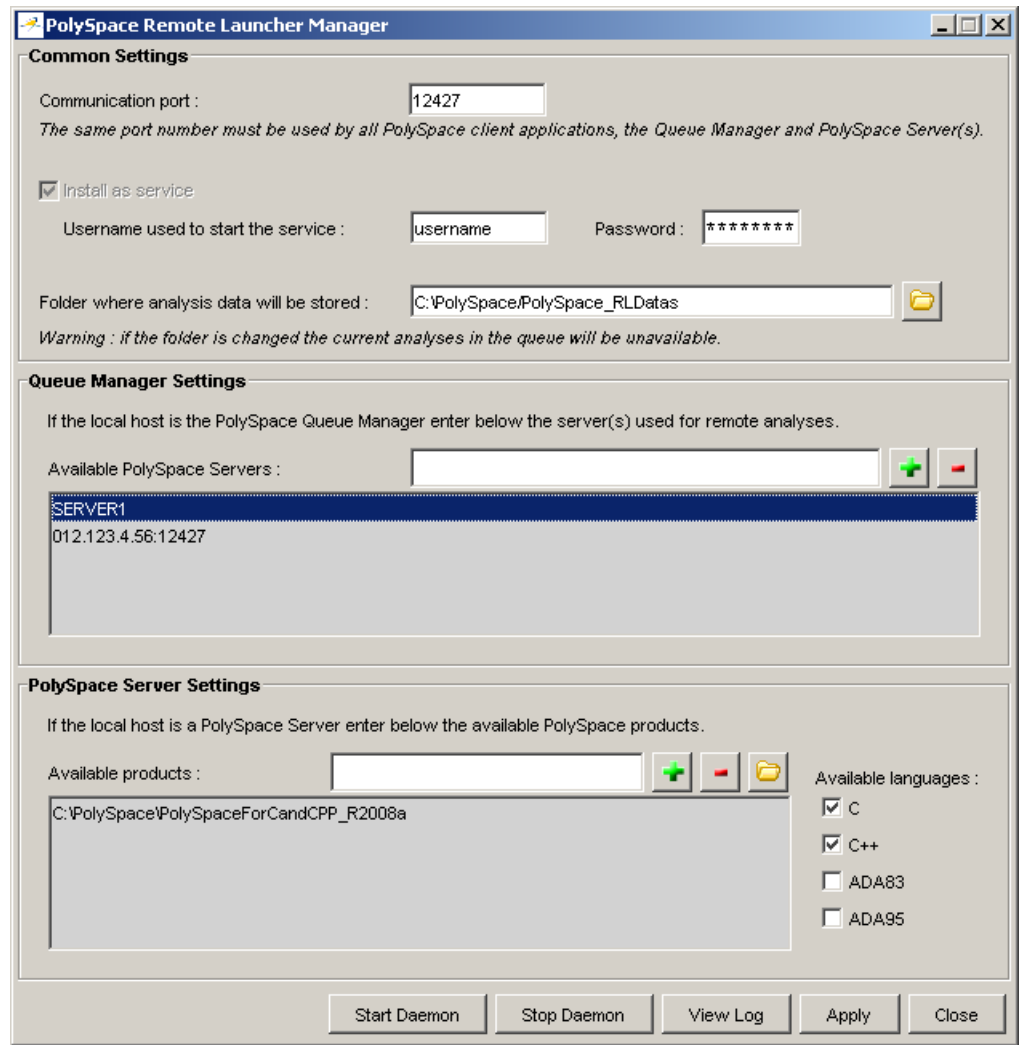
### 12 If you are installing a PolySpace server, select **Setup this machine as a PolySpace Server**, then click **Finish**.

The PolySpace Remote Launcher Manager dialog box appears. Go to the next section, “Configuring the PolySpace Server Software” on page 2-11 for information on configuring the Remote Launcher.



## Configuring the PolySpace Server Software

When you finish installing the PolySpace Server software, the PolySpace Remote Launcher Manager dialog box appears. You must configure the port number for the PolySpace Server to complete the installation. Configuring the port number allows communication with the PolySpace Server to be established.



To complete the server installation:

- 1 Specify the port number on which the server will communicate with Clients. The default port number is 12427.

---

**Note** The port number must be the same as the port specified for all PolySpace Clients.

---

- 2 To install the server as a service on a Windows machine (or a daemon on a Linux or Solaris machine), select **Install server as service (daemon)**, then enter the username and password used to start the server as a service or daemon.

---

**Note** Password is not required on a Linux or Solaris machine.

---

---

**Note** If you do not select **Install server as service (daemon)**, you must configure the server manually after installation. See “Manual Configuration of the PolySpace Server” on page 2-22.

---

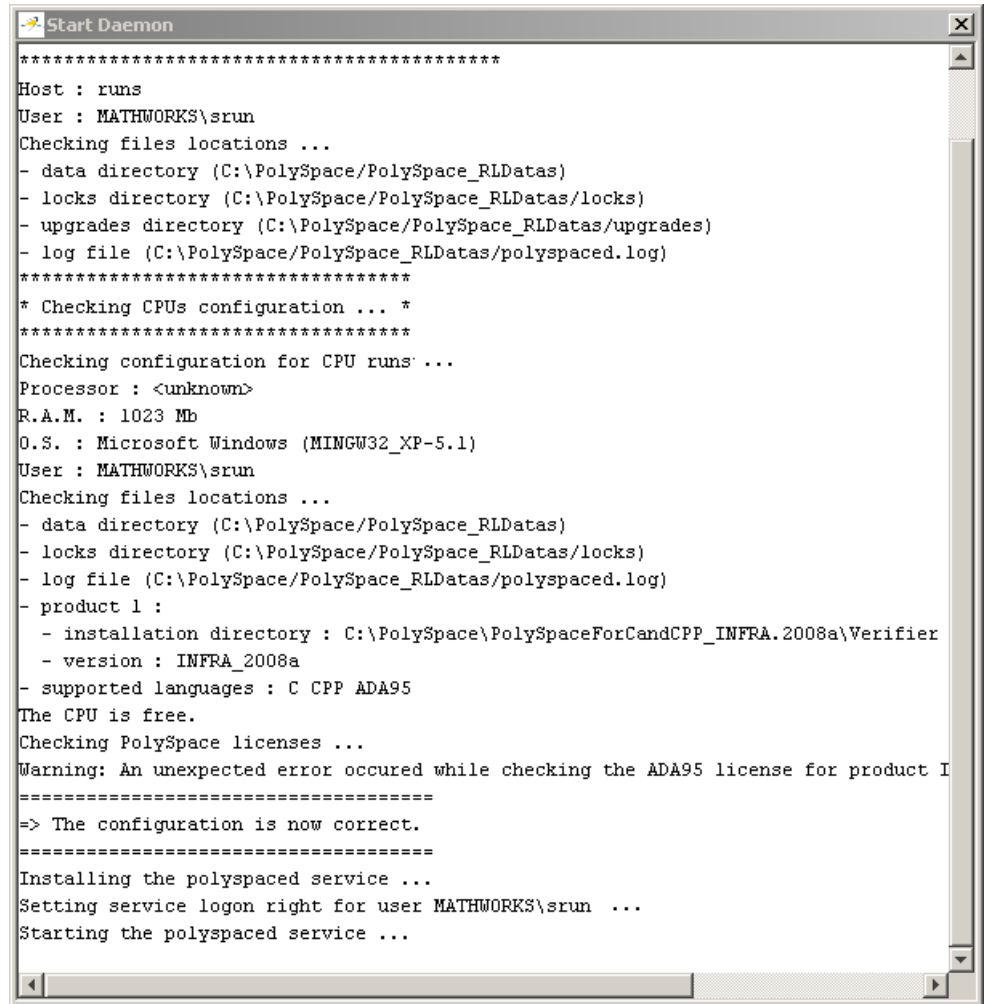
- 3 Click **Start Daemon**.

A message appears informing you that the configuration has been saved.

- 4 Click **Yes** to start the Daemon.

- 5 Click **Yes** to save your settings.

The Start Daemon log window appears.



```

Start Daemon
*****
Host : runs
User : MATHWORKS\srin
Checking files locations ...
- data directory (C:\PolySpace/PolySpace_RLDatas)
- locks directory (C:\PolySpace/PolySpace_RLDatas/locks)
- upgrades directory (C:\PolySpace/PolySpace_RLDatas/upgrades)
- log file (C:\PolySpace/PolySpace_RLDatas/polyspaced.log)
*****
* Checking CPUs configuration ... *
*****
Checking configuration for CPU runs: ...
Processor : <unknown>
R.A.M. : 1023 Mb
O.S. : Microsoft Windows (MINGW32_XP-5.1)
User : MATHWORKS\srin
Checking files locations ...
- data directory (C:\PolySpace/PolySpace_RLDatas)
- locks directory (C:\PolySpace/PolySpace_RLDatas/locks)
- log file (C:\PolySpace/PolySpace_RLDatas/polyspaced.log)
- product 1 :
  - installation directory : C:\PolySpace\PolySpaceForCandCPP_INFRA.2008a\Verifier
  - version : INFRA_2008a
- supported languages : C CPP ADA95
The CPU is free.
Checking PolySpace licenses ...
Warning: An unexpected error occured while checking the ADA95 license for product I
=====
=> The configuration is now correct.
=====
Installing the polyspaced service ...
Setting service logon right for user MATHWORKS\srin ...
Starting the polyspaced service ...

```

The Remote Launcher Manager checks product paths, licenses, and the creation and start up of the service (daemon). When the configuration check is complete, the message “Start of the daemon has succeeded.” appears.

---

**Note** If a problem occurs, an error message appears at the bottom of the screen. If you get an error, see “Troubleshooting Common Errors” on page 2-26.

---

**6** When the message “Start of the daemon has succeeded.” appears, click **OK**.

**7** Click **Close** to close the Remote Launcher Manager

The PolySpace Server installation is complete.

---

**Note** By default, the server becomes the first CPU of the architecture.

---

### PolySpace Software Icons

After Installation is complete, three new icons appear on your desktop:



- **PolySpace Launcher** — Performs single or multi-file verification of source code and gives the location and status of run-time errors in those files.
- **PolySpace Viewer** — The graphical user interface to explore the results computed by PolySpace Client and PolySpace Server software.
- **PolySpace Spooler** — The graphical user interface to manage verifications sent in remote using PolySpace Client software.

## Launching the Installation Wizard in Batch Mode

In this section...
“Installing Software on a UNIX Platform” on page 2-15
“Installing Software in Silent Mode” on page 2-15

### Installing Software on a UNIX Platform

To install PolySpace products on a Linux or UNIX system, execute the following command in a terminal window:

```
CD-ROM/install.sh
```

This script launches a textual installation wizard. Refer to the “Installing the PolySpace Software” on page 2-4 to complete the installation.

---

**Note** If you are using the **Gnome** window manager in Linux or **CDE** window manager in Solaris, you can click `Linux.bin` or `Solaris.bin` in the root of the CD-ROM path to use the graphical installation wizard.

---

### Installing Software in Silent Mode

By default, `-silent` mode performs a PolySpace software installation using default parameters (auto server mode and 12427 for the port).

---

**Note** If you are installing a PolySpace server using silent mode, the PolySpace Remote Launcher Manager does not open automatically. After installing the software, you must configure the PolySpace server settings. For more information, see “Configuring the PolySpace Server Software” on page 2-19.

---

### UNIX Platforms

To install the software on a UNIX system using silent mode, execute the following command in a terminal window:

```
CD-ROM/install.sh -silent -install-dir PolySpaceInstallDir
```

where *PolySpaceInstallDir* represents the installation directory.

The common components are automatically installed at the same level as the installation directory you choose, or in the existing *PolySpace\_Common* directory, if it exists.

### **Windows Platforms**

To install the software on a Windows system using silent mode, execute the following .bat file in a command prompt shell:

```
CD-ROM\DATA\Windows\setup_silent.bat PolySpaceInstallDir
```

The common components are automatically installed at the same level as the installation directory you choose, or in the existing *PolySpace\_Common* directory, if it exists.

# Configuring PolySpace Software

## In this section...

“Configuring the PolySpace Client Software” on page 2-17

“Configuring the PolySpace Server Software” on page 2-19

## Configuring the PolySpace Client Software

### Initial Configuration

By default, the PolySpace Client is configured to automatically detect a PolySpace Server on the network using port 12427.

### Manually Configuring the PolySpace Client

By default, the PolySpace Client automatically detects any available PolySpace Server configured as a Queue Manager on the network. However:

- If the client finds more than one PolySpace Server, it displays an error message listing the names of all detected servers. Carefully note all names and acknowledge the error dialog box.
- If no PolySpace Server is available, an error message appears when you launch a verification or execute any PolySpace command. The error message is the following: “No QueueManager server found”.

In these cases, it is possible to specify a specific Queue Manager server associated to a specific port number.

To manually configure the remote server:

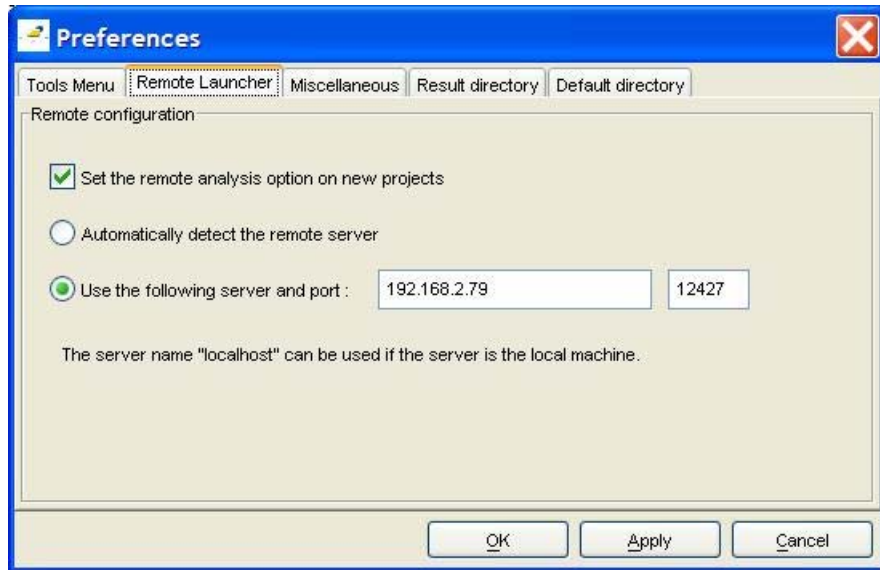
- 1 Double-click the **PolySpace Launcher** icon on your desktop.



**Note** On UNIX, enter the command  
*InstallPolySpaceDir/bin/polyspace-launcher.*

---

- 2 Select **Edit > Preferences**. The Preferences dialog box appears.



- 3 Select the **Remote Launcher** tab.
- 4 Select the **Use the following server and port** radio button.
- 5 Enter an IP address (or server name) and associated port number for the PolySpace Server.
- 6 Click **OK**.

The preferences are stored in the PolySpace-Launcher.prf preferences file in *user home directory/.rte* directory (C:\Documents and Settings\*user name*\.rte on a Windows system).



---

**Note** You can modify the file with an ASCII editor, but you should always use the graphical user interface.

---

## Configuring the PolySpace Server Software

- “Initial Configuration” on page 2-19
- “Graphical Configuration of the PolySpace Server” on page 2-19
- “Manual Configuration of the PolySpace Server” on page 2-22
- “Configuration File and Directory” on page 2-24
- “Installing a New CPU” on page 2-26
- “Troubleshooting Common Errors” on page 2-26

### Initial Configuration

You perform initial configuration of the PolySpace server software during installation (see “Configuring the PolySpace Server Software” on page 2-11).

After installation, the PolySpace Server becomes the first CPU of the architecture by default.

---

**Note** All the information displayed in the Remote Launcher configuration window during installation is automatically saved as ASCII text in the file *PolySpaceInstallCommon/.. /PolySpace\_RLData/polyspaced.log(/var/PolySpace/polyspaced.log file in UNIX).*

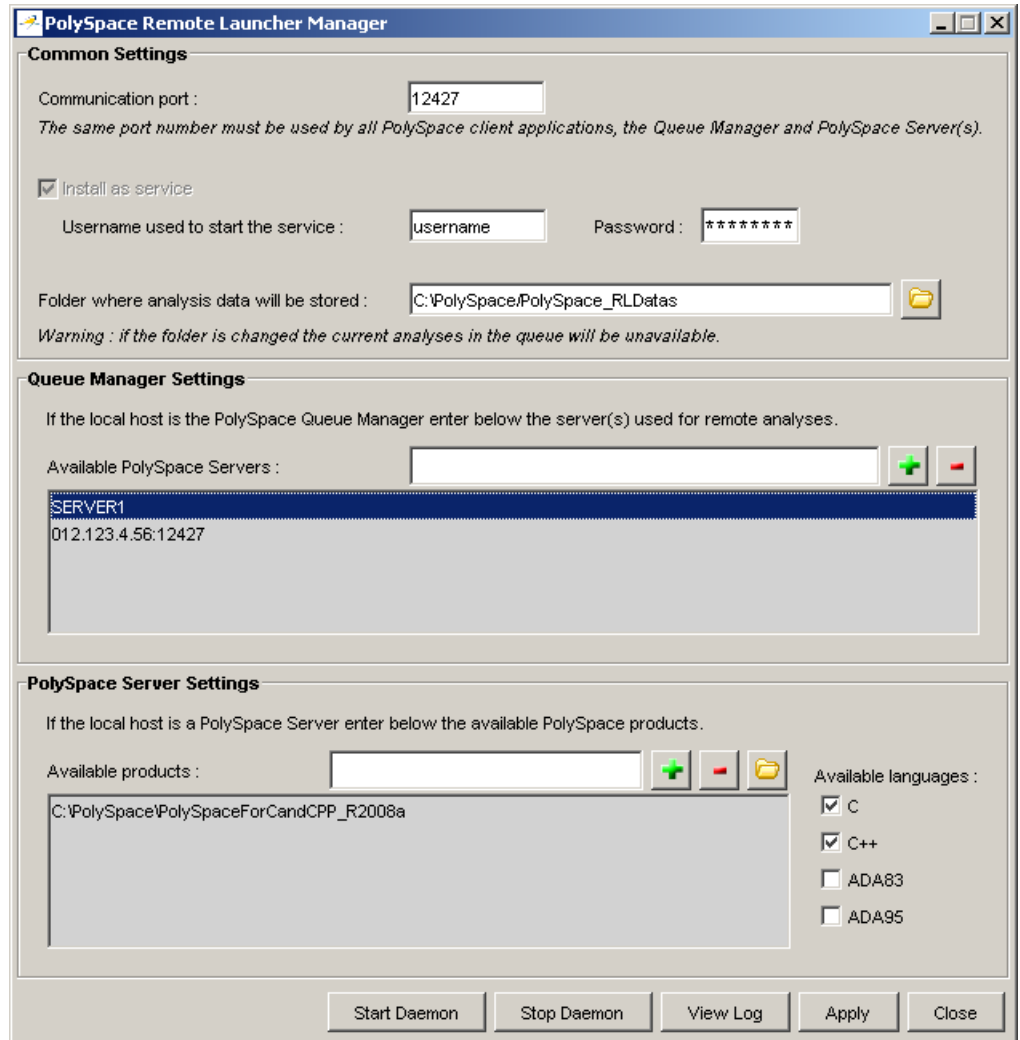
---

### Graphical Configuration of the PolySpace Server

A configuration of the Server, Queue Manager of the Client/Server architecture has been stored in a standard file. A default configuration is generated during the installation: the current machine is at the same time the Queue Manager, and the distant machine.

The Queue Manager can be configured or updated graphically (on Windows systems) or using a shell command using a graphical user interface:

The “Remote Launcher Manager” command is accessible using the menu **Start > Programs > PolySpace** or the exe command *PolySpaceInstallCommon/RemoteLauncher/PSTRLManager.exe* allows to configure and update the Queue Manager and associated polyspace.conf file.



The “Common Settings” dialog allows setting port and locations of the Queue Manager as a Windows service. Note that it is mandatory to stop the current Queue Manager before any change or update of the parameters. Please use first the “Stop Daemon” button.

The “Queue Manager Settings” allows setting the address of the Queue Manager and all attached CPU of the Remote Launcher. The syntax “<describing name/IP address>[:<port number>]” attaches a CPU.

In the previous figure, “SERVER1” is the Queue Manager and “012.123.4.56:12427” represents a CPU with a specific port number.

The last sub-window “PolySpace Server Settings” allows setting PolySpace products locations and language.

---

**Note** All information displayed during the execution of commands like “Start Daemon”, “Stop Daemon” are also written in the polyspaced.logfile in <PolySpaceInstallCommon>/../PolySpace\_RLDatas(/var/PolySpace under UNIX).

---

### Manual Configuration of the PolySpace Server

A configuration of the Server/Verifier, Queue Manager of the Client/Server architecture has been stored in a standard file. A default configuration is generated during the installation: the current machine is at the same time the Queue Manager, and the distant machine.

The batch command

`PolySpaceInstallCommon/RemoteLauncher/bin/setup-remote-launcher` can be used to create or destroy the configuration file. It is called `polyspace.conf`. It may be found:

- For administrator or user on a Windows OS system  
at: `PolySpaceInstallCommon/../PolySpace_RLDatas`  
(`c:\PolySpace\PolySpace_RLDatas`)
- For administrator or user on a UNIX OS system: `/etc/PolySpace`

The configuration file contains fields which set a Queue Manager and CPU architecture:

- `product=` — It determines the installation directories of PolySpace Verifier. It is possible to have one per language.

- `lang=` — It determines the supported verification languages. The language variable specifies the supported language declaration (CPU only). The values may be: C, C++, CPP, Ada, Ada83, ADA, Ada95 and ADA95.
- `username=` — . The username variable specifies the user name used to run the daemon process. If the daemon is started as root on UNIX, it will automatically change its user ID to run as the given user.
- `datadir=` — The data directory name identifies the place where the data sent remotely are stored.
- `locksdir=` — The locks directory identifies the place where the locks are stored. `<datadir>/locks` will be used by default without specified field.
- `port=` — The port number on which the daemon is listening (default value is 12427). The available port can be specified between 10000 to 15000. This range depends on the available OS requirements.
- `cpu=` — The CPU name and port specifies available Queue Manager and CPUs. Syntax can be `<address IP or name of CPU>[:port number]`. If more than one `cpu=` is specified, others are CPUs where the Queue Manager can dispatch verifications.

Any change in the configuration file except for the `cpu=` field (for example, to add a new CPU, see next paragraph), the associated daemon/service manager need to be stopped and re started:

- `PolySpaceInstallCommon/RemoteLauncher/bin/setup-remote-launcher -stop-service` is used to stop the service. Note that any standard program on OS can stop the service or daemon.
- `PolySpaceInstallCommon/RemoteLauncher/bin/setup-remote-launcher -start-service` is used to start or restart the service. Note that any standard program associated to the OS can restart the service or daemon.

---

**Note** `PolySpaceInstallCommon/RemoteLauncher/bin/setup-remote-launcher -h` gives available options

---

If the Queue Manager has not been ticked to be a service (daemon) during installation, the following command allows to launch and stop the Queue Manager by hand:

- Use `PolySpaceInstallCommon/RemoteLauncher/bin/InstallPolySpaceService.bat` to install the Queue manager service on a Windows platform.

---

**Note** The Windows service can also be managed like other services using the **My Computer > Manage > Services and Applications** menu.

---

- Use `PolySpaceInstallCommon/RemoteLauncher/bin/setup-remote-launcher -install-service` to install the Queue manager daemon on a UNIX platform.

---

**Note** The PolySpace daemon can also be managed like other daemon in the `/etc/init.d` install services directory.

---

The `polyspaced` is the service (or daemon) launched using the previous commands:

- Use `PolySpaceInstallCommon/RemoteLauncher/bin/polyspaced -stop` to stop the Queue Manager.
- Use `PolySpaceInstallCommon/RemoteLauncher/bin/polyspaced` to start or restart the Queue Manager.

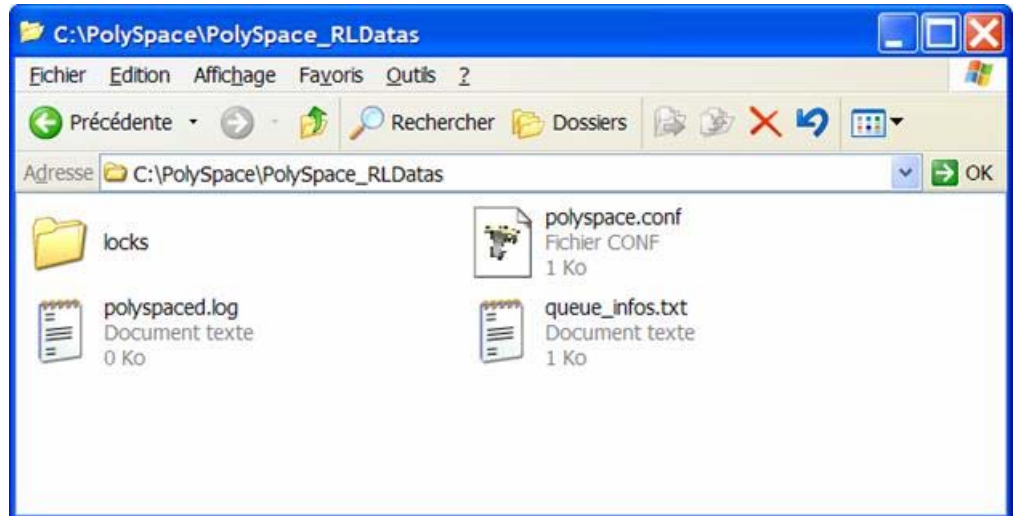
---

**Note** `<PolySpaceInstallCommon>/RemoteLauncher/bin/polyspaced -h` gives available options.

---

### Configuration File and Directory

We can find in the `<PolySpaceInstallCommon>/../PolySpace_RLData` directory the following files and directories:



- The `polyspaced.log` file contains installation log information as well as all communication between clients and the Queue Manager during the Queue Manager life.
- The `queue_infos.txt` file contains information of the Queue Manager spooler.
- The `locks` directory contains the locks file for each verification.
- `polyspace.conf` is the configuration file. An example of a Server/Verifier `polyspace.conf` configuration file looks like this:

```
product=c:\PolySpace\PolySpaceForCandCPP
product=c:\PolySpace\PolySpaceForAda
lang=Ada95
lang=C
lang=CPP
datadir=c:\PolySpace\PolySpace_RLData
username=bard
cpu=BERGERON
cpu=192.168.2.79:12428
```

In this example, the BERGERON cpu has been configured to be a Queue Manager and a CPU of C, CPP and Ada95 code verifications on default port

12427. The product installed in `c:\PolySpace\PolySpaceForCandCPP` will be used. Moreover, another CPU of address IP `192.168.2.79` has been declared on port `12428`.

On a UNIX system, the directory location containing locks and `datadir` by default is `/var/PolySpace`.

### Installing a New CPU

Installing a new CPU is very simple: just follow the standard PolySpace Server installation. Then, edit the `polyspace.conf` of the CPU which has been chosen as Queue Manager, and add the new CPU using the field `cpu=<describing name/IP address>[:<port number>]`

See the following example where there are two declared CPUs.

```
product=c:\PolySpace\PolySpaceForCandCPP
product=c:\PolySpace\PolySpaceForAda
lang=Ada95
lang=C
lang=CPP
datadir=c:\PolySpace\PolySpace_RLDatas
username=bard
cpu=BERGERON
cpu=192.168.2.79:12428
```

---

**Note** On the new CPU, it is important to remove the field `cpu=` in the `polyspace.conf` file to avoid being also a “Queue Manager”.

---

### Troubleshooting Common Errors

This section contains information on troubleshooting the following common errors:

- “Errors Concerning the `polyspace.conf` File” on page 2-27
- “Errors Concerning Problems with Write Access” on page 2-28
- “Other Errors” on page 2-28



**Errors Concerning the polyspace.conf File.** If you receive any of the following errors:

- 1 Stop the `polyspacedservice` (daemon).
- 2 Update the `polyspace.conf` file.
- 3 Restart the service (daemon).

The following errors concern the `polyspace.conf` file.

- "Error: The data directory path should not contain white space.";
- "Error: At least one language should be supported by the CPU.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for product <version value>.";
- "<polyspace.conf>:<line\_number>: Unknown language : <value>.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for language <value>.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for <queuemanager name>.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for <value>.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for username'.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for 'port'.";
- "<polyspace.conf>:<line\_number>: Invalid port number : <value>";
- "<polyspace.conf>:<line\_number>: Invalid CPU name.";
- "<polyspace.conf>:<line\_number>: Duplicate entry for CPU <hostname> ";

- "<polyspace.conf>:<line\_number>: Unknown key : <value> ";
- "<polyspace.conf>:<line\_number>: Parse error.";
- "No PolySpace product found for language <value>.";
- "Warning: Invalid <lang> license for product <version> on host <hostname> ";
- "The PolySpace product <version> was not found.";

**Errors Concerning Problems with Write Access.** If you receive any of the following errors, check right accesses with username declared in the polyspace.conf file in the directory <dir>, <file name> or <path> (given in the error message).

Check also that you have not changed anything linked to “polyspaced” service (daemon) without stopping it.

- "Fatal error: Directory <dir> is not accessible.";
- "Fatal error: Could not change the owner of <path> to <username> ";
- "Fatal error: Could not open file <file name> for reading.";
- "Fatal error: Could not set <permission> permissions on <path> ";
- "Fatal error: Could not open file <file name>";

**Other Errors.** Other errors may concern OS system, network and standard command available (for example “tar”, “gzip”, etc.).

Double check that these standard commands exist in your system. Error messages are detailed enough to know which command has failed.

# Installing PolySpace Model Link Products

---

- “Installing PolySpace Model Link Products” on page 3-2
- “Upgrading MATLAB Software” on page 3-4
- “Troubleshooting PolySpace Model Link SL Installation” on page 3-5

# Installing PolySpace Model Link Products

The PolySpace Model Link SL and PolySpace Model Link TL provide automatic error detection for code generated from The MathWorks™ Simulink models.

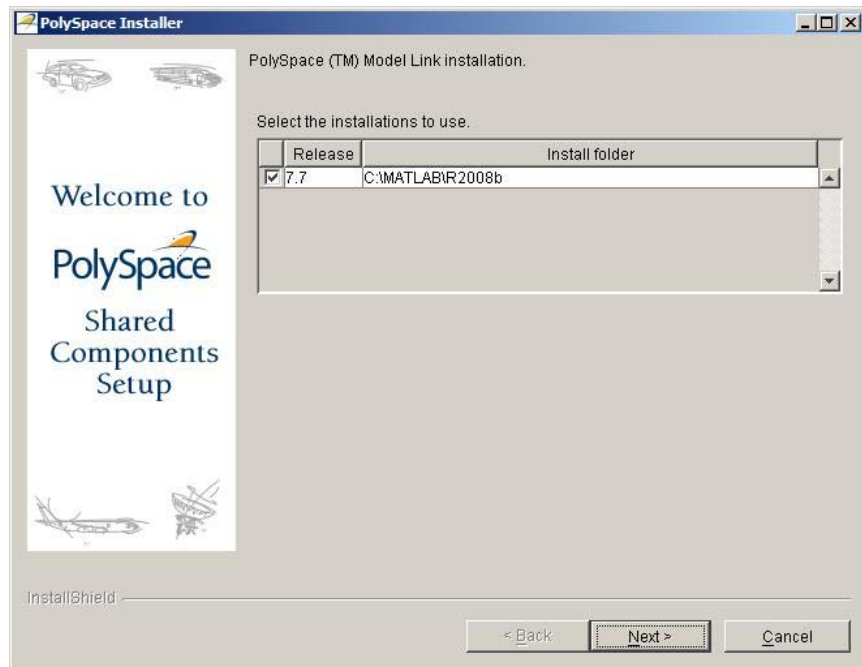
PolySpace Model Link SL installation consists of two components:

- Simulink PolySpace library with associated blocks
- “Back to model” (HTML links in the code source) extension in the PolySpace Viewer that allows direct navigation from a run-time error in the auto-generated code to the corresponding block in the Simulink model.

To install PolySpace Model Link SL:

- 1 Install the PolySpace software as described earlier in this guide.

The PolySpace Installer automatically detects that MATLAB and Simulink components are installed and displays the following window:



- 2 Select the MATLAB releases to link with PolySpace.

# Upgrading MATLAB Software

If you upgrade your MATLAB release, you must re-install PolySpace Model Link SL or PolySpace Model Link TL for that release.

You can re-install PolySpace Model Link SL without using the installation CD.

To reinstall:

- 1 Copy the file `Polyspace_Common\PolySpaceModelLink\startup\polyspacerc.m` into your new MATLAB release `matlabroot(new)\toolbox\local`.
- 2 Enter `edit matlabrc` in the MATLAB command window.
- 3 Go to the end of the file, and add the following lines:

```
%% POLYSPACE CONFIGURATION
polyspacerc;
%% END OF POLYSPACE CONFIGURATION
```
- 4 Run MATLAB in the “regserver” mode, to post-install your MATLAB release on the local machine.
- 5 Run the following command line: `C:\matlabroot(new)>>\bin\matlab.exe /regserver /r quit`.

## Troubleshooting PolySpace Model Link SL Installation

### In this section...

“MATLAB Software Is Not Installed Locally” on page 3-5

“No Write Access to MATLAB Product Root” on page 3-6

### **MATLAB Software Is Not Installed Locally**

If MATLAB is not installed locally, the registry entries do not contain reference to MATLAB, which PolySpace uses to detect installation folders. In this case, the PolySpace installer will not detect MATLAB, and will skip installation of the PolySpace Model Link tools. Therefore, you must perform a manual installation.

To perform a manual installation:

- 1** Insert the PolySpace CD in your CD drive.
- 2** Locate the corresponding windows drive (hereafter D:\), and copy the entire folder `D:\Data\Windows\Addin\Mathworks\polyspace` into `PolySpace_Common\PolySpaceModelLink`.
- 3** Copy the file `D:\Data\Windows\Addin\Mathworks\startup\polyspacerc` into `matlabroot\toolbox\local`.
- 4** Edit `matlabroot\toolbox\local\matlabrc`, and add the following lines at the end of the file:

```
%% POLYSPACE CONFIGURATION
polyspacerc;
%% END OF POLYSPACE CONFIGURATION
```

- 5** Run MATLAB once in the “regserver” mode, to post-install your MATLAB release on the local machine.
- 6** Run the following command line: `C:\matlabroot\bin\matlab.exe /regserver /r quit`

### **No Write Access to MATLAB Product Root**

If the installer detects that there is no write access to *matlabroot*, it asks you if you want to add a desktop shortcut to start MATLAB and configure the PolySpace Model Link software.

- If you select **Yes**, a shortcut is added to your desktop. Double-click the shortcut to execute `matlabroot\bin\win32\matlab.exe /r polyspacerc`. This command starts MATLAB and automatically configures the PolySpace Model Link software.
- If you select **No**, the installer will describe how to manually configure PolySpace Model Link software



# Installing PolySpace UML Link RH

---

# Installing PolySpace UML Link RH Product

The PolySpace UML Link RH product provides an add-in inside the Rhapsody Model-Driven development tool. It concerns the installation of two components:

- PolySpace library
- “Back to model” extension (HTML link inside the code) in the PolySpace Viewer that allows direct navigation from a run-time error in the auto-generated code to the corresponding block in the UML model.

The PolySpace Installer automatically detects that Rhapsody components are installed and installs PolySpace UML Link RH during the “Shared components” installation.

If you install the Rhapsody software after installing PolySpace software, you can either re-install the PolySpace software or manually copy the plug-in files from the CD to */PolySpace\_Common/PolySpaceModelLink/*.

By default, a *PolySpaceInstallCommon/PolySpaceUMLLink* is created where we can find all the components of PolySpace UML Link RH. Moreover, the PolySpace installer modifies two files associated with the Rhapsody usage:

- A line in the *rhapsody.ini* file located at the root of C:, or in C:\WINNT:  
`CopyVBA=PolySpaceInstallCommon\PolySpaceUMLLink\bin\PolySpace.vba`

where *PolySpaceInstallCommon* represents the path to the *PolySpace\_Common* directory.

- Some lines are added to the *RhapsodyInstallDir\Share\Properties\site.prp*:

```
Subject General
Metaclass Model
Property HelpersFile String "PolySpaceInstallCommon\
PolySpaceUMLLink\etc\PolySpace.hep"
End
```

# Upgrading PolySpace Software

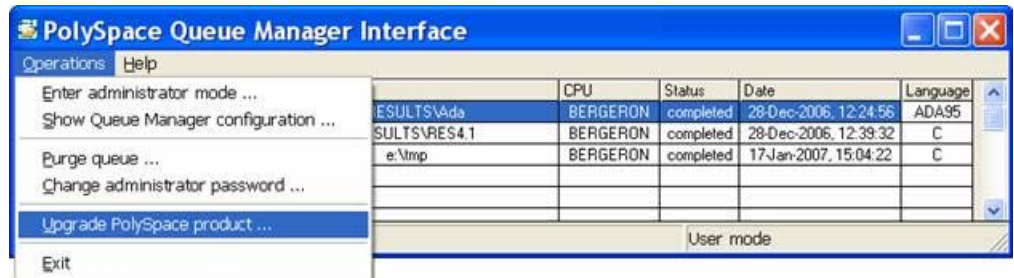
---

- “Upgrading PolySpace Client Products” on page 5-2
- “Upgrading PolySpace Server Products” on page 5-4

## Upgrading PolySpace Client Products

When the remote launcher has been installed, The Queue Manager interface (or PolySpace Spooler) is available to manage verifications sent by a PolySpace Client.

The **Menu Operations > Upgrade PolySpace Product** allows the upgrade of a PolySpace Client.



On the Server side, in the *PolySpaceInstallCommon/./PolySpace\_RLData/upgrades* directory (*/var/PolySpace/upgrades* on UNIX) a new release of a product has been installed with the following format: *<version>.tar* or *<version>.tar.gz*. If such file in the upgrades directory exists, it is possible to upgrade the PolySpace client:




---

**Note** The tar file needs to contain the setup.exe at his root.

---

After having chosen options (installation directory and silent modes), the “PolySpace Queue Manager Interface” downloads the complete setup package (approximately 600 Mb) and unpacks it. It could take several minutes to download and unpack (5 to 10), depending of network and Desktop PC performances. Then, a standard installation begins. Note that it is recommended to close all PolySpace Products, if they are open.

## Upgrading PolySpace Server Products

In this section...
“Overview” on page 5-4
“Upgrading an Active Server” on page 5-4
“Upgrading an Inactive Server” on page 5-4

### Overview

When you are upgrading the PolySpace software on a Server, you need to determine if the PolySpace Server daemon is active or not (whether a daemon is running and one or more verifications are queued and running on CPUs).

### Upgrading an Active Server

To upgrade an active server:

- Perform the Client upgrade procedure in “Upgrading PolySpace Client Products” on page 5-2.
- After the installation completes, open the PolySpace Remote Launcher Manager to configure the server. For more information, see “Configuring the PolySpace Server Software” on page 2-19

### Upgrading an Inactive Server

On an inactive server (a machine without an installed daemon or without any verifications queued and running), you can choose the PolySpace **Server** installation. The field “product=” will be filled in an automatic way. You must only add the lang= if it does not already exist.

Do not forget to update the polyspace.conf of the PolySpace Server which serves as a Queue Manager, i.e. by adding a new entry cpu=.

---

**Note** You can install different releases of a same product language. The PolySpace Server will automatically lead verifications coming from different client releases to adequate CPU and associated PolySpace release product.

---

# Installing PolySpace C++ Add-In for Visual Studio

---

## **Installing the PolySpace C++ Add-In for Visual Studio**

The PolySpace installer automatically detects that Visual Studio is installed and installs the add-in during the “Shared Components” installation.

When a PolySpace Client for C/C++ is already installed before you install Visual Studio, you must reinstall the PolySpace software from the CD.

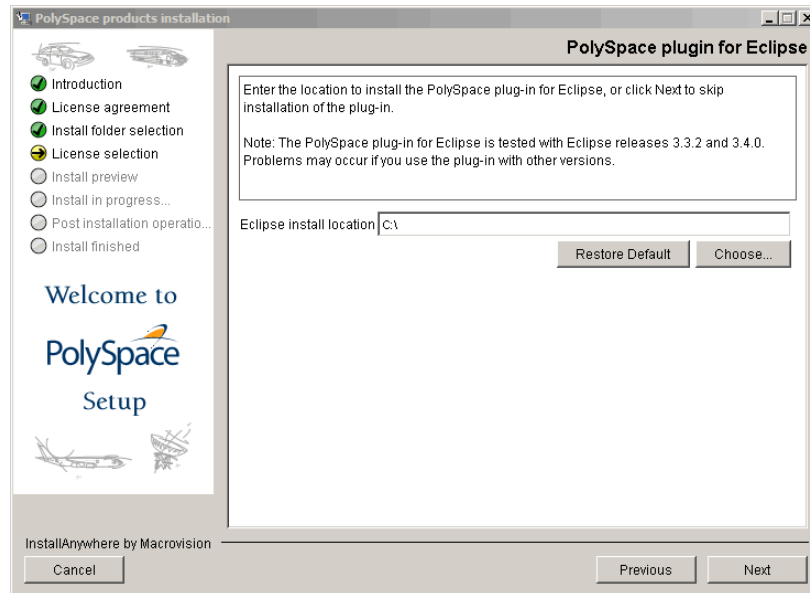


# Installing PolySpace C/C++ Plug-In for Eclipse IDE

---

## Installing the PolySpace C/C++ Plug-In for Eclipse IDE

During the license selection stage of the installation process, you will see the following screen:



**1** Using **Choose**, specify the location of your Eclipse folder, for example, `C:\eclipse`.

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

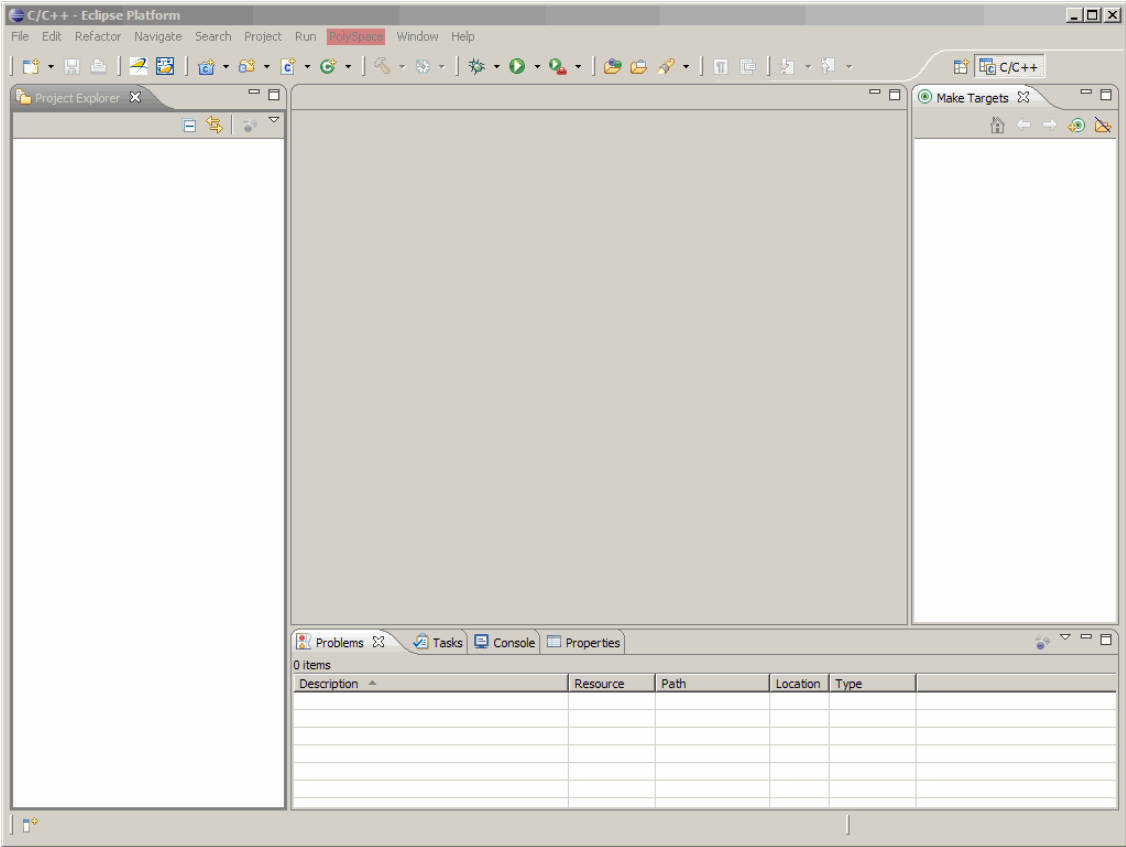
The PolySpace plug-in is installed only if you have already set up the Eclipse Integrated Development Environment (IDE). See the Eclipse documentation at [www.eclipse.org](http://www.eclipse.org) for information on installing this IDE.

---

**Note** If you installed PolySpace software before the Eclipse IDE, you must re-install the PolySpace software.

---

When the installation process is complete, the menu bar of the Eclipse editor has the PolySpace menu:





# Uninstalling PolySpace Products

---

- “Uninstalling on Windows Platforms” on page 8-2
- “Uninstalling on Linux or UNIX Platforms” on page 8-4

## Uninstalling on Windows Platforms

### In this section...

“Should I Uninstall Previous Releases Before Installing?” on page 8-2

“Uninstalling the PolySpace Software” on page 8-2

“Uninstalling Shared Components” on page 8-3

### Should I Uninstall Previous Releases Before Installing?

If you are upgrading your existing PolySpace software to the latest release, you may need to uninstall the existing software before installing the new release.

- If you are currently running release R2008a or later, **do not** uninstall the previous release before installing the current release. The new server software can run verifications launched from both releases. Before installing the new release, however, you need to stop the PolySpace service. You can run the command: `%POLYSPACE_COMMON%\RemoteLauncher\PSTRLManager.exe` to check if the service is running and stop it if necessary. After installing, you can restart the service using the same command.
- If you are currently running release R2007a+ or earlier, **you must uninstall** the previous release before installing the current release. R2007a+ and earlier releases used the Cygwin API, which is incompatible with the current release.

### Uninstalling the PolySpace Software

You can uninstall the PolySpace software through the standard interface available on a Windows PC.

To uninstall the PolySpace software:

- 1 From the Windows desktop, select *Start > Settings > Control Panel > Add or Remove Programs*.
- 2 Select the PolySpace product you want to uninstall.

### **3** Select **Change/Remove**.

The uninstallation procedure goes through steps. Please follow the instructions and refer to paragraphs below for specifics components, if necessary.

---

**Note** Some files and folders added after installation can remain after the uninstall process is complete. After reboot, check the *PolySpaceInstallDir* and *PolySpaceInstallCommon* folders for remaining files and subfolders. You can remove these files by hand.

---

## **Uninstalling Shared Components**

You can also uninstall specific shared components.

To uninstall PolySpace shared components:

- 1** From the Windows desktop, select *Start > Settings > Control Panel > Add or Remove Programs*.
- 2** Select **PolySpace Shared Components**.
- 3** Select **Change/Remove**.

The shared components are removed.

## Uninstalling on Linux or UNIX Platforms

### In this section...

“Should I Uninstall Previous Releases Before Installing?” on page 8-4

“Uninstalling the PolySpace Software” on page 8-4

“Uninstalling Shared Components” on page 8-4

### Should I Uninstall Previous Releases Before Installing?

If you are upgrading your existing PolySpace software to the latest release, you **do not** need to uninstall the existing software before installing the new release. The new server software can run verifications launched from both releases.

Before installing the new release, you must stop the polyspaced daemon. Using an administrator login, you can run the command `/etc/init.d/polyspaced stop` to stop the daemon. After installing, you can restart the service using the command `/etc/init.d/polyspaced start`.

### Uninstalling the PolySpace Software

To uninstall components under Linux or UNIX system:

- Enter `PolySpaceInstallDir/Uninstall/Uninstall .`  
This script launches the graphical uninstall wizard.

### Uninstalling Shared Components

You can also uninstall specific shared components.

To uninstall PolySpace shared components:

- 1 Enter `PolySpaceInstallCommon/Uninstall/Uninstall`

The shared components are uninstalled.



# PolySpace License Installation

---

- “PolySpace License Overview” on page 9-2
- “Common Licensing Questions” on page 9-8
- “Configuring Designated Computer Licenses” on page 9-10
- “Configuring Concurrent Licenses” on page 9-12
- “Checking Installed Licenses ” on page 9-29
- “License Error Messages” on page 9-30

## PolySpace License Overview

In this section...
“Overview” on page 9-2
“PolySpace Licensing Options” on page 9-2
“Obtaining a License File” on page 9-5

### Overview

This chapter describes PolySpace licensing for administrators and users of PolySpace products. It describes:

- Types of licensing available
- How to configure your license
- FLEXnet server installation
- How to use PolySpace products with FLEXnet licenses

### PolySpace Licensing Options

There are two licensing options:

- “Designated Computer (Individual) Licenses” on page 9-2
- “Concurrent (Floating) Licenses” on page 9-4

### Designated Computer (Individual) Licenses

Designated Computer (DC) licenses are used only for PolySpace client software. DC licenses are appropriate for end users who want to install, operate, and administer the client software themselves. A DC license authorizes you to use your PolySpace client software on any one computer system to which you have access. If you are running PolySpace on your work computer, a DC license does not authorize you to run the software on your home system as well. The system you choose can be a Microsoft Windows or UNIX computer.

With a DC license, you are the system administrator. In this role, you are responsible for:

- Installing the PolySpace client software on your computer.
- Ensuring that you are the only person who runs the software on your computer.

To generate a DC license, you need either the MAC address or Serial disk number of your computer (see Getting the License `hostid`). To obtain a DC license, refer to “Checking Installed Licenses ” on page 9-29.

---

**Note** DC licenses do not use the FLEXnet server. For DC licences, you need only copy the `license.dat` file to the appropriate path (`/PolySpace_Common/etc` by default).

---

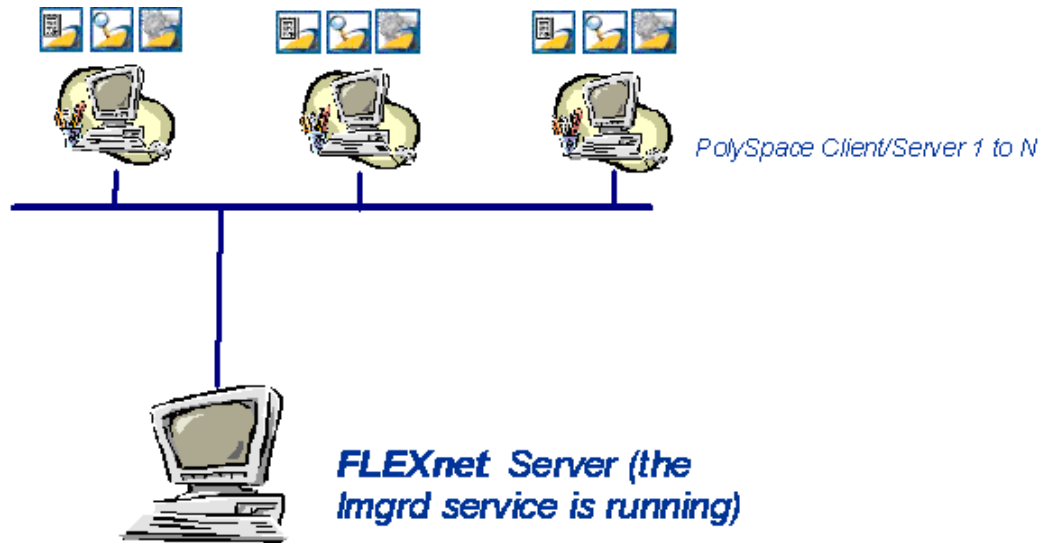
## Concurrent (Floating) Licenses

Concurrent licenses are used for both PolySpace client and PolySpace server software. Concurrent licenses are appropriate for organizations that have standardized on the FLEXnet license manager, or who want to impose limits on software use for accounting or license management purposes.

Concurrent licenses use license keys to control access. Users check out a license key when they launch a PolySpace product. When all the keys for a particular product are checked out, the license manager denies further requests.

A Network Named User (NNU) configuration is an option for concurrent licensing that may be set up as a protective measure to restrict the usage of shared licenses.

The system administrator for Concurrent licenses must set up an installation that optimizes accessibility to the products. Concurrent licenses allow you to install the software only in a Network Concurrent User installation type.



**PolySpace® FLEXnet® Server Architecture**

The previous figure shows how to use PolySpace products with a FLEXnet license manager:

- PolySpace products are used by any number of users. The PolySpace products can include both Client and Server products.
- Each PolySpace product requests licenses from the FLEXnet server.
- The FLEXnet server can be installed on the same machine as a PolySpace product, as long as it is running a mutually supported operating system (see “Supported Machines and Versions” on page 9-16).

## Obtaining a License File

Before you can configure either a DC or concurrent license for your software, you must obtain a license file from The Mathworks.

To obtain a license file, you need either the MAC address or Serial disk number of your computer. You will transmit this number to The MathWorks in order to obtain the license file.

## Getting the License hostid on UNIX Platforms

On a UNIX machine, the hostid corresponds to the MAC address of the machine where the FLEXnet server is running (using a concurrent license) or where the DC license is used.

You can display the hostid of a UNIX machine using the `lmutil` FLEXnet utility available on the PolySpace CD-ROM at *CD-ROM/Data/Unix/FLEXLM/x86-linux* for a Linux system or at *CD-ROM/Data/Unix/FLEXLM/sparc-solaris* for a Solaris system.

Use the following command:

```
./lmutil lmhostid
```

The result on a shell window looks like the following:

```
lmutil - Copyright (c) 1989-2007 by Macrovision Corporation.  
All rights reserved.
```

```
The FLEXlm host ID of this machine is "831da5d6"
```

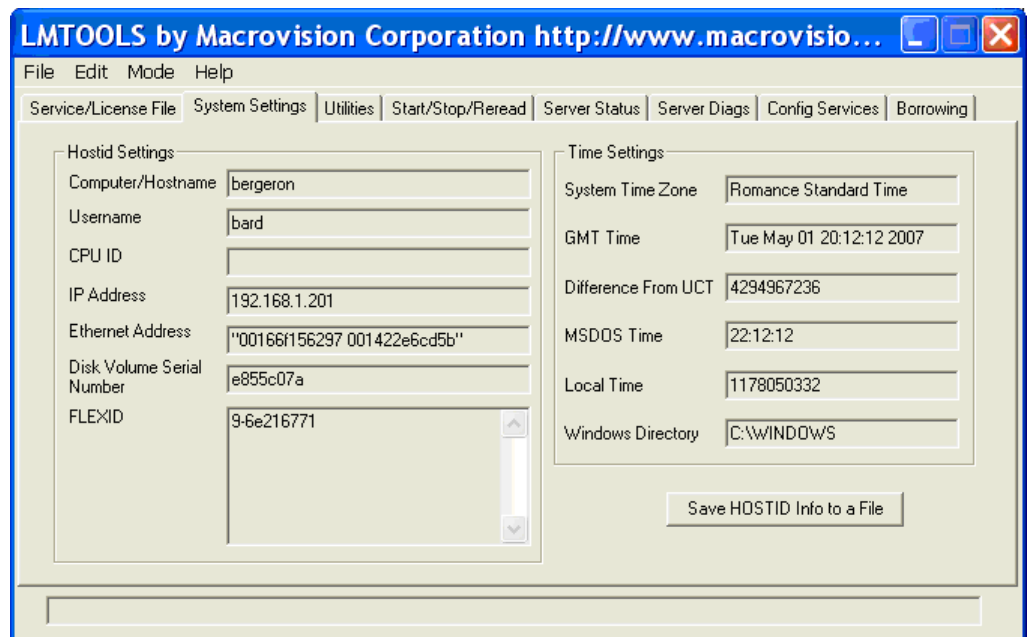
Transmit the number between double quotes to The MathWorks in order to obtain the license file.

### Getting the License *hostid* on Windows Platforms

On a Windows machine, *hostid* or *machine\_hostid* corresponds to the Serial disk number of the machine where the FLEXnet server is running (using a concurrent license) or where the DC license is used.

You can display the *hostid* of a Windows machine using the `lmtools.exe` FLEXnet utility available on the PolySpace CD-ROM at `CD-ROM\Data\Windows\FLEXLM\x86-win32`.

The **Disk volume serial number** needs to be checked in the System Settings tab of `lmtools.exe` on Windows.



### Disk Volume Serial Number Accessible from LMTOOLS

It can also be obtained using the following command prompt:

```
lmutil.exe lmhostid -vsn
```

The result on a Command Prompt window looks like the following:

```
lmutil - Copyright (c) 1989-2007 by Macrovision Corporation.  
All rights reserved
```

```
The FLEXlm host ID of this machine is "DISK_SERIAL_NUM=e855c07a"
```

Transmit the number between double quotes to The MathWorks in order to obtain the license file.

## Common Licensing Questions

### In this section...

“Do I need a FLEXnet Server to Use an Individual License?” on page 9-8

“How Do I Identify Designated Computer and Concurrent Licenses?” on page 9-8

“What If I Have Other MathWorks Products Installed?” on page 9-8

“What If I Have an Old PolySpace FLEXnet License Server?” on page 9-9

### Do I need a FLEXnet Server to Use an Individual License?

Designated Computer (individual) licenses **do not** use the FLEXnet server. For DC licences, you need only copy the `license.dat` file to the appropriate path (`C:/PolySpace/PolySpace_Common/etc/license.dat` by default).

For more information, see “Configuring Designated Computer Licenses” on page 9-10.

### How Do I Identify Designated Computer and Concurrent Licenses?

DC license files have the word *uncounted* in the license line. This line is used directly in the license file. See the example in “DC License File Format” on page 9-11.

### What If I Have Other MathWorks Products Installed?

PolySpace products use the same license mechanism as other MathWorks™ products.

If you receive a Designated Computer license for PolySpace products, refer to “Configuring Designated Computer Licenses” on page 9-10.

If you receive a Concurrent License and you already use a FLEXnet Server for other MathWorks products, you must add all concurrent INCREMENT lines in the PolySpace license to the FLEXnet Server, and reread it.



Then, refer to “Configuring Licenses on a PolySpace Client or PolySpace Server System” on page 9-25.

## **What If I Have an Old PolySpace FLEXnet License Server?**

To use PolySpace products release R2007a+ or later, you must upgrade the FLEXnet Server to the version available on the PolySpace product CD-ROM. The upgrade process involves uninstalling your old FLEXnet server and installing the new one.

For installation information, see “Installing FLEXnet Manager” on page 9-17.

Then, refer to “Configuring Concurrent Licenses” on page 9-12 for licensing information.

## Configuring Designated Computer Licenses

In this section...
“Overview” on page 9-10
“Installing License Files” on page 9-10
“DC License File Format” on page 9-11

### Overview

This section describes how to install a Designated Computer (individual) license for PolySpace products, using a `license.dat` file. It also describes how to check license usage.

---

**Note** Designated Computer licenses are available only for PolySpace client software.

---

### Installing License Files

To install a DC licence, you copy the `license.dat` file to the appropriate path. The same `license.dat` file must be used for all PolySpace products and must be set up with the standard PolySpace subfolder localization (see format in “DC License File Format” on page 9-11).

Place the license file in the `PolySpaceInstallCommon/etc` directory. If you installed the PolySpace software in the default directory, place the file in the following location:

- `/PolySpace/PolySpace_Common/etc/license.dat` on a UNIX platform.
- `\PolySpace\PolySpace_Common\etc\license.dat` on a Windows platform.

---

**Caution** Remove any previous `license.dat` file from the `/etc` directory.

---

## DC License File Format

This kind of license is used for an individual user and computer. It *does not* require a FLEXnet license manager to be running. It has the following format:

```
INCREMENT PolySpace_Feature MLM passcode_version_number  
date_of_license_end uncounted key HOSTID=machine_hostid  
SN=serial_number
```

*machine\_hostid* – This is the hostid of the machine, usually the Mac address on UNIX system and the disk serial number on Windows (see Getting the License hostid). The *machine\_hostid* must be given to obtain a license file.

### Example

```
# MATLAB license passcode file.  
# License No: 517786  
INCREMENT PolySpace_Client_C_CPP MLM 19 3-jan-2008 uncounted \  
ABCDEF12345678A HOSTID=DISK_SERIAL_NUM=388ab914 SN=517786 TS_OK
```

## Configuring Concurrent Licenses

In this section...
“Introduction to FLEXnet Licensing” on page 9-12
“Installing FLEXnet Manager” on page 9-17
“Configuring a Concurrent License” on page 9-24
“Installing Licenses on an Existing FLEXnet Server” on page 9-28

### Introduction to FLEXnet Licensing

- “What is FLEXnet Manager?” on page 9-12
- “FLEXnet Software Components” on page 9-13
- “Supported Machines and Versions” on page 9-16

### What is FLEXnet Manager?

A Concurrent license requires FLEXnet Manager. Macrovision® FLEXnet Manager is a network license manager used to control the use of the PolySpace software products.

FLEXnet Manager is the most popular license manager in the software industry. FLEXnet Manager allows software licenses to be available anywhere on a network, instead of being tied to specific machines. Floating licensing benefits both users and license administrators. Users make more efficient use of fewer licenses by sharing them on the network. License managers control the users and machines that have access to the software managed by FLEXnet Manager.

---

**Note** FLEXnet Manager is not automatically installed as part of the PolySpace software installation. Refer to “Installing FLEXnet Manager” on page 9-17 for information about installing the FLEXnet software.

---

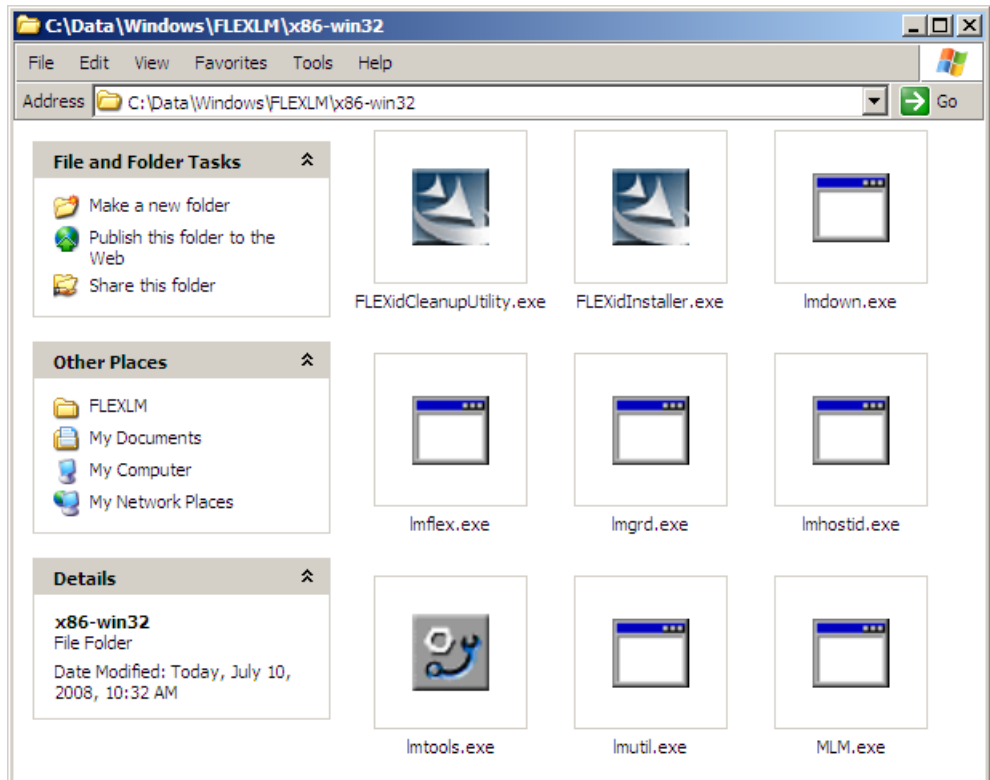
## **FLEXnet Software Components**

- “Windows Platforms” on page 9-14
- “Linux or Solaris Platforms” on page 9-16

**Windows Platforms.** On a Windows system, the following software components relate to the standard FLEXnet package (see FLEXnet® Components on page 9-15).

FLEXnet Component	Description
license.dat	License file. If you do not have a license, contact The MathWorks.
FLEXiDInstaller.exe	Allows you to install the driver for the FLEXiD dongle (dongle is no longer in use for current release).
FLEXiDCleanupUtility.exe	Allows you to uninstall the driver for the FLEXiD dongle (dongle is no longer in use for current release).
lmtools.exe	Allows you to manage the license.
MLM.exe	Vendor service that keeps track of the number of licenses checked out, and where they are.
lmgrd.exe	License service that handles the initial contact with PolySpace products, passing the connection on to MLM.exe. This service also starts and restarts MLM.exe.
lmdown.exe	Allows you to stop the Server. Can be used from the command line.
lmhostid.exe	Allows you to see the hostid of your machine. Can be used from the command line.
lmflex.exe	Allows you to check available features of the license server. Can be used from the command line.
lmutil.exe	Allows you to perform license server management and administration, for example, displaying the MAC address, IP address, disk serial number, and user name. Can be used from the command line.

The following figure shows the FLEXnet components available on the CD-ROM in *CD-ROM*\Data\Windows\FLEXLM\x86-win32.



### FLEXnet® Components

**Linux or Solaris Platforms.** On a Linux or Solaris system, the following software components relate to the standard FLEXnet package.

FLEXnet Component	Description
MLM	Vendor service that keeps track of the number of licenses checked out, and where they are.
lmgrd	License daemon that handles the initial contact with PolySpace products, passing the connection on to MLM.exe. This service also starts and restarts MLM.exe.
lmdown	Allows you to stop the Server.
lmhostid	Allows you to see the hostid of your machine.
lmflex	Allows you to check available features of the license server.
lmutil	Allows you to manage the license server, for example, displaying the MAC address, IP address, disk serial number, and user name.

---

**Note** Installing these components consists of copying them from the CD-ROM: *CDROM/Data/Unix/FLEXLM/x86-linux* and *CDROM/Data/Unix/FLEXLM/sparc-solaris*.

---

### Supported Machines and Versions

- “Supported FLEXnet Releases” on page 9-16
- “Supported Machines” on page 9-17
- “Network Recommendations for Concurrent Licensing” on page 9-17

**Supported FLEXnet Releases.** PolySpace products support FLEXnet release 10.8.



**Supported Machines.** You can install the FLEXnet server on all platforms supported by PolySpace products, as well as Windows Server 2003 (which is not supported by PolySpace products). The following table summarizes license protections, FLEXnet server support, and PolySpace product support for available operating systems:

Protection	Windows			Linux <sup>1</sup>		Solaris	
Version	2000	XP	2003	3.0	4.0	8.0	10.0
<b>FLEXnet Manager release 10.8</b>							
Hostid <sup>2</sup>	OK	OK	OK	OK	OK	OK	OK
<b>PolySpace Products release 2007a+</b>							
Hostid	OK	OK	NO	OK	OK	OK	OK

**Network Recommendations for Concurrent Licensing.** You must have a good network configuration for the FLEXnet client to obtain good performance for your PolySpace verifications.

If the client machine knows the FLEXnet server in its hosts file, PolySpace verifications run quickly. However, if the client machine does not know the FLEXnet server (ping *server\_name* does not work), the PolySpace verification takes more than twice the time.

## Installing FLEXnet Manager

- “Installing FLEXnet Manager on Windows Systems” on page 9-17
- “Installing FLEXnet Manager on UNIX Systems” on page 9-22

### Installing FLEXnet Manager on Windows Systems

- “Software Location” on page 9-18
- “Installing the FLEXnet Server” on page 9-18

1. RedHat Enterprise Linux Workstation

2. Hostid can be a Mac address or serial disk number (see “Getting the License hostid”)

- “Configuring the License Manager” on page 9-18

---

**Note** FLEXnet Manager is not installed as part of the PolySpace software installation.

---

**Software Location.** The FLEXnet software components are located on the PolySpace Products CD-ROM in:

*CD-ROM*\Data\Windows\FLEXLM\x86-win32.

---

**Note** The current documentation is located in *CD-ROM/Docs/Manuals*.

---

**Installing the FLEXnet Server.** Installation consists of a copy and paste:

- 1 Copy the *CD-ROM*\Data\Windows\FLEXLM\x86-win32 directory on the machine. A permanent directory must be chosen on this machine.
- 2 Copy the license file (*license.lic*) to the chosen directory.

The previous picture (see FLEXnet® Components on page 9-15) shows an example of a copy of the FLEXnet server in a chosen directory.

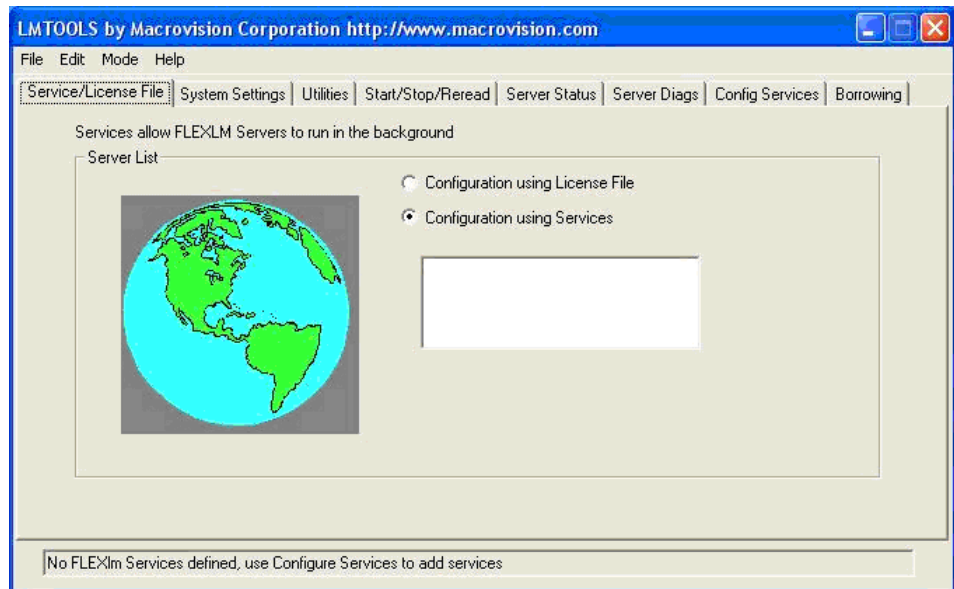
**Configuring the License Manager.** Before setting up the FLEXnet server, you must update the *license.dat* file with the name of the server, or its IP address. For more information, see “Configuring a Concurrent License” on page 9-24

You must have Administrator privileges to configure a license server as a service.

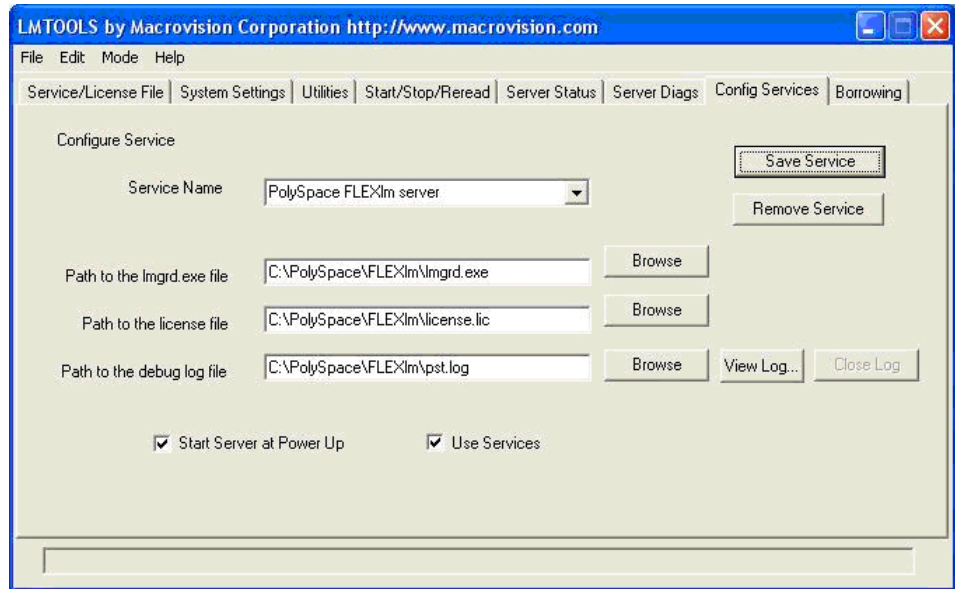
To configure the license server as a service:

- 1 Run *lmtools.exe*.

The LMTOOLS dialog box appears.



- 2** Select the **Configuration using Services** radio button.
- 3** Select the **Config Services** tab.



- 4** In the **Service Name** field, type the name of the service that you want to define, for example, PolySpace FLEXlm Server.
- 5** In the **Path to the lmgrd.exe file** field, enter or browse to lmgrd.exe for the license Server.
- 6** In the **Path to the license file** field, enter or browse to the license file for the license Server. It relates to the license.lic file. The license file is provided when you buy a PolySpace product.

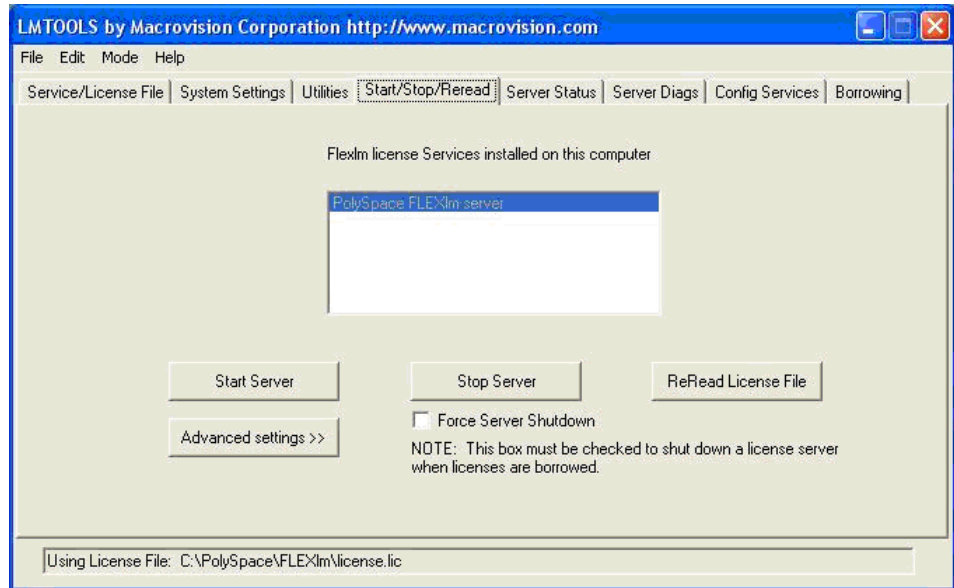
---

**Note** The server name or IP address must be updated in the license file (see “Configuring a Concurrent License” on page 9-24).

---

- 7** In the **Path to the debug log file** field, enter or browse to the debug log file that this license server writes. Before, you have created it in the permanent chosen directory.
- 8** Select the two radio button **Use Services** and **Start server at power up**.

- 9 Click **Save Service** to save the new “PolySpace FLEXlm Server” service.
- 10 Select the Start/Stop/Reread tab.



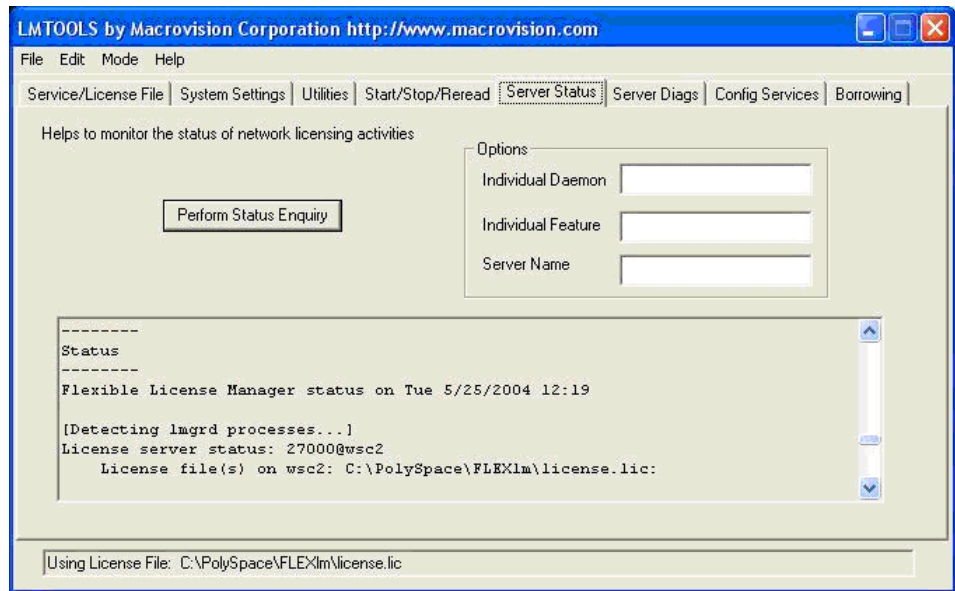
- 11 Click **Start Server** to Start the FLEXlm Server .

---

**Note** Any modification to `license.lic` requires the server to reread the license file; this is accomplished by using the “ReRead license file” button.

---

- 12 Select the **Server Status** tab.



- 13** Click the **Perform Status Enquiry** button to verify the status of the server.

On the output window, a message gives the status of the Server and of the license file (see format in “Concurrent License File Format” on page 9-26).

### Installing FLEXnet Manager on UNIX Systems

- “Software Location” on page 9-22
- “Installing the FLEXnet Server” on page 9-23
- “Configuring the FLEXnet Server” on page 9-23

---

**Note** FLEXnet Manager is not installed as part of the PolySpace software installation.

---

**Software Location.** The FLEXnet software components are located on the PolySpace Products CD-ROM in:

*CD-ROM/Data/Unix/FLEXLM.*

This directory contains sub-folders `x86-linux`, and `sparc-solaris`:

- `x86-linux` — concerns all Linux OS supported by PolySpace software.
- `sparc-solaris` — concerns Solaris OS supported by PolySpace software.

---

**Note** The current documentation is located in *CD-ROM/Docs/Manuals*.

---

**Installing the FLEXnet Server.** Installation consists of a copy and paste:

- 1 The first step: copy the *CD-ROM/Data/Unix/FLEXLM/UNIX* directory on the server (*UNIX* could be `x86-linux` or `sparc-solaris`). A permanent directory must be chosen on this machine.
- 2 Then copy the license file `license.dat` in the chosen directory.

**Configuring the FLEXnet Server.** Before setting up the FLEXnet server, you must update the `license.dat` file with the name of the server, or its IP address. For more information, see “Configuring a Concurrent License” on page 9-24.

To configure the license server on a UNIX system:

- Start the FLEXnet daemon server:

```
FLEXnetPath/lmgrd -c license_lic_path -l filename.log &
```

where *license\_lic\_path* is the absolute location of the file `license.dat` file. It is recommended that you launch the server with the option `-l filename.log`. This permits you to have a log file where all accesses and exchanges are recorded to the a file named *filename.log*.

For example, with all commands and the `license.dat` file located in `/usr/local/PolySpace/FLEXnet`:

```
/usr/local/PolySpace/FLEXnet/lmgrd -c
/usr/local/PolySpace/FLEXnet/license.dat -l
/usr/local/PolySpace/FLEXnet/FLEXnet.log &
```

---

**Note** `./lmgrd -h` gives more information about all available options of the program. Also, `FLEXnet.log` file gives a state of the FLEXnet server.

---

- To shutdown the server, launch:  
`./lmutil lmdown -c license_lic_path.`

---

**Note** `./lmutil -h` gives more information about all available options of the `lmutil` program.

---

## Configuring a Concurrent License

- “Overview” on page 9-24
- “Configuring Licenses on a PolySpace Client or PolySpace Server System” on page 9-25
- “Configuring Licenses on the FLEXnet Server System” on page 9-26
- “Concurrent License File Format” on page 9-26

### Overview

A Concurrent license requires a FLEXnet server. Before configuring a concurrent license, you must install the FLEXnet Server from the PolySpace CD-ROM. Refer to “Installing FLEXnet Manager” on page 9-17 for information about installing the FLEXnet Server.

To obtain a concurrent license, you must provide the MAC address of the machine where you will install the FLEXnet server manager. For more information, see “Obtaining a License File” on page 9-5.

For example, if you provide the following information:

- **MAC address** – 00123456abc1
- **Hostname** – MyFlexServer



You will receive a license file that looks like the following:

```
BEGIN-----cut here-----CUT HERE-----BEGIN
# MATLAB license passcode file.
# LicenseNo: 517786 HostID: 00123456abc1
INCREMENT PolySpace_Server_C_CPP MLM 19 01-jan-0000 2 \
    A1B2C3D4E891011AB HOSTID=ID=517786 SN=517786
INCREMENT PolySpace_Client_C_CPP MLM 19 01-jan-0000 1 \
    A1B2C3D4E891011AB HOSTID=ID=517786 SN=517786
# END-----cut here-----CUT HERE-----END
```

This license file contains a line for a concurrent PolySpace Server for C/C++ license, and a line for a PolySpace Client for C/C++ license.

Depending on whether you plan to use the license on the PolySpace client system, the PolySpace server system, or on the machine where you installed the FLEXnet manager, you must make some modifications to the file.

## Configuring Licenses on a PolySpace Client or PolySpace Server System

Since the license mechanism is compatible with the environment variables `LM_LICENSE_FILE` and `MLM_LICENSE_FILE` on either a client or server system, you have two options:

- Set the environment variable `LM_LICENSE_FILE` using the command:

```
set LM_LICENSE_FILE=27000@MyFlexServer
```

where 27000 is the port on which to reach the FLEXnet server on the host MyFlexServer.

- Create a `license.dat` file containing the following two lines:

```
SERVER MyFlexServer 00123456abc1 27000
USE SERVER
```

Then, place the `license.dat` file in `C:\PolySpace\PolySpace_Common\etc`

---

**Note** If you do not specify a port number, the default value is 27000.

---

## Configuring Licenses on the FLEXnet Server System

After copying the FLEXnet tools to a directory on the dedicated MyFlexServer host, you must update the license file by adding the following lines at the top of the license.dat file:

```
SERVER MyFlexServer 00123456abc1
VENDOR MLM
INCREMENT PolySpace_Server_C_CPP MLM 19 01-jan-0000 2 \
    A1B2C3D4E891011AB HOSTID=ID=517786 SN=517786
INCREMENT PolySpace_Client_C_CPP MLM 19 01-jan-0000 1 \
    A1BCD3EF12311078A HOSTID=ID=517786 SN=517786
```

The license file is now fully compatible with a standard FLEXnet mechanism. For more information, refer to the *FLEXnet Licensing End User's Guide*, available at: [http://www.globes.com/support/utilities/flexnet\\_licensing\\_end\\_user\\_guide.pdf](http://www.globes.com/support/utilities/flexnet_licensing_end_user_guide.pdf).

This procedure also applies if you want to add the features of the license file to an existing FLEXnet server.

---

**Note** FLEXnet server can be installed on a PolySpace Client machine, a PolySpace Server machine or any machine on the same network.

---

## Concurrent License File Format

This license file requires a FLEXnet license manager running. It has the following format:

```
SERVER server_name server_hostid
VENDOR MLM
INCREMENT PolySpace_Feature MLM passcode version_number
date_of_license_end number_of_licenses key
HOSTID=internal_number DUP_GROUP=UH SN=a_serial_number
```

- *server\_name* — name of the FLEXnet server or IP address.

---

**Note** This is the only value that can be edited (with an ASCII editor) by the administrator when the location of the FLEXnet server changes. This file can be edited and *server\_name* changed before setting up the FLEXnet server (see “Configuring the License Manager” on page 9-18 for Windows systems, or “Configuring the FLEXnet Server” on page 9-23 for UNIX systems).

---

- *server\_hostid* — This is the *hostid* of the server, usually the Mac address on UNIX system and the disk serial number on Windows (see Getting the License *hostid*). The *server\_hostid* must be given to obtain a license file.
- MLM: Vendor daemon for PolySpace products licensing.
- *PolySpace\_Feature* — type of license.

PolySpace Feature	License Type
PolySpace_Client_C_CPP	PolySpace Client for C/C++ (including Viewer, MISRA®, DRS, Main generator and Report features).
PolySpace_Client_Ada	PolySpace Client for Ada (including Viewer and Report features).
PolySpace_Server_C_CPP	PolySpace Server for C/C++ (including Remote Launcher, MISRA, DRS and Report features).
PolySpace_Server_Ada	PolySpace Server for Ada (including Remote Launcher and Report features).
PolySpace_Model_Link_SL	PolySpace Model Link SL (including Viewer, MISRA, DRS and Report features).
PolySpace_Model_Link_TL	PolySpace Model Link TL (including Viewer, MISRA, DRS and Report features).
PolySpace_UML_Link_RH	PolySpace UML Link RH (including Viewer and Report features).

- *passcode\_version\_number* and *date\_of\_license\_end* — available maintenance (and end dates).
- *number\_of\_licenses* — number of available licenses for a given type.

### Example:

```
# MATLAB license passcode file.
# LicenseNo: 517786 HostID: 00123456abc1
SERVER dev13 831da5d6
VENDOR MLM
INCREMENT PolySpace_Client_C_CPP MLM 17 3-jan-2008 20 DF1FB89EB243
  HOSTID=ID=12345 DUP_GROUP=UH SN=12345
INCREMENT PolySpace_Server_C_CPP MLM 17 3-jan-2008 20 9BFB0453E70F
  HOSTID=ID=1234E DUP_GROUP=UH SN=1234E
INCREMENT PolySpace_Model_Link_SL MLM 17 3-jan-2008 20 B639E1D6739A
  HOSTID=ID=324AF DUP_GROUP=UH SN=324AF
```

## Installing Licenses on an Existing FLEXnet Server

If you are already using a FLEXnet license manager, refer to the FLEXnet Manager user manual for information on how to add licenses for your PolySpace software. You can access the FLEXnet user manual directly from the Macrovision web site (<http://www.macrovision.com>).

---

**Note** The `lmgrd` or `lmgrd.exe` service, `lmutils` and `lmtools` must have the correct version number. PolySpace products support FLEXnet Version 10.8.

---

## Checking Installed Licenses

You can check which PolySpace licenses are installed on your system using the `-check-license` command. PolySpace product usage is standard.

To check your licenses, enter the command:

```
polyspace[-desktop]-[c|ada|cpp|ada95]-check-license
```

The results appear in the PolySpace log file:

```
<polyspace-c-check-license 2008b PID460 PGID2616>  
<polyspace-viewer V4.2.2.12>
```

Options used with Verifier:

```
-prog=polyspace  
-polyspace-version=4_2_1_6
```

```
-lang=C  
-no-exec=true
```

Verifying host configuration ...

```
*** Configuration of the host : OK  
Checking license ...  
license is OK
```

On a Windows machine, the same command is available:

```
PolySpaceInstallDir\wbin\polyspace[-desktop]-[c|cpp|ada95]-check-license.exe
```

## License Error Messages

### In this section...

“Overview” on page 9-30

“Error -15, the FLEXnet server is unreachable” on page 9-30

“Error -5, the PolySpace feature is not available” on page 9-31

“Error -21, the maintenance date has expired” on page 9-31

“Error -10, the license date has expired” on page 9-31

### Overview

Most of the error messages are displayed in the log file after a license check.

However, since licensing is checked during code verification, a message can also be displayed at any location in the associated PolySpace Log file. An error message will generally cause the verification to stop.

This section describes common licensing errors. For other errors, please refer to the *FLEXnet Licensing End User Guide* available at [www.macrovision.com](http://www.macrovision.com).

### Error -15, the FLEXnet server is unreachable

```

Checking license ...
Unable to checkout feature PolySpace_Client_C_CPP for version 17:
Cannot connect to license server system.
  The license server manager (lmgrd) has not been started yet,
  the wrong port@host or license file is being used, or the
  port or hostname in the license file has been changed.
Feature:      PolySpace_Client_C_CPP
Server name:  fitou
License path: /usr/local/attol/atu/v33a/sun4/sun0S5/bin/license.txt:
              /usr/local.rhone/pst/tmp/nnu.lic:/usr/local.rhone/pst/*.lic
FLEXnet Licensing error:-15,570. System Error: 115 "Operation
now in progress"
For further information, refer to the FLEXnet Licensing
End User Guide, available at "www.macrovision.com".
*** License error

```

\*\*\* Aborting.

### **Error -5, the PolySpace feature is not available**

```
Checking license ...
Unable to checkout feature PolySpace_Client_C_CPP for version 17:
No such feature exists.
Feature:      PolySpace_Client_C_CPP
License path: /usr/local/attol/atu/v33a/sun4/sunOS5/bin/license.txt:
             /usr/local.rhone/pst/tmp/nnu.lic:/usr/local.rhone/pst/*.lic
FLEXnet Licensing error:-5,357
For further information, refer to the FLEXnet Licensing
End User Guide, available at "www.macrovision.com".
*** License error
*** Aborting.
```

### **Error -21, the maintenance date has expired**

```
Checking license ...
Unable to checkout feature PolySpace_Client_C_CPP for version 17:
License file does not support this version.
Feature:      PolySpace_Client_C_CPP
Application version > License version: 17 > 16
License path: /usr/local/attol/atu/v33a/sun4/sunOS5/bin/license.txt:
             /usr/local.rhone/pst/tmp/nnu.lic:/usr/local.rhone/pst/*.lic
FLEXnet Licensing error:-21,126
For further information, refer to the FLEXnet Licensing
End User Guide, available at "www.macrovision.com".
*** License error
*** Aborting.
```

### **Error -10, the license date has expired**

```
Checking license ...
Unable to checkout feature PolySpace_Client_C_CPP for version 17:
Feature has expired.
Feature:      PolySpace_Client_C_CPP
Expire date:  31-jan-2007
License path: /usr/local/attol/atu/v33a/sun4/sunOS5/bin/license.txt:
             /usr/local.rhone/pst/tmp/nnu.lic:/usr/local.rhone/pst/*.lic
FLEXnet Licensing error:-10,32
```

For further information, refer to the FLEXnet Licensing  
End User Guide, available at "[www.macrovision.com](http://www.macrovision.com)".

\*\*\* License error

\*\*\* Aborting.



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