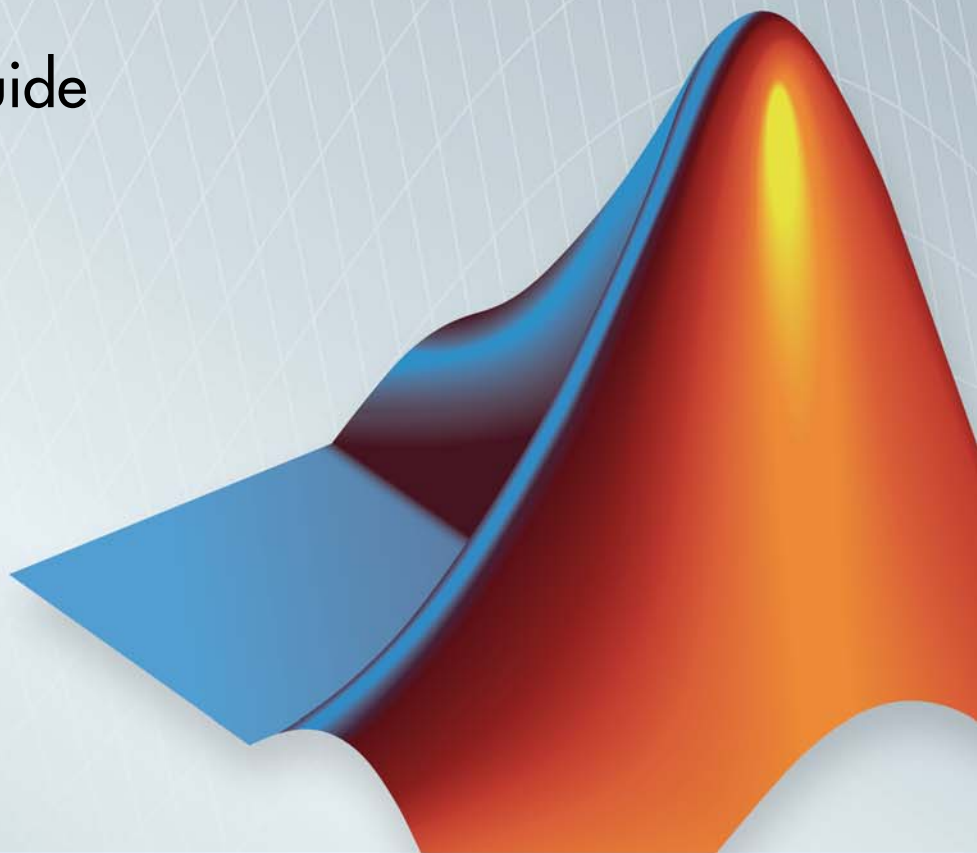


Polyspace[®]

Installation Guide

R2013a



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Polyspace® Installation Guide

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Install Polyspace Software

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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
“Linux Installation Requirements” on page 1-6

Polyspace Product Requirements

Before you install Polyspace® software on a client or server workstation, your hardware and software must meet the following requirements.

Requirement	32-Bit and 64-Bit Client	32-Bit and 64-Bit Server
RAM	1024 MB minimum 2 GB ECC RAM recommended	2 GB minimum 4 GB ECC RAM recommended
Processor	Any Intel or AMD x86 processor supporting SSE2 instruction set	
Operating system	<p>Linux:¹²</p> <ul style="list-style-type: none"> • Red Hat Enterprise Linux® 5.x and 6.x • SUSE Linux Enterprise Desktop 11.x • Debian 5.x³ and 6.x. • Ubuntu 11.10 and 12.04 LTS <p>Windows:</p> <ul style="list-style-type: none"> • Windows® 7 or Service Pack 1 Windows XP (SP3) • Windows Server® 2003 (R2 SP2) • Windows Vista™ (SP2) • Windows Server 2008 (SP2 or R2) 	

Requirement	32-Bit and 64-Bit Client	32-Bit and 64-Bit Server
	For Windows systems, you must also install Microsoft® .NET Framework 3.5	
Disk space for installed	2 GB	
Swap space	At least twice the RAM size.	
Multi-core support	Polyspace verification benefits from using multi-core processors. The minimum hardware required for a Polyspace Server is 4 core processors, with 2 GB of RAM per core (4 GB of RAM per core recommended).	

Note To install Polyspace software on a 64-bit Linux machine, you must have the 32-bit libraries installed. The Polyspace installer uses 32-bit binary files, which require these libraries.

Polyspace Plug-In Requirements

Before you install Polyspace link products or plug-ins, your hardware and software must meet the following requirements.

Product	Plug-In Software	Release	Operating System
Polyspace Model Link™ SL	MATLAB®	R2011a ⁴ ,	Windows
	Embedded Coder®	R2011b or later	

1. The listed distributions are those Linux distributions that MathWorks® products have been validated against. It is likely that other distributions with kernel version 2.6 or later and glibc version 2.5 or later can successfully run MathWorks® products, but MathWorks will be in a limited position to provide technical support for those distributions.
2. Only tested for 64-bit Client and Server
3. Support will cease in a future release.
4. Support for R2011a will cease in a future release.

Polyspace Model Link TL (C Only)	MATLAB	R2011a ⁵ , R2011b or later	Windows
	TargetLink® (dSPACE®)	3.1, 3.2, and 3.3	Windows
Polyspace UML Link™ RH	IBM® Rational® Rhapsody®	7.4 ⁶ , 7.5, and 7.6	Windows
Polyspace C++ add-in for Visual Studio® (C++ only)	Microsoft Visual Studio 2008	9.0 ⁷	Windows
	Microsoft Visual Studio 2010	10.0	Windows
Polyspace plug-in for Eclipse IDE	Eclipse IDE for C/C++	3.7, 3.8, and 4.2	Linux, Windows
	Eclipse IDE for Ada GNATbench	3.7, 3.8 and 4.2	Linux, Windows (32-bit only)
Excel Macros	Microsoft Excel®	2007 and 2010	Windows
FLEXnet	FLEXnet	11.9	

5. Support for R2011a will cease in a future release.

6. Support for 7.4 will cease in a future release.

7. Support for 9.0 will cease in a future release.

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
Designated Computer (Individual)	MAC address or serial disk number of the designated computer	DC licenses are only for Polyspace client software. DC licenses are for users who want to install and administer the client software themselves. A DC license is provided in a text file.
Concurrent	MAC address or serial disk number of the FlexNet® server	Concurrent licenses are for both Polyspace client and server software. Concurrent licenses are for organizations that use license keys to control software access. Concurrent licenses require a FlexNet license manager.

Linux Installation Requirements

Configuration

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

Environment Settings

- User path must include `Polyspace_Install/bin` (to start the product without using the absolute path).
- Place the Polyspace license file in `Polyspace_Install/licenses/license.dat`.

For more information about installation folders, see “Polyspace Software Installation Folders” on page 1-12.

Access Rights

You must have Read and Execution access rights for all Polyspace software installation.

DVD Contents

Depending on the products you purchase, the Polyspace DVD (or downloaded installer file) allows you to install one or more of the following Polyspace products:

- **Polyspace Client™ for C/C++** — Verify and review C and C++ source code.
- **Polyspace Server™ for C/C++** — Verify C and C++ source code on a dedicated server.
- **Polyspace Client for Ada** — Verify and review Ada83 and Ada95 source code.
- **Polyspace Server for Ada** — Verify Ada83 and Ada95 source code on a dedicated server.
- **Polyspace Model Link SL** — Verify and review C and C++ source code generated using Embedded Coder software from a Simulink® model.
- **Polyspace Model Link TL** — Verify and review C source code generated using TargetLink code generator from a Simulink model.
- **Polyspace UML Link RH** — Verify and review C, C++, and Ada source code generated from Rhapsody software.

Note The difference between Polyspace Server and Polyspace Client products is described in “Polyspace Installation Options” on page 1-9.7

The DVD (or downloaded installer file) contains folders and program files.

The important folders and programs are:

- `setup.exe` — Runs the Graphical Installation Wizard on a Windows platform.
- `install.sh` — Runs the shell script Installation Wizard on a Linux platform.
The `-console` option enables you to execute the command in a console

mode.

The `-h` option gives you command options.

- `version.txt` — Text file with the complete version number of the Polyspace product that is stored on the DVD.
- `Docs` — Folder with Polyspace installation guide, in PDF format.
- `Data` — Folder that contains Polyspace data.
- `Installer32bits` — Folder with installer for 32-bit version of Polyspace product.
- `Installer64bits` — Folder with installer for 64-bit version of Polyspace product.

Note After installation, the `Polyspace_Install\polyspace\examples\Language` folder contains subfolders with sample projects and verification results generated by Polyspace software.

Polyspace Installation Options

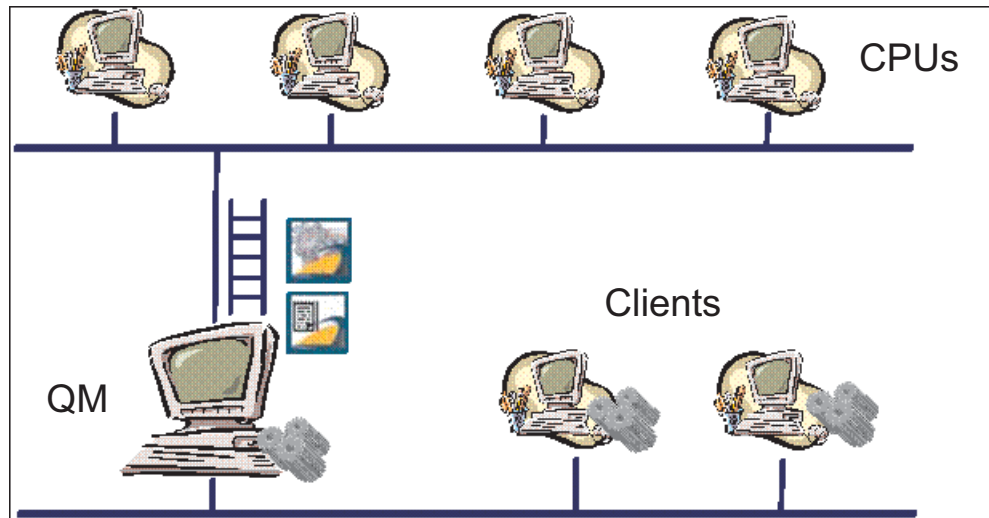
You can install the following products from the Polyspace installation DVD:

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

A *client* installation allows you to perform local verification, review previously completed code verifications, and send new verification requests to a dedicated server. You can use this option for developer machines. The installation requires approximately 2 GB of disk space. You must have local administrator rights and access to the registry to complete the installation.

A *server* installation allows a machine to receive verifications from clients. This option is for machines dedicated to Polyspace software. The installation requires approximately 2 GB 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

The following table describes some Polyspace terms.

Term	Description
Polyspace Client	Developer machine that requests Polyspace code verifications to be performed on servers. You can install any number of client systems.
Polyspace Server	Computer that manages code verifications from a number of clients. You can configure a server as either a Queue Manager or a CPU.
Queue Manager (QM)	A Polyspace Server that manages code verifications from a number of clients. The Queue Manager can run verifications, or dispatch verification jobs to other CPUs. Typically, there is only one Queue Manager.
CPU	A Polyspace Server that is dedicated to running code verifications. A CPU receives verification jobs from the QM and runs verifications. You can install any number of CPUs.

You can specify Polyspace client and server architectures that use combinations of Windows and Linux machines. For example, you can install:

- Polyspace Clients on Windows machines and Polyspace Servers on Linux machines
- Polyspace Clients on Linux machines and Polyspace Servers on Windows machines
- The Polyspace Queue Manager on a Linux machine and Polyspace Servers on Windows machines

Polyspace Software Installation Folders

Polyspace software is installed in the *Polyspace_Install* and *PolyspaceRLDats* folders.

The *Polyspace_Install* folder, which contains the kernel of the Polyspace release, is located as follows:

- On a Windows system, *Polyspace_Install* is `C:\Program Files\Polyspace\PolyspaceForLanguage_Release`. *Language* is either *CandCPP* or *Ada* and *Release* is the product version. For example:

`C:\Program Files\Polyspace\PolyspaceForCandCPP_R2013a`

- On a Linux system, *Polyspace_Install* is `/usr/local/Polyspace/PolyspaceForLanguage_Release`. For example:

`/usr/local/Polyspace/PolyspaceForAda_R2013a`

The *Polyspace_RLDats* folder, which stores data from server verifications, is located as follows:

- On a Windows system with a previous release installed, the existing *PolyspaceRLDats* is used. For example:

`C:\Polyspace\Polyspace_RLDats`

If no previous release is installed, the environment variable `APPDATA` specifies the location of *PolyspaceRLDats*.

- On a Linux system, the *PolyspaceRLDats* folder is `/var/Polyspace`.

The Polyspace Server configuration file `polyspace.conf` is found:

- On a Windows system, in the folder *PolyspaceRLDats*.
- On a Linux system, in the folder `/etc/Polyspace`.

Install Polyspace Software

- “Polyspace Products You Can Install” on page 2-2
- “Install the Polyspace Software” on page 2-4
- “Start Installation from Command Line” on page 2-24
- “Modify Polyspace Configuration” on page 2-26
- “Configure Polyspace Metrics Web Interface” on page 2-37
- “Configure Polyspace Server for Multiple Versions of Client” on page 2-43

Polyspace Products You Can Install

In this section...
“Overview of Polyspace Products” on page 2-2
“Polyspace Client Software” on page 2-2
“Polyspace Server Software” on page 2-3

Overview of 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. Use it to submit jobs for execution by Polyspace Server, and to review verification results. The Polyspace Client software includes the following features:

- Polyspace verification environment (Project Manager perspective and Results Manager perspective)
- Data Range Specification (DRS)
- Coding Rules Checker (MISRA C®, MISRA C++, or JSF C++)
- Report Generator
- Automatic Orange Tester

Install the Polyspace Client software on developer machines that will send verification jobs to the Polyspace Server.

The installation requires approximately 1.5 GB of disk space.

Polyspace Server Software

Polyspace Server software is the computational engine of Polyspace products. Use it to run jobs posted by Polyspace Clients, and to manage multiple servers and queues. The Polyspace Server software includes the following features:

- Remote Launcher
- Polyspace Queue Manager (Spooler)
- Report Generator
- HTML Generator.

Install the Polyspace Server software on machines (the Queue Manager and CPUs) that are dedicated to receiving verifications from clients.

The installation requires approximately 1.5 GB of disk space.

Install the Polyspace Software

In this section...
“Before Starting the Installation” on page 2-4
“Install the Software” on page 2-4
“Activate Polyspace Software” on page 2-9
“Polyspace Software Icon” on page 2-19
“Configure the Polyspace Server” on page 2-19

Before Starting the Installation

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

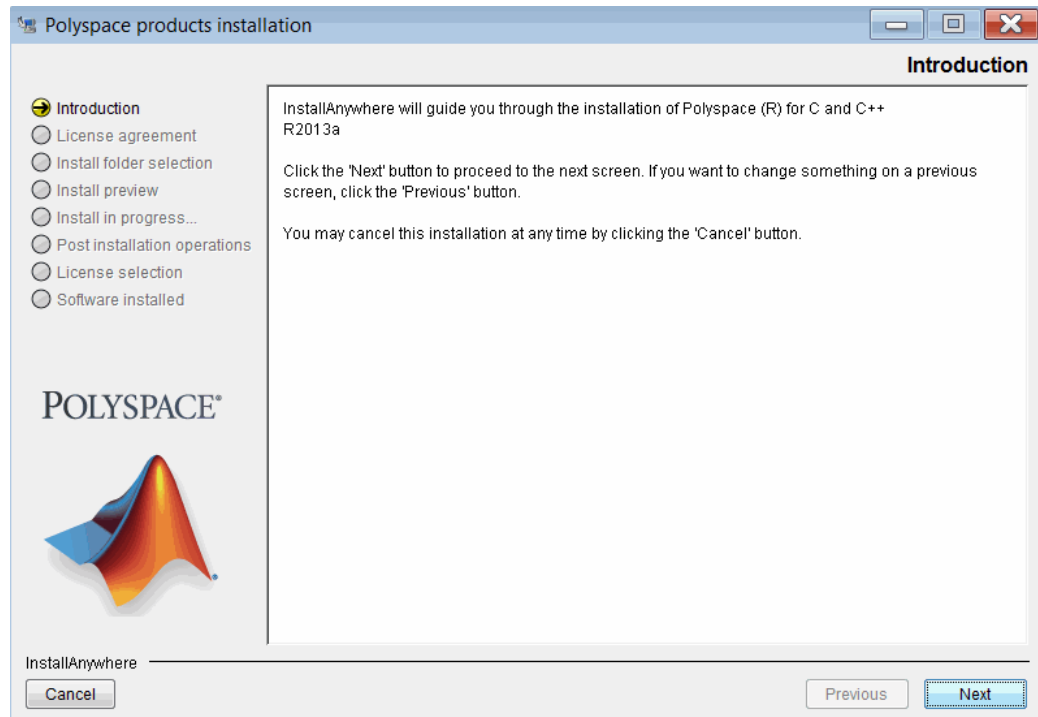
- The Polyspace DVD (or downloaded installer file).
- Your email address and password for your MathWorks account.
- A local user login with **administrator** rights.
- At least 2 GB of free disk space.

Install the Software

Polyspace software provides a graphical installation wizard that guides you through the installation process. This wizard is available on Windows or Linux platforms.

To install the Polyspace Client and Server software on a Windows computer:

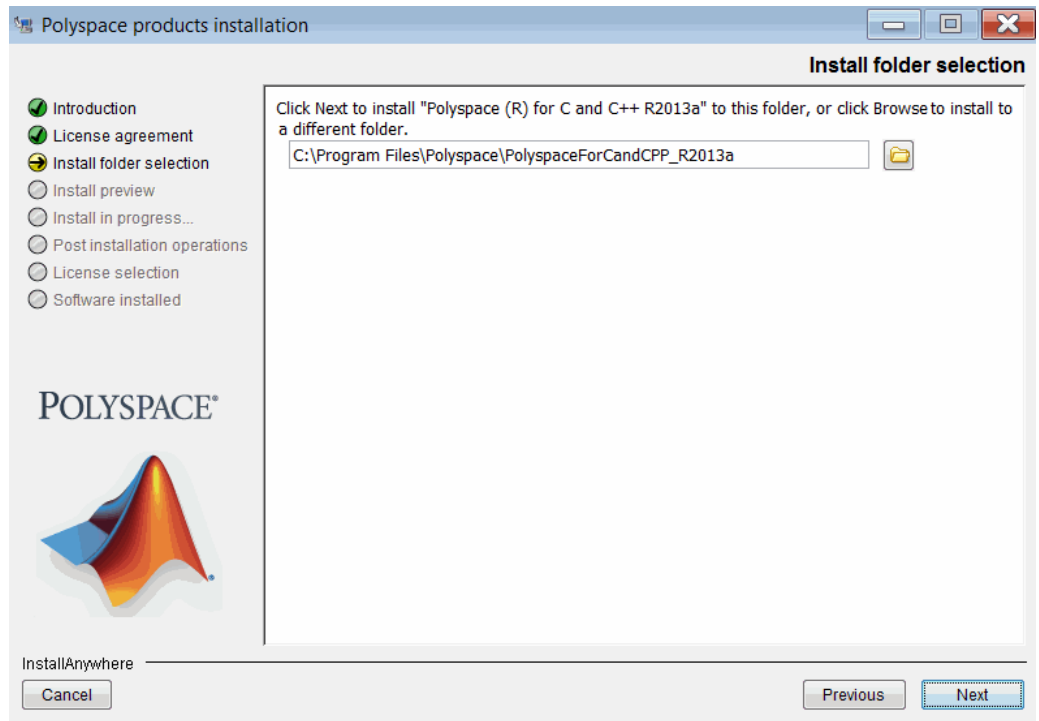
- 1** Insert the Polyspace DVD into your DVD drive, or navigate to the installer file that you downloaded from the MathWorks Web site.
- 2** Run `setup.exe`. (For a Linux system, run `install.sh`).
- 3** The Polyspace products installation wizard opens, displaying the Introduction page. Click **Next**.



- 4** On the License agreement page, select **I accept the terms of the License Agreement**. Then click **Next**.
- 5** On the Install folder selection page, specify the folder in which you want to install the Polyspace software.

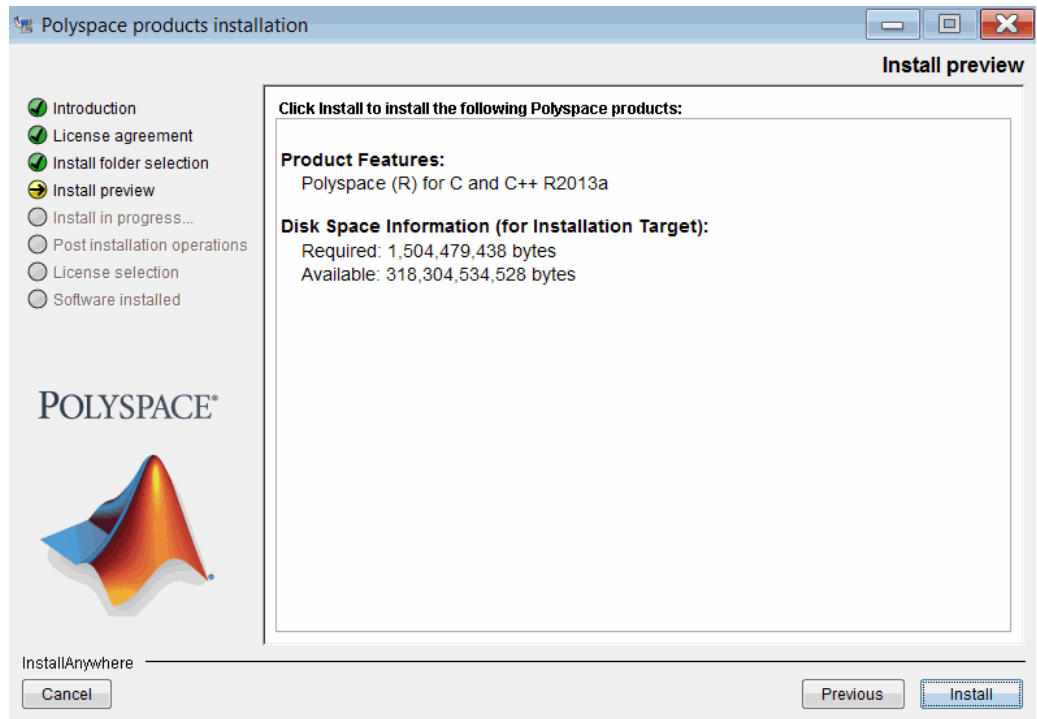
The default folder for the product software is

C:\Polyspace\PolyspaceFor $language$ where $language$ can be either CandCPP or Ada.

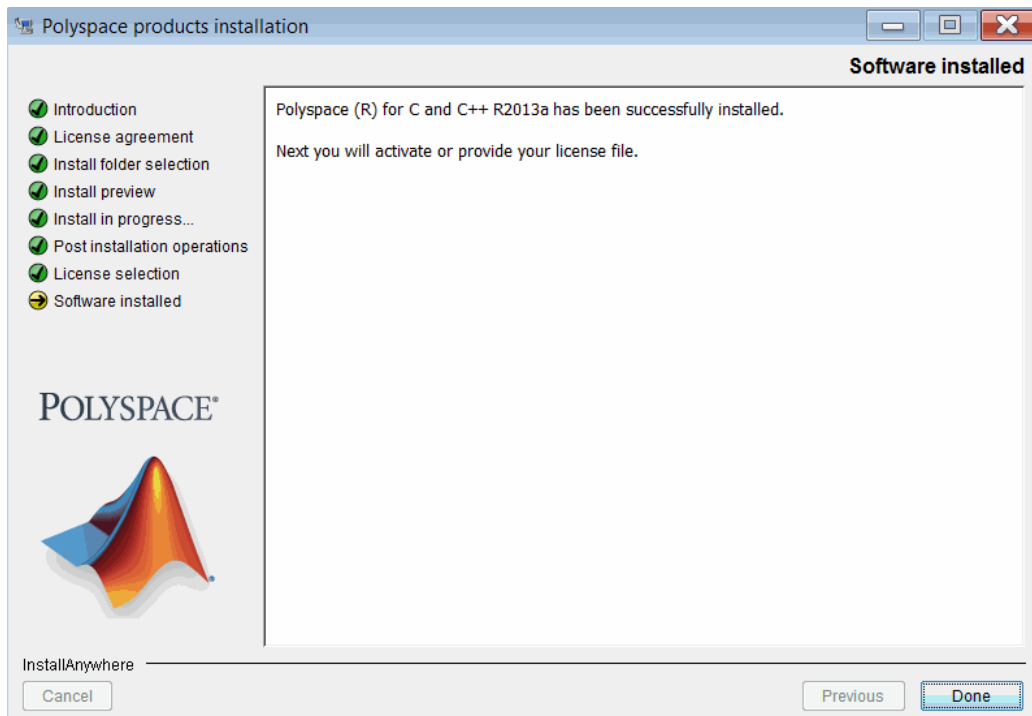


6 Click **Next**.

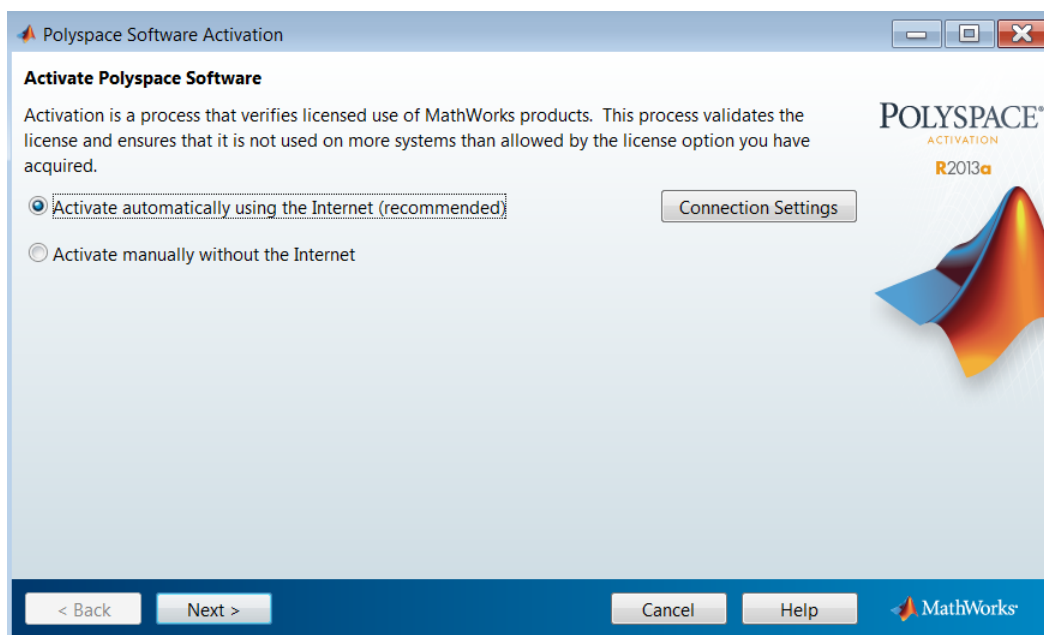
7 On the Install preview page, click **Install**.



- 8 The installation takes a few minutes, after which the Software installed page opens. Click **Done**.



9 The Polyspace Software Activation wizard opens.



Before you can use the Polyspace product, you must activate the software.

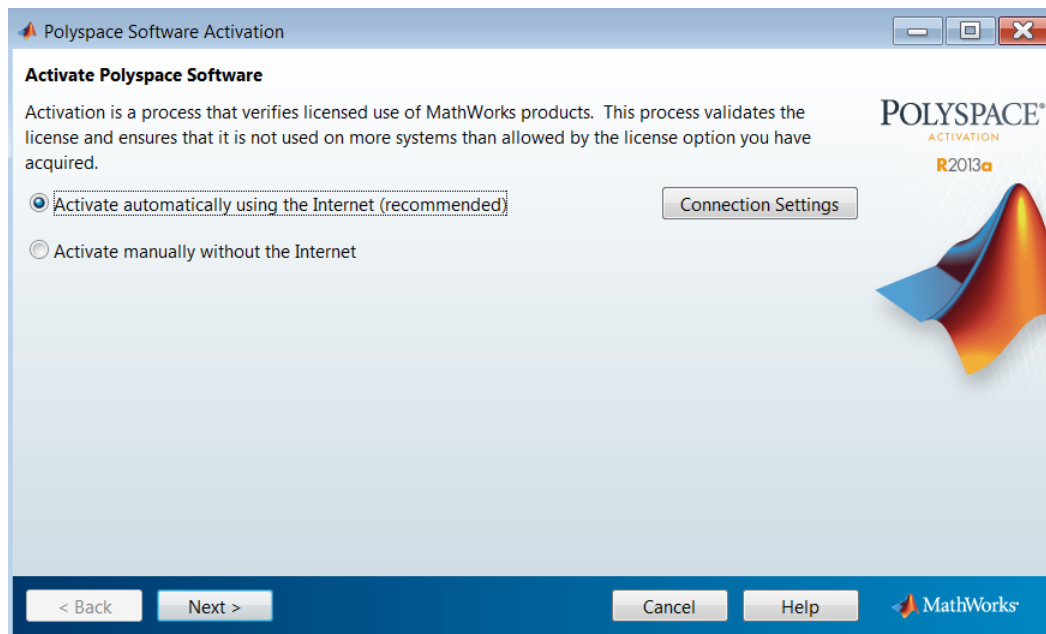
If you do not want to activate the software now, click **Cancel**. You can start the activation process at any time after installation by selecting **Start > All Programs > Polyspace > Activate Polyspace**.

For information about activation steps, see “Activate Polyspace Software” on page 2-9.

Activate Polyspace Software

Activation is a process that verifies licensed use of MathWorks products. The process validates your product licenses and checks that they are used correctly. You must complete the activation process before you can use Polyspace software.

After you have completed the steps for installing the Polyspace software, the Polyspace Software Activation wizard opens.



If you are using Designated Computer (Individual) licenses, you must activate the license for each Polyspace system individually. However, if you are using Concurrent licenses for multiple Polyspace systems, you do not need to activate each Polyspace system. You activate the license once (for the FLEXnet license server), then provide license files for each Polyspace system.

To complete the activation process, refer to the following sections:

- “Activate With Existing License File” on page 2-11
- “Activate Automatically (With Internet Connection)” on page 2-12
- “Activate Manually (Without Internet Connection)” on page 2-15

If you cancel the activation process, you can activate the software at any time after installation by selecting **Start > Programs > Polyspace > Activate Polyspace**.

For more information on software activation, including frequently asked questions, refer to the MathWorks Web site:
www.mathworks.com/support/activation/polyspace.html

Activate With Existing License File

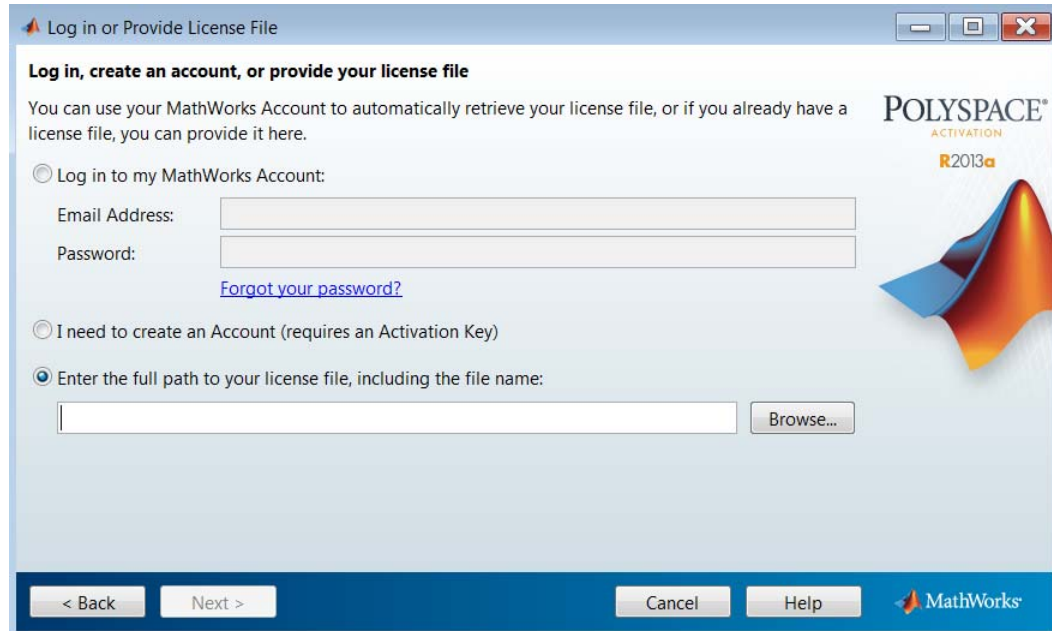
If you have an existing license file for the software that you are installing, you can provide a path to the license file to complete the activation process. You do not need to access the MathWorks License Center.

For example, if you use concurrent licenses for Polyspace software, your license manager provides a license file for each Polyspace system. You do not activate the software on each system, you just provide a path to this license file.

Note With concurrent licenses, a FLEXnet license server manages licensing of individual systems. You manually activate the concurrent license once (using the License Center at the MathWorks Web site), and then provide license files for each Polyspace system. For more information, see “Configure Concurrent Licenses” on page 4-12.

To activate Polyspace software with an existing license file:

- 1** On the Polyspace Software Activation page, select **Activate automatically using the Internet**. Then click **Next**.
- 2** On the Log In or Provide License File page, click **Enter the full path to your license file, including the file name**.

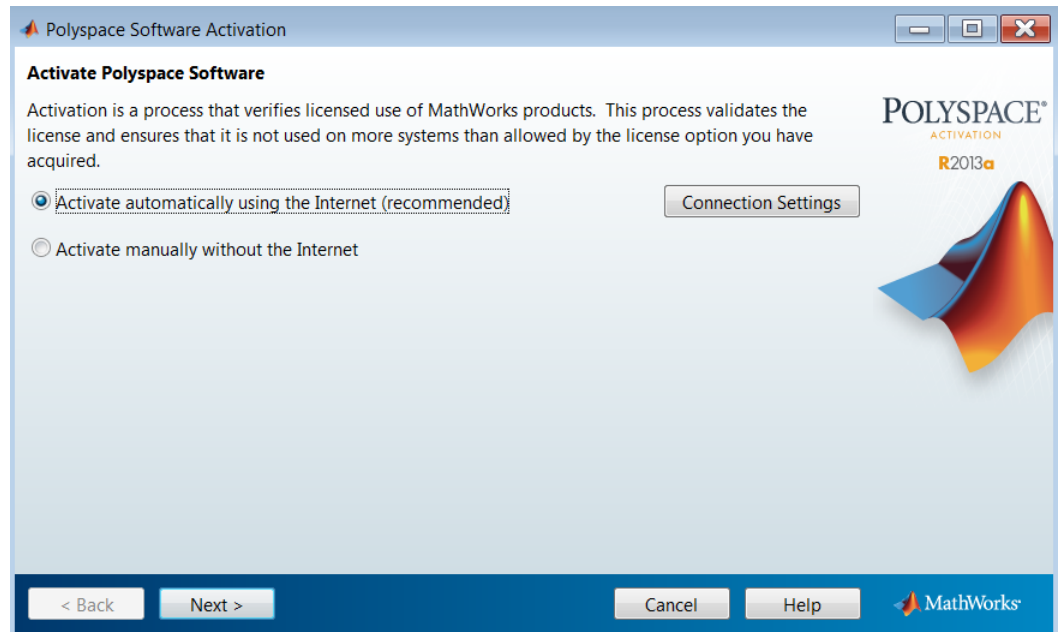


3 Enter the path to your license file. Then click **Next**.

4 On the Activation Complete page, select **Finish**.

Activate Automatically (With Internet Connection)

If your Polyspace system is connected to the Internet, you can activate your software automatically after installation. This process involves logging in to your MathWorks account, and selecting the license that you want to activate.



To activate your software automatically:

- 1 On the Polyspace Software Activation page, select **Activate automatically using the Internet**. Then click **Next**.

Log in, create an account, or provide your license file

You can use your MathWorks Account to automatically retrieve your license file, or if you already have a license file, you can provide it here.

Log in to my MathWorks Account:


Email Address:

Password:

[Forgot your password?](#)

I need to create an Account (requires an Activation Key)

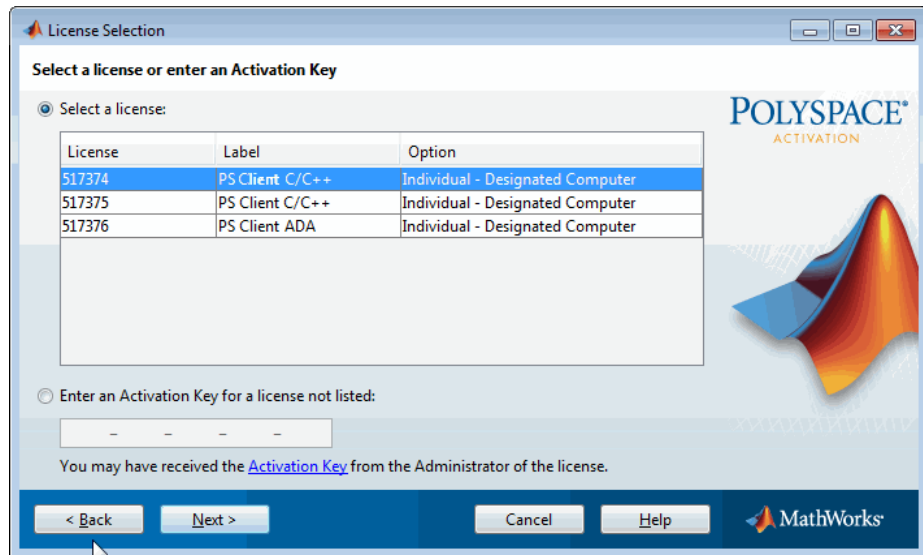
Enter the full path to your license file, including the file name:



- 2 On the Log in or Provide License File page, enter the login information for your MathWorks account. Then click **Next**.

Note If you do not have a MathWorks account, click **I need to create and Account**, and follow the instructions to create one.

- 3 On the License Selection page, select the license you want to activate.



Then click **Next**.

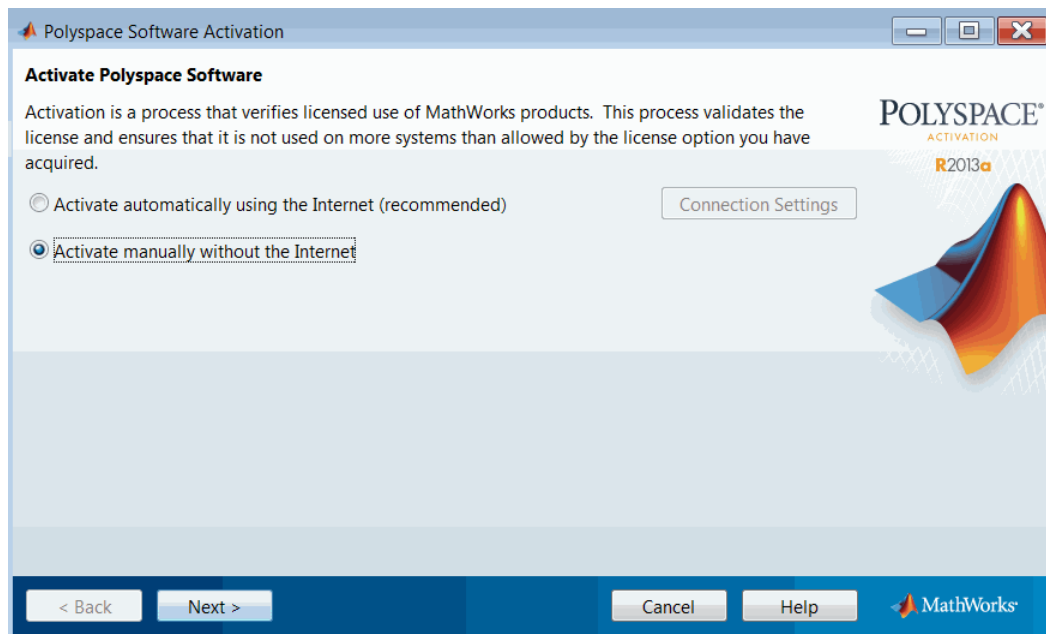
- 4** On the Confirmation page, click **Activate**.

Your license file is automatically copied to the Polyspace system.

- 5** On the Activation Complete page, click **Finish**.

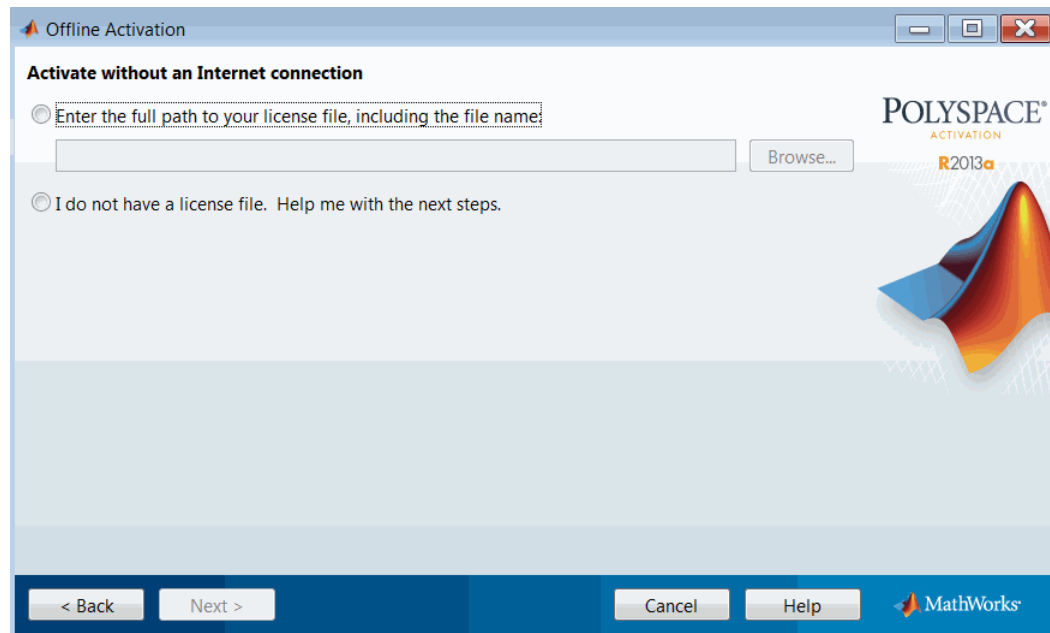
Activate Manually (Without Internet Connection)

If your Polyspace system does not have an Internet connection, you must activate your software manually. This process involves accessing the MathWorks License Center from another computer, then manually copying your license file to the Polyspace system.



To activate your software manually:

- 1 On the Polyspace Software Activation page, select **Activate manually without the Internet**. Then click **Next**.
- 2 On the Offline Activation page, select **I do not have a license file**.



Then click **Next**.

- 3** The License File Retrieval page displays the information that you need to activate your software.

Save the information displayed on the page. For example, you can print a copy by clicking **Print**.

- 4** From a computer with an Internet connection, go to the License Center at the MathWorks Web site:

<http://www.mathworks.com/licensecenter>

- 5** Activate your license. Then download your license file.

For more information, refer to the License Center Help.

- 6** Copy your license file to the Polyspace folder.

- 7** Return to the Offline Activation page. Select **Enter the full path to your license file, including the file name**. In the corresponding field, enter the path to your license file. Then click **Next**.

Note If you closed the Polyspace Software Activation wizard , select **Start > Programs > Polyspace > Activate Polyspace** to reopen the wizard.

8 On the Activation Complete page, click **Finish**.

Polyspace Software Icon

When installation is complete, the following icon appears on your desktop:



Click this icon to open the Polyspace verification environment, from which you set up projects, start verifications, and review verification results.

Configure the Polyspace Server

After installing the Polyspace software, use the Polyspace Remote Launcher Manager to configure the Polyspace Server.

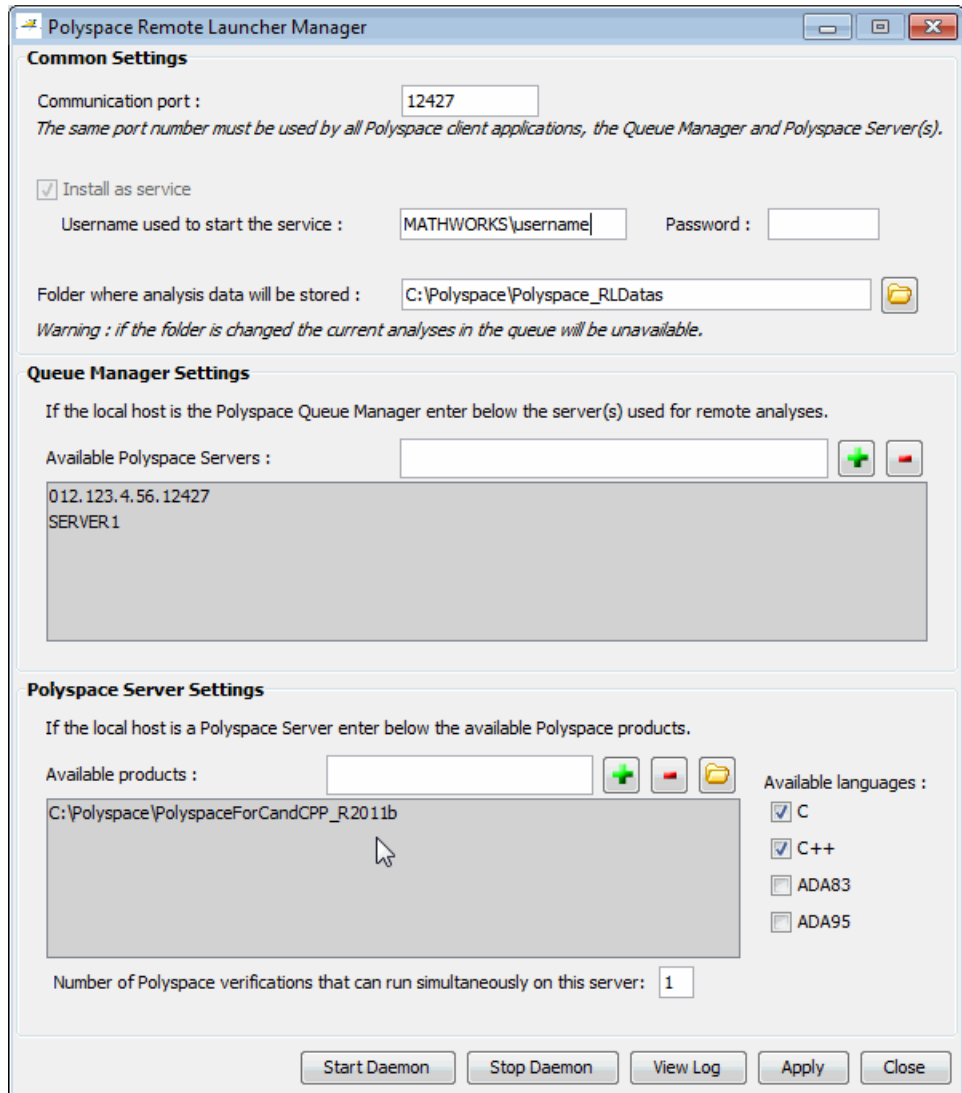
To open the Polyspace Remote Launcher Manager:

- 1 Open the Polyspace verification environment. From your desktop, click the Polyspace icon.



Note In Windows 7, run Polyspace as an administrator. Right-click the Polyspace icon. Then, from the context menu, select **Run as administrator**.

- 2 Select **Options > Open Remote Launcher Manager**.



To configure the server:

- 1 Specify the port through which the server communicates with clients. The default port number is 12427.

Note The port number must be the same as the port number for all Polyspace Clients.


- 2 By default, the server is specified as a service on a Windows machine or a daemon on a Linux machine

On a Linux machine, if you do not select the **Install server as service (daemon)** check box, you must configure the server manually after installation. See “Manual Configuration of the Polyspace Server” on page 2-29.

- 3 Enter your user name and password.

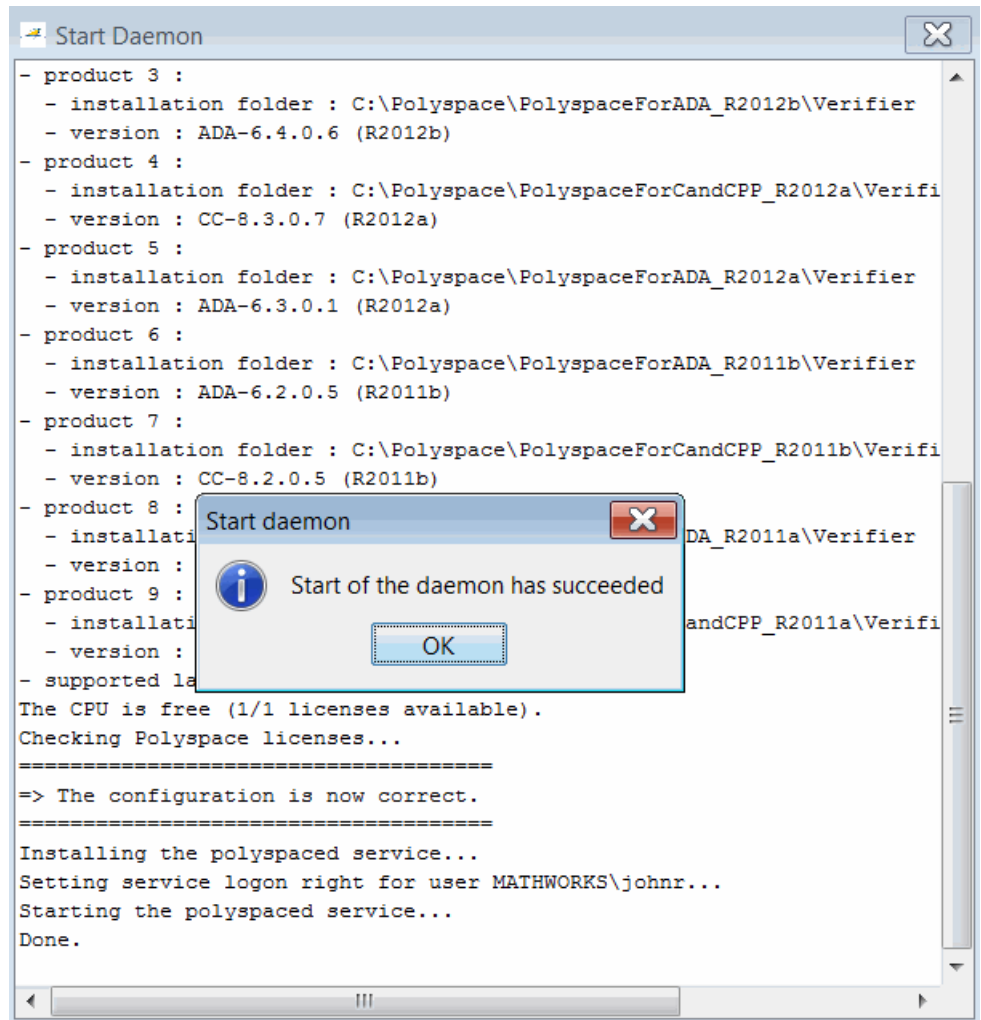
Note A password is not required on a Linux machine.

- 4 In the **Polyspace Server Settings** section, specify the software versions that you want the server to support. Use one of the following approaches:

- Click the folder button . Then use the Select a Polyspace product dialog box to specify *Polyspace_Install* folders for the required software versions.
- In the **Available products** field, enter the *Polyspace_Install* path for a software version that you require. Then click the + button.

To remove an item from the list of supported software versions, select the item. Then click the - button.

- 5 If you have purchased more than one license for your server, set the **Number of Polyspace verifications that can run simultaneously on this server** to the number of licenses you plan to activate for this machine.
- 6 Click **Start Daemon**. The Remote Launcher Manager checks product paths, licenses, and the creation and start up of the service (daemon). When the configuration check is complete, you see the message **Start of the daemon has succeeded..**



Note If a problem occurs, you see an error message in the Start Daemon window. See “Troubleshoot Common Errors” on page 2-34.

7 Click **OK**.

8 To close the Remote Launcher Manager, click **Close**.

Note By default, the server becomes the Queue Manager and first CPU of the architecture.

Start Installation from Command Line

In this section...
“Install Software on a Linux Platform” on page 2-24
“Install Software in Silent Mode” on page 2-24

Install Software on a Linux Platform

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

```
DVD/install.sh
```

This script launches the installation wizard. To complete the installation, refer to “Install the Polyspace Software” on page 2-4.

Install Software in Silent Mode

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

After installing the software, you must configure the Polyspace server settings. For more information, see “Modify Polyspace Server Configuration” on page 2-27.

Linux Platforms

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

```
DVD/install.sh -silent -install-dir Polyspace_Install
```

where *Polyspace_Install* represents the installation folder.

Windows Platforms

To install the software on a Windows system using silent mode, run the following command in a DOS command window:

```
DVD\setup.exe -silent -install-dir Polyspace_Install
```

where *Polyspace_Install* represents the installation folder.

Modify Polyspace Configuration

In this section...
“Modify Polyspace Client Configuration” on page 2-26
“Modify Polyspace Server Configuration” on page 2-27
“Troubleshoot Common Errors” on page 2-34

Modify Polyspace Client Configuration

Initial Configuration

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

Configure Polyspace Client Manually

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, the Client displays an error message listing the names of all detected servers. Carefully note all names and close the error dialog box.
- If no Polyspace Server is available, you see the `No QueueManager server found` error message when you start a verification or execute any Polyspace command.

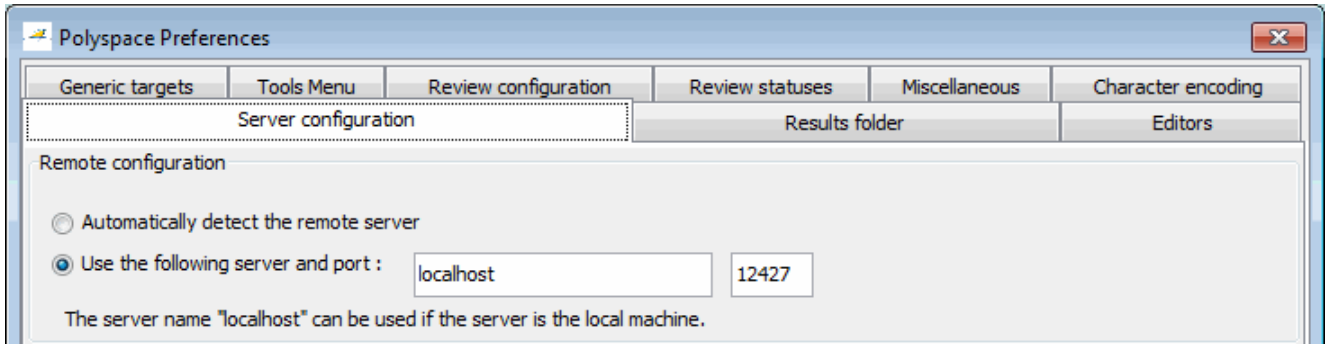
In these cases, to fix the error, you can specify a specific Queue Manager server associated with a specific port number.

To manually configure the remote server:

- 1** In the Polyspace verification environment, select **Options > Preferences**.

The Polyspace Preferences dialog box opens.

- 2** Select the **Server configuration** tab.



- 3** In the Remote configuration section, click **Use the following server and port**.
- 4** Enter an IP address (or server name) and the associated port number (default 12427) for the Polyspace Server. You must use the same port number for all clients, the Queue Manager, and all servers.
- 5** If required, configure access to Polyspace Metrics. See “Configure Polyspace Metrics Web Interface” on page 2-37.
- 6** Click **OK**.

The preferences are stored in the `polyspace.prf` preferences file in `%AppData%\Polyspace` (`C:\Users\username\AppData\Roaming\Polyspace\polyspace.prf` on a Windows system).

Note Although you can modify this file with an ASCII editor, you should not do so. Always use the graphical user interface to modify the remote launcher settings.

Modify Polyspace Server Configuration

- “Update Polyspace Server Configuration” on page 2-28
- “Manual Configuration of the Polyspace Server” on page 2-29
- “Configuration Files on Windows Platform” on page 2-31

- “Adding a New CPU” on page 2-32
- “Configuration Files on Linux Platform” on page 2-33

Update Polyspace Server Configuration

The default Polyspace Server configuration specifies that the server is both the Queue Manager and a CPU. However, after installing the software, you can update the configuration through the Remote Launcher Manager.

To update your server configuration (`polyspace.conf`):

- 1 Open the Polyspace verification environment. From your desktop, double-click the Polyspace icon.



Note In Windows 7, run Polyspace as an administrator. Right-click the Polyspace icon. Then, from the context menu, select **Run as administrator**.

- 2 Open the Remote Launcher manager. Select **Options > Open Remote Launcher Manager**.

Note You can also run the command `Polyspace_Install/polyspace/bin/polyspace-rl-manager.exe`.

- 3 Stop the current Queue Manager. Click **Stop Daemon**.

Note You must stop the current Queue Manager before you can change any parameters.

- 4 Under **Common Settings**, specify:

- **Communication port** — Port number that is used by all clients, the Queue Manager, and all servers.
- **Folder where analysis data will be stored** — Location for data from server verifications.

5 If you want the host machine to be the Queue Manager, under **Queue Manager Settings**, specify the Queue Manager and all CPUs.

To specify the Queue Manager or a CPU, in the **Available Polyspace Servers** field, enter *Machine_name_or_IP_address[:port_number]*. For example, SERVER1 or 012.123.4.56:12427. Then click **+**.

6 If you do not want the host machine to be a Queue Manager, under **Queue Manager Settings**, remove entries from the displayed list.

For example, to remove a CPU from the specified list, select the CPU. Then click **-**.

7 Under **Polyspace Server Settings**, specify:

- **Available products** — Location of Polyspace products installed on the server.
- **Available languages** — Available languages.

8 In the **Number of Polyspace verifications that can run simultaneously on this server** field, specify the number of licenses you have activated for the machine.

9 Click **Apply**.

10 Click **Start Daemon**.

Note You can view information that the software displays when you click **Start Daemon** or **Stop Daemon** in the file *Polyspace_RLDatas/polyspaced.log* (*/var/Polyspace/polyspaced.log*).

Manual Configuration of the Polyspace Server

The file *polyspace.conf* specifies the configuration of the Polyspace Server.

Note You can manually create or modify the configuration file with the command `Polyspace_Install/polyspace/bin/setup-remote-launcher`. For information about options, run `Polyspace_Install/polyspace/bin/setup-remote-launcher -h`.

The configuration file contains fields that define the Queue Manager and CPU architecture. By default, the Polyspace Server is both the Queue Manager and a CPU.

Specify the Polyspace Server configuration through the following fields:

- `product=` — Installation folder `Polyspace_Install` for Polyspace software. One per language.
- `lang=` — Verification language, which specifies the supported language declaration (CPU only). Values can be C, C++, CPP, Ada, Ada83, ADA, Ada95 and ADA95.
- `username=` — User name used to run the daemon process. On a Linux system, if the daemon is started as `root`, the daemon automatically changes its user ID to run as the user.
- `datadir=` — Name of folder where data from remote verifications are stored. Default is `PolyspaceRLDats`.
- `locksdir=` — Name of folder where the locks are stored. If not specified, `datadir/locks` is used.
- `port=` — Number of port for which daemon listens. Default value is 12427. Number can be between 10000 and 15000. This range depends on the operating system requirements.
- `cpu=` — Machine name to specify Queue Manager or IP address and port number to specify CPU.

Use the syntax `IP_Address_or_CPU_Name[:Port_Number]`. For example:

```
cpu=MYHOST
cpu=192.168.2.79:12428
```

The first line specifies the machine for the Queue Manager while the second line specifies a CPU to which the Queue Manager sends verification jobs.

- `results_repository_dir=` — Results repository folder for Polyspace Metrics. Default is `datadir/results-repository`.
- `process_automation=` — Flag that specifies whether automatic verification is activated (`yes`). Default is `no`. If automatic verification is activated, then Polyspace verifies your code according to the configuration that you provide in the file `results_repository_dir/Projects.psproj`.

To make changes to the configuration file, you must stop the associated daemon (service). Run the command:

```
Polyspace_Install/polyspace/bin/setup-remote-launcher  
-stop-service
```

To start or restart the daemon (service), run the command:

```
Polyspace_Install/polyspace/bin/setup-remote-launcher -start-service
```

On a Linux machine, if you have not specified the Queue Manager as a daemon, run the following command to install the daemon:

```
Polyspace_Install/Polyspace/bin/setup-remote-launcher  
-install-service
```

Then, to start the Queue Manager daemon, run:

```
Polyspace_Install/polyspace/bin/polyspaced
```

To stop the Queue Manager daemon, run:

```
Polyspace_Install/polyspace/bin/polyspaced -stop
```

Note Like other daemons, you can manage the Polyspace daemon from the `/etc/init.d` `install` services folder.

Configuration Files on Windows Platform

The `Polyspace_RLData`s folder contains the following:

- `polyspaced.log` — Log file that contains information generated by:

- The installation process
- Communication between the Queue Manager and clients for the life span of the Queue Manager.
- `queue_infos.txt` — File that contains verification job information from the Queue Manager, for example ID, Author, and Application.
- `locks` — Folder that contains the locks file for each verification.
- `polyspace.conf` — Configuration file. For example, the configuration for a Polyspace Server might contain the following:

```
product=C:\Program Files\Polyspace\PolyspaceForCandCPP_R2013a
product=C:\Program Files\Polyspace\PolyspaceForAda_R2013a
lang=Ada95
lang=C
lang=CPP
datadir=C:\Polyspace\Polyspace_RLData
username=auser
cpu=HOSTQM
cpu=192.168.2.79:12428
```

In this example, the products used are installed in:

- `C:\Program Files\Polyspace\PolyspaceForCandCPP_R2013a`
- `C:\Program Files\Polyspace\PolyspaceForAda_R2013a`

The machine `HOSTQM` is configured to be a Queue Manager and a CPU for C, CPP and Ada95 code verifications. The port number is the default value 12427. In addition, another CPU with IP address `192.168.2.79` is specified with port number 12428.

On a Linux system, the folder `locks` is located, by default, in `/var/Polyspace`.

Adding a New CPU

To add a new CPU to your existing Polyspace Client/Server architecture:

- 1** Install Polyspace software on the host machine for the new CPU. See “Install the Software” on page 2-4.
- 2** Using the Remote Launcher Manager, configure the new machine to be a Polyspace Server. See “Configure the Polyspace Server” on page 2-19.

To specify that this server is a CPU but not a Queue Manager, under **Queue Manager Settings**, remove all entries from the Polyspace Servers list. Alternatively, manually remove all `cpu=` fields from the configuration file `polyspace.conf`.

- 3 On the host machine for the Queue Manager, specify a new CPU in the configuration file `polyspace.conf`. Using a text editor, add the following line:

```
cpu=CPU_Name_or_IP_Address[:Port_Number]
```

For example:

```
product=C:\Program Files\Polyspace\PolyspaceForCandCPP_R2013a
product=C:\Program Files\Polyspace\PolyspaceForAda_R2013a
lang=Ada95
lang=C
lang=CPP
datadir=C:\Polyspace\Polyspace_RLData
username=ouser
cpu=HOSTFORQM
cpu=192.168.2.79:12428
```

Configuration Files on Linux Platform

When you install the Polyspace daemon, the software creates the following:

- `/var/Polyspace` — Folder that contains, for example, subfolders `lock` and `analysisN`, and files `polyspaced.log` and `queue_infos.txt`.
- `/etc/Polyspace/polyspace.conf` — File that contains Polyspace configuration information.
- `/etc/init.d/polyspaced` — File that is used to start, stop, and restart the daemon.
- `/tmp/polyspace` — Folder to store all temporary files.

Note You cannot install the daemon if you do not have write access to all of these locations.

Troubleshoot Common Errors

This section contains information on troubleshooting the following common errors:

- “Errors Concerning the `polyspace.conf` File” on page 2-34
- “Errors Concerning Problems with Write Access” on page 2-35
- “Java Not Found Errors” on page 2-36
- “Other Errors” on page 2-36

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 folder 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 see any of the following errors, check that the *username* declared in the *polyspace.conf* file has write access permission for the *folder*, *filename*, or *path* specified in the error message:

- "Fatal error: Directory *folder* is not accessible.";
- "Fatal error: Could not change the owner of *path* to *username* ";
- "Fatal error: Could not open file *filename* for reading.";
- "Fatal error: Could not set permissions on *path* ";
- "Fatal error: Could not open file *filename*

Without stopping the daemon (service), check that you have not changed anything linked to the polyspaced daemon (service).

If your *datadir* folder is not local, you must specify a local *locksdir* folder in the *polyspace.conf* file. For example:

```
...
# Remote Launcher configuration.
#

datadir=/nfs/nfsxxx/folder
locksdir=local_folder
cpu=...
...
```

Java Not Found Errors

When installing a Polyspace product on a 64-bit Linux machine, the installation program may end with the following error message:

```
exec: 2433: /tmp/install.dir.880/Linux/resource/jre/bin/java: not found
```

This error occurs because the Polyspace installer is itself a 32-bit binary using 32-bit binaries, which may cause problems on a 64-bit machine. It needs 32-bit libraries installed.

To solve this problem, install the 32-bit libraries. For example, on an Ubuntu 64-bit Linux machine, install the package `ia32-libs` from your Linux distribution.

For more information on installing these libraries, refer to the documentation for your Linux distribution.

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.

Configure Polyspace Metrics Web Interface

In this section...

“Configure Preferences for Polyspace Metrics” on page 2-37

“Configure Web Server for HTTPS” on page 2-39

“Specify Port Number of Polyspace Metrics Web Server in Queue Manager” on page 2-41

Configure Preferences for Polyspace Metrics

Polyspace Metrics is a Web-based tool that allows you to evaluate and monitor software quality throughout the lifecycle of a project. Polyspace Metrics communicates directly with the Polyspace Client and Server software. A Metrics Web server must be set up for this communication to work properly.

Before setting up the Metrics server, you must first configure your Queue Manager server. The Queue Manager server carries out the verification and creates the results repository for Metrics.

To configure access to Polyspace Metrics:


- 1** Select **Options > Preferences** to open the Polyspace Preferences dialog box.
- 2** Select the **Server configuration** tab.

Metrics configuration

Polyspace Metrics allows you, through a web browser, to drill down to specific coding rule violations and run-time checks. If you want to view or classify these items as defects within Polyspace, you click the item. Polyspace opens with the specific item displayed. However, this requires the downloading of result files from the Polyspace Metrics web interface to a locally accessible folder. On this tab, you specify how result files are downloaded from the Polyspace Metrics web interface and when justifications are saved in the Polyspace Metrics database.

If you select this check box, results are downloaded to the folder where the verification was launched. If this launch folder does not exist, results are downloaded to the location specified in the Folder field. Otherwise, a file browser allows you to select the download location.

Download results automatically

Folder: 

If you select this check box, the save action (Ctrl+S) will save your justifications in the local results folder and the Polyspace Metrics database. If you do not select this check box, the save action will save justifications in the local results folder only. If you want to save justifications in the Polyspace Metrics database, click the 'Save in database' button.

Save justifications in the Polyspace Metrics database

Port used to communicate with the Polyspace Metrics web interface.

Port number:

The Polyspace Metrics web interface URL is defined as follow: `http://<remoteServer>:<portNumber>`.
The remote server can be configured above.

Web server port number:

Use secure HTTPS protocol instead of HTTP protocol to access Metrics results

Web server port number for HTTPS:

- 3** In the **Metrics configuration** section, select **Download results automatically**. Specify a local folder for downloading result files from the Polyspace Metrics Web interface.

In the Metrics Web interface, when you click an item to view it in Polyspace, the software downloads results to the verification launch folder. However, if this folder does not exist, the software downloads results to the folder specified in the **Folder** field, which is **C:\Temp** by default.

If you do not select this check box, when you click an item in Polyspace Metrics, a dialog box opens. In this dialog box, you can specify your locally accessible folder. When you exit Polyspace, the folder and its contents are not deleted.

- 4** In the **Port number** field, specify the port number for communication between Polyspace and the Metrics Web interface. The default is 12428.

- 5 In the **Web server port number** field, specify the port number for the Web server. The default is 8080 for HTTP.

If you use HTTPS for your Web protocol, select **Use secure HTTPS protocol instead of HTTP protocol to access Metrics results**. Specify your port number in the corresponding field. The default is 8443 for HTTPS. There are additional steps to set up the Web server for HTTPS. See “Configure Web Server for HTTPS” on page 2-39.

If you changed the port number from the default, you must configure the same port number for the Queue Manager server. See “Specify Port Number of Polyspace Metrics Web Server in Queue Manager” on page 2-41 .

Access the Polyspace Metrics Web interface with:

```
protocol://ServerName:WSPN
```

- *protocol* is either http or https.
- *ServerName* is the name or IP address of the Queue Manager server.
- *WSPN* is the Web server port number.

Configure Web Server for HTTPS

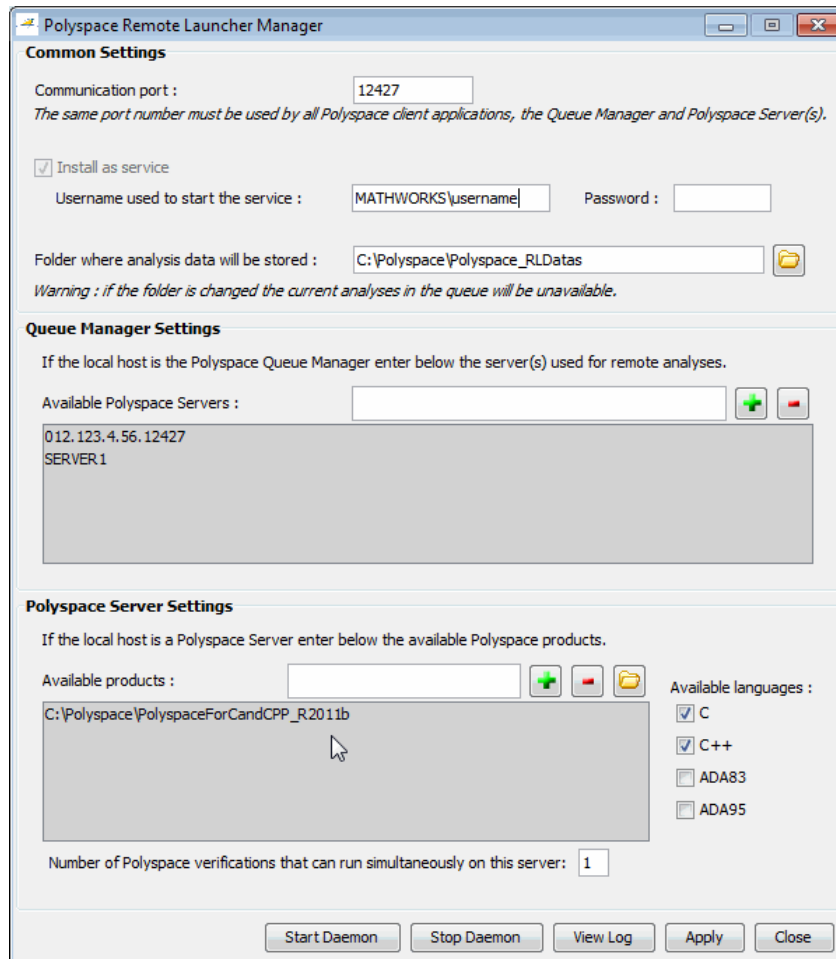
While the data transfers between the Polyspace Server and the Polyspace Client are always encrypted, the data transfer to the Metrics Web interface is not. Enabling HTTPS for the Web protocol encrypts the data transfer to the Polyspace Metrics Web interface. To set up HTTPS, you must change the server configuration and set up a keystore for the HTTPS certificate.

Before you start the following procedure, you must complete “Configure Preferences for Polyspace Metrics” on page 2-37

To configure HTTPS access to Polyspace Metrics:

- 1 Open the Remote Launcher Manager. Run the following command:

```
Polyspace_Install\polyspace\bin\polyspace-rl-manager.exe
```



2 Click **Stop Daemon**. The Queue Manager server daemon is stopped so that you can make the necessary changes for HTTPS.

3 Open the `Polyspace_RLData\tomcat\conf\server.xml` file in a text editor. Look for the following text:

```
<!--  
<Connector port="8443" SSLEnabled="true" scheme="https"  
secure="true" clientAuth="false" sslProtocol="TLS"
```

```
keystoreFile="<datadir>/ .keystore" keystorePass="polyspace" />
->
```

If the text is not in your `server.xml` file:

- a** Delete the entire `.. \conf \` folder.
- b** In the Remote Launcher Manager, restart the daemon by clicking **Start Daemon**.
- c** Click **Stop Daemon** to stop the Queue Manager daemon again so that you can finish setting up the server for HTTPS.

The `conf` folder is regenerated, including the `server.xml` file. The file now contains the necessary text to configure the HTTPS Web server.

- 4** Follow the commented-out instructions in `server.xml` to create a keystore for the HTTPS certificate.
- 5** In the Remote Launcher Manager, click **Start Daemon** to restart the Queue Manager daemon with the changes.

You can now access the Polyspace Metrics Web interface using

```
https://ServerName:WSPN
```

- *ServerName* is the name or IP address of the Queue Manager server.
- *WSPN* is the Web server port number.

Specify Port Number of Polyspace Metrics Web Server in Queue Manager

If you change or specify a non-default value for the Web server port number of your Polyspace Client, you must manually configure the same value for your Queue Manager.

In `Polyspace_RLData\ tomcat \conf \server.xml`, edit the `port` attribute of the `Connector` element for your Web server protocol.

- For HTTP:


```
<Connector port="8080" />
```

- For HTTPS:

```
<Connector port="8443" SSLEnabled="true" scheme="https"  
secure="true" clientAuth="false" sslProtocol="TLS"  
keystoreFile="<datadir>/.keystore" keystorePass="polyspace" />
```

Configure Polyspace Server for Multiple Versions of Client

You can upgrade your Polyspace Server, and configure it to process jobs from clients running previous versions of the software. This allows you to avoid updating the server and all client machines at the same time.

Note To configure your server to support two releases, you must install the older release first, and then install the newer release on top of it. If you install the newer release first, you must uninstall it before proceeding.

Windows Server Configuration

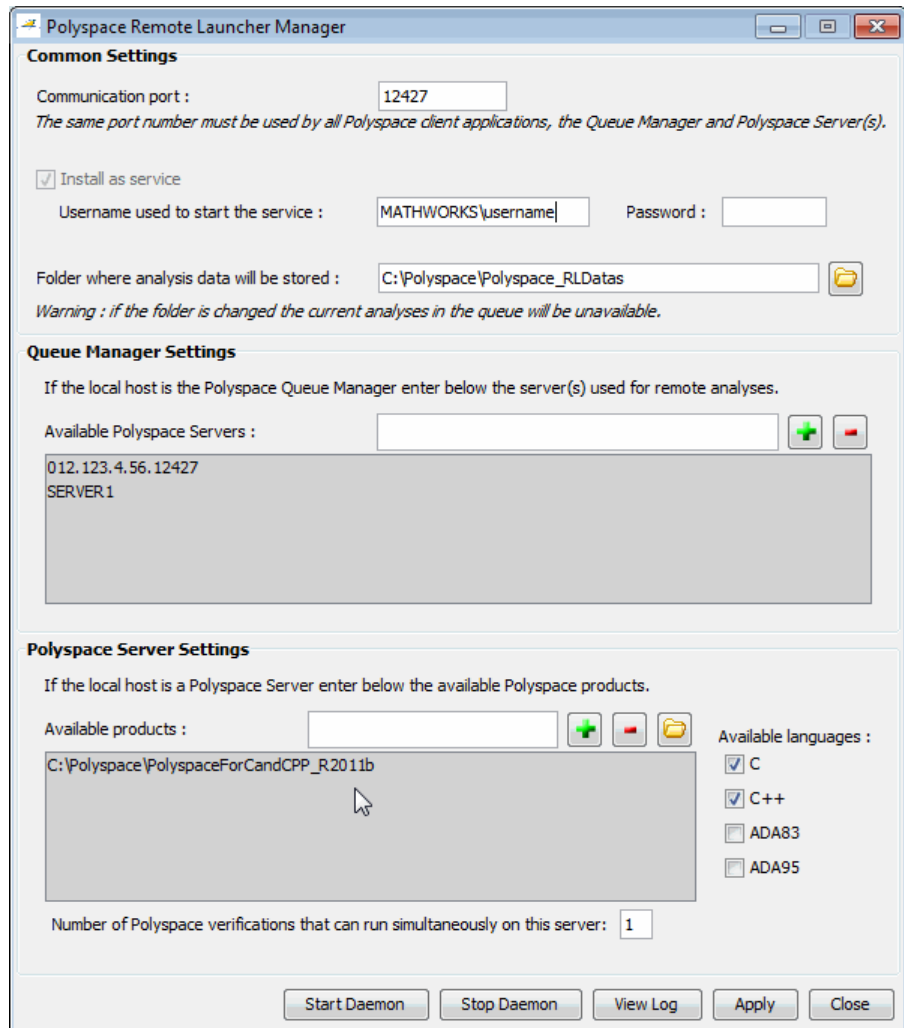
To configure a Windows server to support two software versions:

- 1 Install the older version of the Polyspace Server software.
- 2 Install the newer version of the Polyspace Server software, checking that you select the same Polyspace root folder.


When installation completes, you have two `PolyspaceForProduct` folders in the Polyspace root folder, one for each release. For example:

```
C:\Polyspace
  \PolyspaceForCandCPP_R2011b
  \PolyspaceForCandCPP_R2011a
```

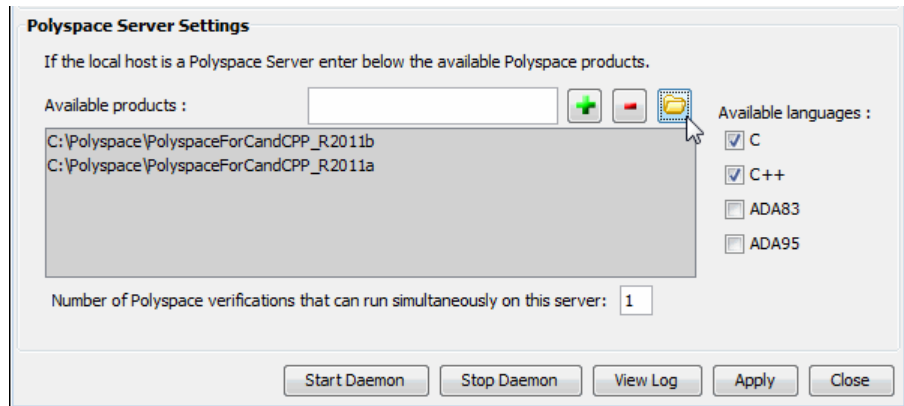
- 3 Open the Remote Launcher Manager.



The list of products currently supported by the server appears in the **Polyspace Server Settings** section. In the previous figure, PolyspaceForCandCPP_R2011b is the only product currently supported by the server.

- 4** In the **Polyspace Server Settings** section, click the folder button , then select the folder for the Polyspace software version you want to support.

For example, PolyspaceForCandCPP_R2011a.



- 5** Click **Apply** to save your changes.
- 6** Click **Start Daemon** to restart the daemon (service) with the changes.

The Polyspace server automatically chooses the product version, based on the software version of the client that submitted the job.

Linux Server Configuration

To configure a Linux server to support two software versions:

- 1** Install the older version of the Polyspace Server.
- 2** Install the newer version of the Polyspace Server, checking that you select the same Polyspace root folder.

When installation is complete, the Polyspace root folder (`/usr/local/Polyspace`) contains two `PolyspaceForProduct` folders, one for each release. For example:

```
/PolyspaceForAda_R2011b  
/PolyspaceForAda_R2011a
```

- 3** Open the file `/etc/polyspace/polyspace.conf`.
- 4** Find the `product=` line for the current software version, for example:

```
product=/usr/local/Polyspace/PolyspaceForAda_R2011b
```
- 5** Add a new `product=` line for the previous software version, for example:

```
product=/usr/local/Polyspace/PolyspaceForAda_R2011a
```
- 6** Restart the daemon by running the following root command:

```
/etc/init.d/polyspaced restart
```

Using the software version of the client that submitted the job, the Polyspace Server automatically chooses the required product version.

Uninstall Polyspace Products

- “Uninstall on Windows Platforms” on page 3-2
- “Uninstall on Linux Platforms” on page 3-4

Uninstall on Windows Platforms

In this section...

“Should I Uninstall Previous Releases Before Installing?” on page 3-2

“Uninstall the Polyspace Software” on page 3-2

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 currently run a release that is from the release range R2008a – R2012b, **do not** uninstall the release before installing the new release. The new server software can run verifications from both releases. However, before you install the new release, you must stop the Polyspace service (daemon). Use the Remote Launcher Manager to check whether the service is running, and, if required, stop the service. To open the Remote Launcher Manager, run the following command:

```
%POLYSPACE_COMMON%\RemoteLauncher\PSTRManager.exe
```

After installing the new release, you can use the Remote Launcher Manager to restart the service.

- If you currently run release R2007a+ or earlier, **you must uninstall** the release before installing the new release. R2007a+ and earlier releases use the Cygwin API, which is incompatible with the new release.

Uninstall 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. Follow the instructions and refer to paragraphs below for specific components, if required.

Note Some files and folders added after installation might remain after the uninstall process is complete. After rebooting your machine, check the *Polyspace_Install* folder for files and subfolders. You can remove these remaining files by hand.

Uninstall on Linux Platforms

In this section...
“Should I Uninstall Previous Releases Before Installing?” on page 3-4
“Uninstall the Polyspace Software” on page 3-4

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 daemon using the command `/etc/init.d/polyspaced start`.

Uninstall the Polyspace Software

To uninstall components on Linux system:

- Run `Polyspace_Install/Uninstall/Uninstall .`

This script launches the graphical uninstall wizard.

Polyspace License Installation

- “Polyspace License Overview” on page 4-2
- “Common Licensing Questions” on page 4-8
- “Configure Designated Computer Licenses” on page 4-10
- “Configure Concurrent Licenses” on page 4-12
- “Check Installed Licenses” on page 4-28
- “License Error Messages” on page 4-29

Polyspace License Overview

In this section...
“Overview” on page 4-2
“Polyspace Licensing Options” on page 4-2
“Obtain a License File” on page 4-5

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 4-2
- “Concurrent (Floating) Licenses” on page 4-4

Designated Computer (Individual) Licenses

Designated Computer (DC) licenses are used only for Polyspace client software. DC licenses are 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 software 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 Linux computer.

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

- Installing and activating the Polyspace client software on your computer.
- Checking that you are the only person who runs the software on your computer.

To generate a DC license, you need to activate your software using either the Polyspace Software Activation Client, or the License Center at the MathWorks Web site. To obtain a DC license, refer to “Check Installed Licenses” on page 4-28.

Note DC licenses do not use the FlexNet server. For DC licences, you need only to activate your software.

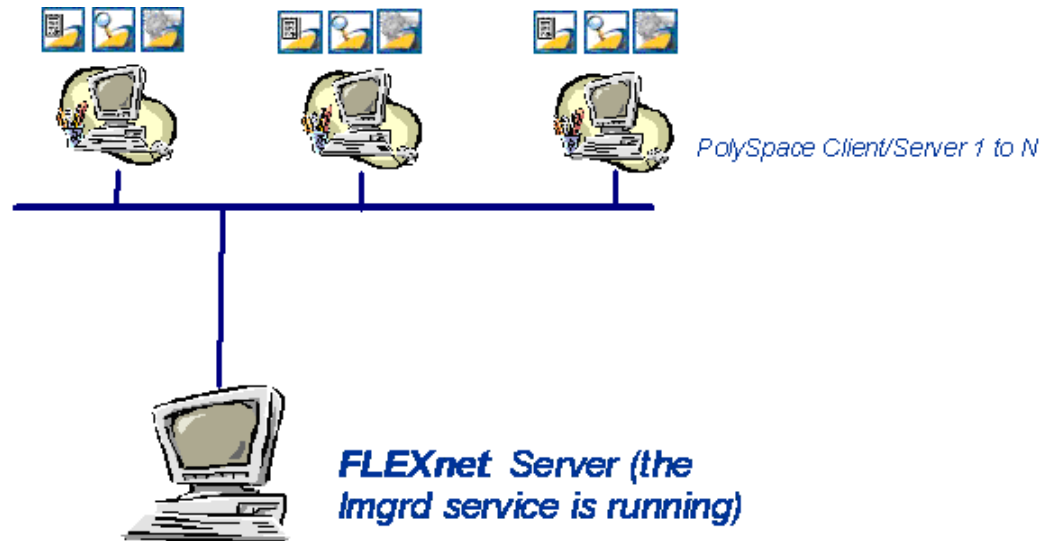
Concurrent (Floating) Licenses

Concurrent licenses are used for both Polyspace client and Polyspace server software. Concurrent licenses are 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 4-16).

Note With concurrent licenses, you do not need to activate the software on each Polyspace system. You manually activate the concurrent license once (using the License Center at the MathWorks Web site), and then provide license files for each Polyspace system.

Obtain a License File

When you activate your software through the MathWorks Activation Client, you automatically receive a license file. You do not need to take any additional steps.

If you are using a concurrent license, or do not have access to the Activation Client, you must obtain a license file from MathWorks. You can obtain license files from the License Center at the MathWorks Web site:

<http://www.mathworks.com/licensecenter>

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

Get License hostid on Linux Platforms

On a Linux 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 Linux machine using the `lmutil` FlexNet utility available on the Polyspace DVD at `DVD/Data/Unix/FLEXLM/x86-linux`.

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"
```

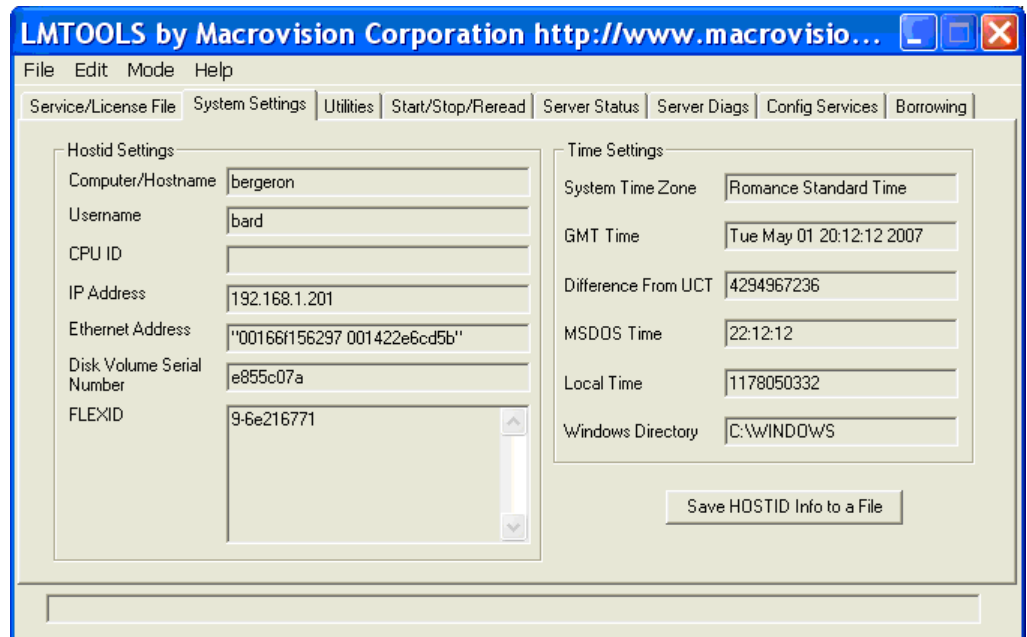
Transmit the number between double quotes to MathWorks in order to obtain the license file.

Get 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 DVD at `DVD\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 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 4-8
“How Do I Identify Designated Computer and Concurrent Licenses?” on page 4-8
“What If I Have Other MathWorks Products Installed?” on page 4-8
“What If I Have an Old Polyspace FLEXnet License Server?” on page 4-9

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 activate your software license.

For more information, see “Configure Designated Computer Licenses” on page 4-10.

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 4-11.

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 “Configure Designated Computer Licenses” on page 4-10.

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 “Configure Licenses on a Polyspace Client or Polyspace Server System” on page 4-24.

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 DVD. The upgrade process involves uninstalling your old FlexNet server and installing the new one.

For installation information, see “Install FlexNet Manager” on page 4-17.

Then, refer to “Configure Concurrent Licenses” on page 4-12 for licensing information.

Configure Designated Computer Licenses

In this section...
“Overview” on page 4-10
“Install License Files” on page 4-10
“DC License File Format” on page 4-11

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.

Designated Computer licenses are available only for Polyspace client software

Note When you activate your software through the MathWorks Activation Client, your license is configured automatically. You do not need to take any additional steps.

Install License Files

To install a Designated Computer license, you must copy the `license.dat` file to the required location. 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 4-11).

Place the license file in the `Polyspace_Install/licenses` folder. For example, on a Windows platform, if you installed the Polyspace software in the default folder, place the file in:

```
C:\Program Files\Polyspace\PolyspaceForCandCPP_R2013a\licenses\license.dat
```

Note Remove previous `license.dat` files from the `licenses` folder.

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 Linux 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
```

Configure Concurrent Licenses

In this section...
“Introduction to FlexNet Licensing” on page 4-12
“Install FlexNet Manager” on page 4-17
“Configure a Concurrent License” on page 4-23
“Install Licenses on an Existing FlexNet Server” on page 4-27

Introduction to FlexNet Licensing

- “What is FlexNet Manager?” on page 4-12
- “FlexNet Software Components” on page 4-13
- “Supported Machines and Versions” on page 4-16

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 “Install FlexNet Manager” on page 4-17 for information about installing the FLEXnet software.

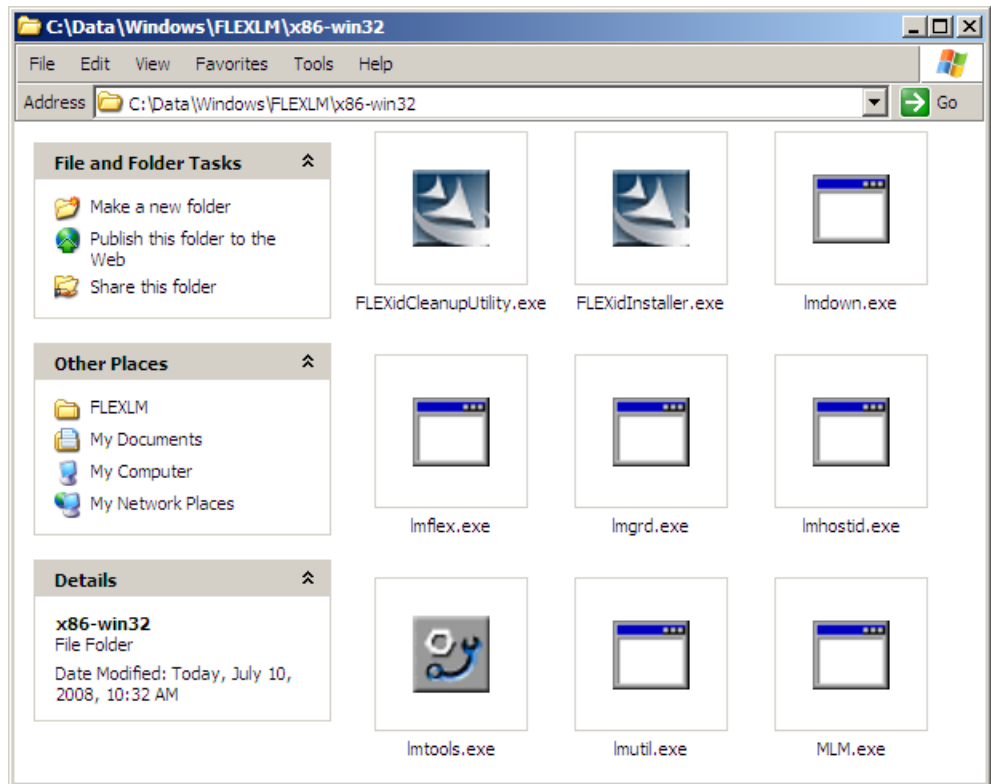
FlexNet Software Components

- “Windows Platforms” on page 4-14
- “Linux Platforms” on page 4-16

Windows Platforms. On a Windows system, the following software components relate to the standard FlexNet package (see FlexNet® Components on page 4-15).

FlexNet Component	Description
license.dat	License file. If you do not have a license, contact MathWorks.
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.
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 DVD in `DVD\Data\Windows\FLEXLM\x86-win32`.



FlexNet® Components

Linux Platforms. On a Linux 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.
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 DVD:

DVD/Data/Unix/FLEXLM/x86-linux.

Supported Machines and Versions

- “Supported FlexNet Releases” on page 4-16
- “Supported Machines” on page 4-16
- “Network Recommendations for Concurrent Licensing” on page 4-17

Supported FlexNet Releases. Polyspace products support FlexNet release 11.9.

Supported Machines. You can install the FlexNet server on all platforms supported by Polyspace products.

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.

Install FlexNet Manager

- “Install FlexNet Manager on Windows Systems” on page 4-17
- “Install FlexNet Manager on Linux Systems” on page 4-21

Install FlexNet Manager on Windows Systems

- “Software Location” on page 4-17
- “Install the FlexNet Server” on page 4-17
- “Configure the License Manager” on page 4-18

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 DVD in:

DVD\Data\Windows\FLEXLM\x86-win32.

Note The current documentation is located in *DVD/Docs/Manuals*.

Install the FlexNet Server. Installation consists of a copy and paste:

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

The previous picture (see FlexNet® Components on page 4-15) shows an example of a copy of the FlexNet server in a chosen folder.

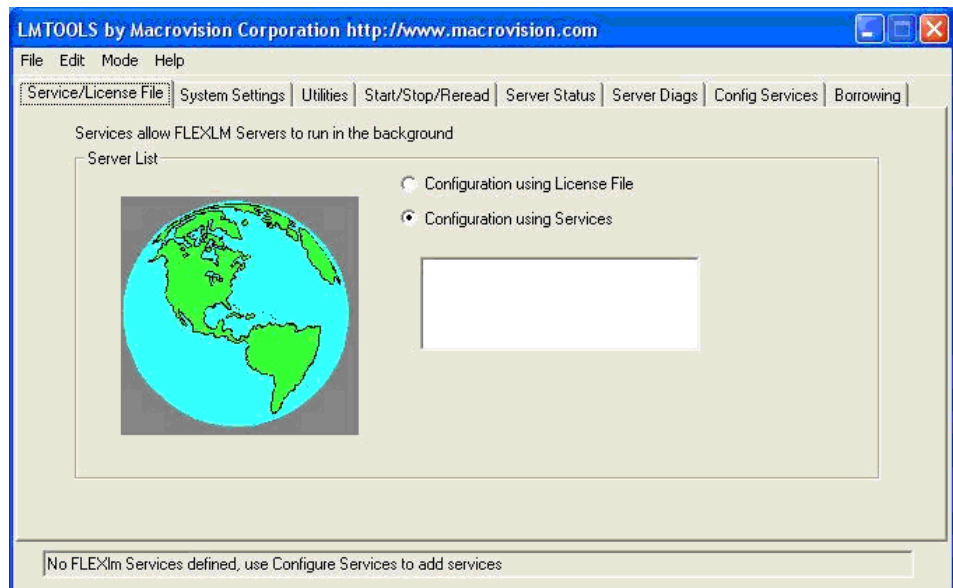
Configure the License Manager. Before setting up the FlexNet server, you must update the *license.dat* file with the name of the server, or its IP address. For more information, see “Configure a Concurrent License” on page 4-23

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

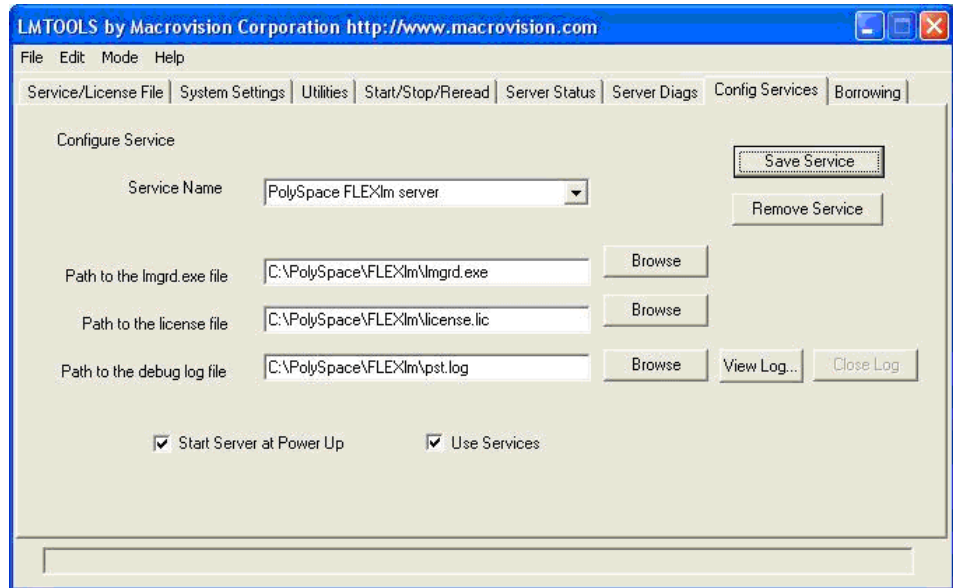
To configure the license server as a service:

- 1 Run *lmtools.exe*.

The LMTOOLS dialog box appears.



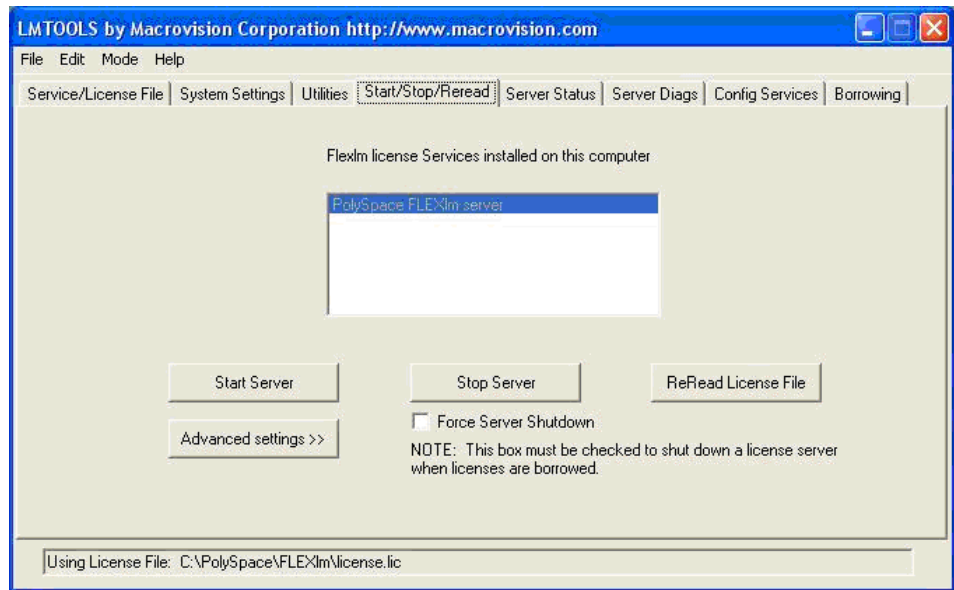
- 2 Select the **Configuration using Services** radio button.
- 3 Select the **Config Services** tab.



- 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 “Configure a Concurrent License” on page 4-23).

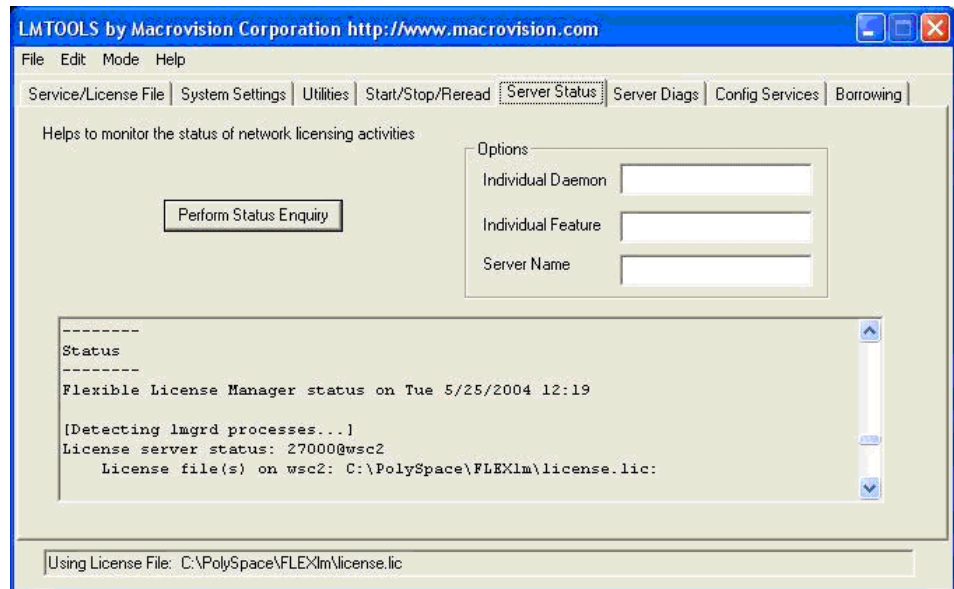
- 7 In the **Path to the debug log file** field, enter or browse to the debug log file that this license server writes. Before, you have created it in the permanent chosen folder.
- 8 Select the two radio button **Use Services** and **Start server at power up**.
- 9 Click **Save Service** to save the new “Polyspace_Common 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 4-25).

Install FlexNet Manager on Linux Systems

- “Software Location” on page 4-21
- “Install the FlexNet Server” on page 4-22
- “Configure the FlexNet Server” on page 4-22

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 DVD in:

DVD/Data/Unix/FLEXLM.

This folder contains a sub-folder, *x86-linux*, that concerns all Linux OS supported by Polyspace software.

Note The current documentation is located in *DVD/Docs/Manuals*.

Install the FlexNet Server. Installation consists of a copy and paste:

- 1 The first step: copy the *DVD/Data/Unix/FLEXLM/x86-linux* folder on the server. A permanent folder must be chosen on this machine.
- 2 Then copy the license file *license.dat* in the chosen folder.

Configure 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 “Configure a Concurrent License” on page 4-23.

To configure the license server on a Linux 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.

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

Configure a Concurrent License

- “Overview” on page 4-23
- “Configure Licenses on a Polyspace Client or Polyspace Server System” on page 4-24
- “Configure Licenses on the FlexNet Server System” on page 4-25
- “Concurrent License File Format” on page 4-25

Overview

A Concurrent license requires a FlexNet server. Before configuring a concurrent license, you must install the FlexNet Server from the Polyspace DVD. Refer to “Install FlexNet Manager” on page 4-17 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 “Obtain a License File” on page 4-5.

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.

Configure 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 `Polyspace_Install\licenses`.

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

Configure Licenses on the FlexNet Server System

After copying the FlexNet tools to a folder 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
```

Note If you use an IP address as your hostid, insert the keyword “INTERNET=” before the hostid.

For example: `SERVER this_host INTERNET=10.94.78.128`

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: www.globes.com.

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 “Configure the License Manager” on page 4-18 for Windows systems, or “Configure the FlexNet Server” on page 4-22 for Linux systems).

- *server_hostid* — This is the *hostid* of the server, usually the MAC address on Linux systems and the disk serial number on Windows systems (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 Polyspace Verification Environment, Coding Rules checker, DRS, Main generator and Report features).
Polyspace_Client_Ada	Polyspace Client for Ada (including Polyspace Verification Environment and Report features).
Polyspace_Server_C_CPP	Polyspace Server for C/C++ (including Remote Launcher, DRS and Report features).
Polyspace_Server_Ada	Polyspace Server for Ada (including Remote Launcher and Report features).

Polyspace Feature	License Type
Polyspace_Model_Link_SL	Polyspace Model Link SL (including Run-Time Checks, Coding rules, DRS and Report features).
Polyspace_Model_Link_TL	Polyspace Model Link TL (including Run-Time Checks, Coding Rules, DRS and Report features).
Polyspace_UML_Link_RH	Polyspace UML Link RH (including Run-Time Checks 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
```

Install 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.

Check Installed Licenses

You can check which Polyspace licenses are installed on your system using the `polyspace-ver` command.

The `polyspace-ver` command provides the following configuration information:

- Hardware configuration
- Operating system
- Polyspace licenses
- Specific version numbers for Polyspace products
- Any installed Bug Report patches

To obtain your configuration information, run the following command:

- **UNIX/Linux** — `Polyspace_Install/polyspace/bin/polyspace-ver`
- **Windows** — `Polyspace_Install/polyspace/bin/polyspace-ver.exe`

Note In the Polyspace verification environment, you can obtain the same configuration information by selecting **Help > About**.

License Error Messages

In this section...

“Overview” on page 4-29

“Error -15, the FlexNet server is unreachable” on page 4-29

“Error -5, the Polyspace feature is not available” on page 4-30

“Error -21, license file does not support this version” on page 4-30

“Error -10, the license date has expired” on page 4-30

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.

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/sunOS5/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, license file does not support this version

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".
*** License error
*** Aborting.

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