Rational Test RealTime
Rational PurifyPlus RealTime

INSTALLATION GUIDE

VERSION: 2002 RELEASE 2 - SR1

PART NUMBER: 800-025997-000

Rational®
the software development company

support@rational.com
http://www.rational.com

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U.S. Patent Nos.5,193,180 and 5,335,344 and 5,535,329 and 5,835,701. Additional patents pending.

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Preface

Welcome to Rational Test RealTime or PurifyPlus RealTime. This installation guide contains information to help you install the products, including the steps you need to take both before and after installation.

Test RealTime is a complete runtime analysis and testing solution for real-time and embedded systems. It addresses all runtime analysis needs and all test levels including component and system testing for the C, C++, Ada, and Java programming languages.

PurifyPlus RealTime is a complete runtime analysis solution for real-time and embedded systems. It addresses all runtime analysis needs for the C, C++, Ada, and Java programming languages.

Audience

This guide is intended for Rational software users who are installing Test RealTime or PurifyPlus RealTime, such as system administrators, application developers, quality assurance managers, and quality assurance testers. To install and use the products, you should be familiar with the selected Windows or UNIX platform and its conventions.

Contacting Rational Technical Publications

To send feedback about documentation for Rational products, please send e-mail to our technical publications department at techpubs@rational.com.

Contacting Rational Technical Support

When contacting Rational Technical Support, please be prepared to supply the following information:

- About you:
  - Name, title, e-mail address, telephone number

- About your company:
  - Company name and company address
- About the product:
  - Product name and version number (see **Help > About menu**)
  - What components of the product you are using
- About your development environment:
  - Operating system and version number (for example, Windows 2000, Solaris 2.6/2.7/2.8, or HP-UX 10.20)
  - Target compiler, operating system and microprocessor. If necessary, send the Target Deployment Port
- About your problem:
  - Your service request number (if you are calling about a previously reported problem)
  - A summary description of the problem, related errors, and how it was made to occur
  - Please state how critical your problem is
  - Any files that can be helpful for the technical support to reproduce the problem (project, workspace, test scripts, source files). Formats accepted are .zip and compressed tar (.tar.Z or .tar.gz)

If your organization has a designated, on-site support person, please try to contact that person before contacting Rational Technical Support.

You can obtain technical assistance by sending e-mail to just one of the e-mail addresses cited below. E-mail is acknowledged immediately and is usually answered within one working day of its arrival at Rational. When sending an e-mail, place **`Test RealTime`** or **`PurifyPlus RealTime`** in the subject line, and include a description of your problem in the body of your message.

Note: When sending e-mail concerning a previously-reported problem, please include in the subject field: "[**SR#***<number>*] ", where *<number>* is the service request number of the issue. For example:

```
Re:[SR#12176528] New data on Rational Test RealTime install issue
```

Sometimes Rational technical support engineers will ask you to fax information to help them diagnose problems. You can also report a technical problem by fax if you prefer. Please mark faxes "**Attention: Technical Support**" and add your fax number to the information requested above.

Your Location	**Address**	**Telephone**	**E-mail**
North America	Rational Software, 18880 Homestead Road, Cupertino, CA 95014	(800) 433-5444	support@rational.com
Europe, Middle East, Africa	Rational Software, Beechavenue 30, 1119 PV Schiphol-Rijk, The Netherlands	+31 (0) 20-454-6200	support@europe.rational.com
Asia Pacific	Rational Software Corporation Pty Ltd, Level 13, Tower A, Zenith Centre, 821 Pacific Highway, Chatswood NSW 2067, Australia	+61 2-9419-0111	support@apac.rational.com

Before Installing Rational Test RealTime or PurifyPlus RealTime

1

This chapter tells you what you need to know before installing Rational Test RealTime or PurifyPlus RealTime and is organized as follows:

- About the Target Deployment Ports
- Hardware and Software Requirements
- Licensing

About the Target Deployment Ports

The Target Deployment technology used in Test RealTime or PurifyPlus RealTime offers a strong integration between all product components and the target system under test. It does this while keeping test script development, deployment, execution, and reporting user friendly.

In order to help you achieve your test objectives, each Target Deployment Port can be tailored to match the specifics of the environment in which you are working.

Configuration and customization of Target Deployment Ports is covered in the *Target Deployment Guide* online manual.

Hardware and Software Requirements

Make sure that your computer conforms to the following minimum requirements for each product or component you plan to install.

Table 1 Hardware and Software Requirements

Rational Component	Minimum Requirements
Windows platforms	PC-compatible computer with a Pentium microprocessor (133 MHz or better recommended) 130 MB free disk space (minimum installation) 256 MB RAM is the recommended minimum; more memory generally improves responsiveness. One of the following operating systems: ▪ Windows NT 4.0 with Service Pack 6a ▪ Windows 2000 Professional Edition ▪ Windows XP Professional Edition
UNIX platforms	200 MB free disk space (minimum installation) 256 MB RAM minimum. One of the following operating systems: ▪ HP-UX 10.20 or 11 ▪ Solaris 2.6, 7 or 8 ▪ Linux Red Hat 7.0 and 7.2 ▪ Linux SuSE 7.2 and 7.3 ▪ AIX 4.3 and 5L (v5.1)

Note: Windows 98 and Windows Me are not supported platforms.

Before you install either product, be sure to do the following:

- Make sure that all computers have TCP/IP installed. Install any updates to your network software that you have not installed. Verify that computers are communicating with each other. If you have any problems, see your network administrator.
- On Windows platforms, Test RealTime or PurifyPlus RealTime must be used with the latest versions of other Rational products. Please upgrade any other Rational products to v2002 *Release 2*. Ensure that any previous versions of those products have been uninstalled. To remove a previous release of Test RealTime or PurifyPlus RealTime, please refer to the instructions provided with that version.

On UNIX, Test RealTime or PurifyPlus RealTime can be installed alongside previous versions of the products.

Licensing

When you purchase Test RealTime or PurifyPlus RealTime, you purchase a specific number of licenses to use the product. Rational Software issues you a license key for the product that corresponds to the type and number of licenses you purchased.

Both products come with a temporary license to get you started. You then request a permanent or TLA license key from Rational Software at http://www.rational.com/accountlink and install it to ensure continued use of the products. The startup license key and other licensing information is available from the License Key Certificate included in the product packaging.

Test RealTime and PurifyPlus RealTime use the Rational License Key Administrator to manage product licenses. For more information on license key administration, see the *License Management Guide* online manual.

Requesting your Permanent or TLA License Key

To request a permanent or TLA license key, go to www.rational.com/accountlink and follow the instructions provided there.

Installing Rational Test RealTime or PurifyPlus RealTime

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This chapter explains how to install Rational Test RealTime or PurifyPlus RealTime. It includes the following topics:

- Windows Installation
- UNIX Installation

Windows Installation

Please read the relevant Release Notes file on the CD-ROM for the latest installation notes before running the installation process:

- **`rtrt-rn2002.05.21.htm`** for Test RealTime
- **`pprt-rn2002.05.21.htm`** for PurifyPlus RealTime

Note: In Windows, you cannot install both Test RealTime and PurifyPlus RealTime on the same machine.

Upgrade Information

A new version of Test RealTime or PurifyPlus RealTime cannot be installed alongside one or several previous versions.

Always follow the installation procedure when installing a new release and ensure that environment variables, especially $TESTRTDIR, point to the product version that you want to use.

You might also need to update any shortcuts or links to the product binaries.

To remove a previous release of the product, please refer to the *Installation Guide* provided with that version.

Microsoft Visual Studio Support

If you are using the product with Microsoft Visual Studio 6.0 or .NET, you must install Visual Studio and execute it at least once before installing Test RealTime or PurifyPlus RealTime.

Installation Instructions

1. Place the product CD in the CD-ROM drive. The installation program starts automatically.

   If the installation program does not start:

   a. Open the product CD with the Windows Explorer.

   b. Double-click `setup.exe` and click **OK**.

2. The InstallShield installation program prompts you through the installation process, providing detailed instructions along with default settings.

3. If Test RealTime or PurifyPlus RealTime are the first Rational products to be installed on the system, the installation program installs the Rational License Key Administrator.

4. Restart the computer to complete the installation.

5. After the computer has restarted, you are prompted by the Rational License Key Administrator to configure your product license key.

UNIX Installation

The procedure for installing Test RealTime or PurifyPlus RealTime on UNIX is described in the following sections. Note that unless specified otherwise, your system administrator will generally carry out these steps.

For environments where more than one user is using the product, install the main files on a centralized server.

A minimum of 200MB should be available on each UNIX workstation to install the products.

Please read the relevant Release Notes file on the CD-ROM for the latest installation notes before running the installation process:

- `rtrt-rn2002.05.21.htm` for Test RealTime
- `pprt-rn2002.05.21.htm` for PurifyPlus RealTime

Upgrade Information

By default, each version of the product is installed in a directory named after its version number. This means that a new version of Test RealTime or PurifyPlus RealTime can be installed alongside one or several previous versions. In this case, any shortcut icons installed in your window environment will need updating.

1. Place the product CD in the CD-ROM drive and mount the CD-ROM.

   You are usually required to be a system administrator (root or super user) to do this. See the instructions for your particular CD-ROM drive and operating system for details.

   Note: On Solaris and Linux the CD-ROM may be automatically mounted.

2. From a shell, change directory to the mounted CD-ROM device.

   For example:

   ```
   % cd /cdrom
   ```

3. Run the rs_install installation program:

   ```
   % rs_install
   ```

   The `rs_install` program prompts you through the installation process, providing detailed instructions along with default settings. The defaults appear in brackets (for example: `[2]`). To accept the default, press ENTER.

4. After you install your license key, the rs_install program reminds you that you must configure your server to automatically restart the license server when it reboots. The rs_install program gives you instructions for doing this.

   For any license-related issues, please refer to the *License Management Guide* manual, provided with the product.

5. Change to the following directory accordingly:

   <install_dir>`/releases/TestRealTime.2002.05.21`

   or

   <install_dir>`/releases/PurifyPlusRealTime.2002.05.21`

   where *<install_dir>* is the Test RealTime or PurifyPlus RealTime installation directory.

6. Check and edit the `testrtinit.sh` or `pplusrtinit.sh` file (or `testrtinit.csh` or `pplusrtinit.csh` file), if necessary. This file contains the environment variable settings for Test RealTime or PurifyPlus RealTime.

If the product installed successfully, you can move on to *Running Rational Test RealTime or PurifyPlus RealTime* on page 15.

Solaris 2.6 Perl Installation

If you are installing the product on a Solaris 2.6 platform, you need to replace the Perl binary after installation in *<product>*`/bin/sun4/sunOS5` with the one found in the archive *<product>*`/3rdparty/Perl_for_solaris_2_6.tar.Z`, where *<product>* refers to either:

- **`TestRealTime.2002.05.21`** for Rational Test RealTime, or
- **`PurifyPlusRealTime.2002.05.21`** for Rational PurifyPlus RealTime.

Proceed as follows:

1. Copy the **`Perl_for_solaris_2_6.tar.Z`** file in the temporary **`tmp`** directory.

   For example:

   ```
   md tmp
   cp <product>/3rdparty/Perl_for_solaris_2_6.tar.Z/tmp
   cd tmp
   ```

2. Uncompress and untar this file:

   ```
   uncompress Perl_for_solaris_2_6.tar.Z
   tar xvf Perl_for_solaris_2_6.tar
   ```

3. Copy the executable file **`Perl`** in the directory *<install_dir>***/bin/sun4/sunOS5** to replace the existing file.

Questions and Answers about rs_install

Below are the answers to some common questions about the rs_install program.

- **Can I rerun parts of the installation?** Yes. The rs_install program provides commands that enable you to rerun specific sections of the installation as needed.
- **Do I have to reenter my license server information each time I install a product?** No. You only need to enter this information once. The `rs_install` program saves the information you enter about yourself and about the machine to be used as the license server for your Rational Software product licenses in two text files: an `rs_install.defaults` file that contains information about you and your license server, and a file, that records product-specific information. The `rs_install` program reports the location of these files when you quit the program. The next time you run rs_install, the program uses the saved configuration information.
- **Do I need to install all my licenses on one server?** No. You are not required to use all of your allowed licenses for a single-license server. You can install a product at another site and configure a license server at that site to serve the remaining licenses in your Rational Software account.
- **Which type of product license key should I install?** If you already have your permanent or TLA license key, you can install it right away. You can also request a permanent license key at:
  http://www.rational.com/accountlink

Otherwise, select the startup or evaluation license to get started using the product.

Note: To ensure uninterrupted use of your Rational Software product, you should install your permanent or TLA license key as soon as possible.

- **Can I import existing user names from an earlier installation of the product installed with Named User licensing?** Yes. If you installed the product previously under FLEXlm, the user names are imported automatically when you run rs_install. If you installed the product under PureLA License Administrator, rs_install asks you if you want to import the existing users.purela file, and also permits you to edit the imported user names.
- **How do I proceed if I already have other Rational product licenses installed on my server?** You must add the new licenses to your current Rational product license file. To do this, specify the current Rational license file as the license file name instead of using the default.
- **How do I get updates for the rs_install program and for the Rational products?** You can get updates from within the rs_install program, though you must be running the program on a machine that has network access. The rs_install program's Licensing Options screen lets you select an item to download the latest version of rs_install (in which case rs_install replaces itself and restarts using the new version) or get product updates.

Running Rational Test RealTime or PurifyPlus RealTime

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This chapter explains how to start using Rational Test RealTime and PurifyPlus RealTime. It includes the following topics:

- Launching the Product
- Accessing the Online Documentation
- Troubleshooting

Launching the Product

Test RealTime and PurifyPlus RealTime can be used either in a graphical environment or in command line batch mode.

When using the product for the first time, the graphical user interface (GUI) provides an easy and comprehensive way to access all Test RealTime or PurifyPlus RealTime features.

To Run the Graphical User Interface for Windows

On Windows, run **Rational Test RealTime** or **Rational PurifyPlus RealTime** from the **Start** menu.

To Run the Graphical User Interface for UNIX

The UNIX binaries are located in the following directory:
*<install_dir>***releases/TestRealTime.2002.05.21/bin/***<platform>***/<***os***>/**
or *<install_dir>***releases/PurifyPlusRealTime.2002.05.21/bin/***<platform>***/<***os***>/**
where:

- *<install_dir>* is the installation directory of the product
- *<platform>* is the platform architecture, such as intel or sparc
- *<os>* is the name of the current operating system

This path is set automatically by the **testrtinit.sh** or **start_testrt.sh** script for Test RealTime, and by the **pplusrtinit.sh** or **start_pplusrt.sh** script for PurifyPlus RealTime.

The following method is valid only for *sh*, *ksh* or *bash* shells:

1. Run the **testrtinit.sh** or **pplusrtinit.sh** file to set the environment variables.

   In a *sh* or *ksh* shell (the period '.' is part of the command):

   . testrtinit.sh

   or

   . pplusrtinit.sh

2. In a shell windows, type the following command to start the product GUI:

   studio

To simplify execution of Test RealTime or PurifyPlus RealTime, you can add the **testrtinit.sh** or **pplusrtinit.sh** parameters to your **.profile** account parameters.

Alternatively, the following script configures the environment and launches Test RealTime or PurifyPlus RealTime in *sh*, *csh*, *ksh* or *bash* shells:

*<install_dir>***/releases/TestRealTime.2002.05.21/start_testrt.sh**

or

*<install_dir>***/releases/PurifyPlusRealTime.2002.05.21/start_pplusrt.sh**

If you use a *csh* shell, you should run the following script:

*<install_dir>***/releases/TestRealTime.2002.05.21/start_testrt.csh**

or

*<install_dir>***/releases/PurifyPlusRealTime.2002.05.21/start_pplusrt.csh**

License Variable

The environment variable RSU_LICENSE_MAP is used by Rational Products for some advanced licensing features. In some cases, Test RealTime or PurifyPlus RealTime generates an error message such as:

```
License manager: RSU Licensing WARNING: Couldn't open map file
from $RSU_LICENSE_MAP: ./NIX
```

If this error occurs, use one of the following work arounds:

Unset the variable manually for the current shell. For bash, this command would be:

```
unset RSU_LICENSE_MAP
```

Alternatively, launch the Test RealTime or PurifyPlus RealTime tool from within a script, which might be:

```
#!/bin/bash
if [ -z $RSU_LICENSE_MAP -o -r $RSU_LICENSE_MAP ]
then
   launch_tool
else
   unset RSU_LICENSE_MAP
   launch_tool
fi
```

Accessing the Online Documentation

The entire documentation set for Test RealTime or PurifyPlus RealTime is provided as a full-featured online help system:

- If this is the first time you are using Test RealTime or PurifyPlus RealTime, take the time to complete the relevant **Online Tutorial**. This provides a quick and practical approach to using the product.
- The **User Guide** provides online help and information about testing and monitoring your software in Test RealTime or PurifyPlus RealTime.
- The **Reference Manual** provides advanced information about the test script languages used by Test RealTime or PurifyPlus RealTime as well as command line usage.
- The **Target Deployment Guide** provides advanced information about deploying your test campaign to various target platforms.

Depending on the operating system you are using, these documents were designed to be viewed in either:

- Microsoft HTML Help which is part of Windows
- Netscape Navigator 4.5 or later or any other Java-enabled web browser on UNIX

Both environments provide contextual-help from within the application, a full-text search facility, and direct navigation through the *Table of Contents* and *Index* panes on the left-hand side of the Help window.

Browsing the Online Documentation in Windows

To access the online documentation in Windows, from the **Start** menu, select **Programs**, **Rational Test RealTime** or **Rational PurifyPlus RealTime**, **User Manuals** and the document name.

The documentation is also accessible from the **Help** menu in the product graphical user interface.

Browsing the Online Documentation in UNIX

Before opening the online documentation in UNIX, ensure that your Web browser has the Java support option enabled.

In your Web browser, locate and open the following file:
*<install_dir>***/doc/index.htm**

Where *<install_dir>* points to the Test RealTime or PurifyPlus RealTime installation directory.

If necessary, you can bookmark this page in your Web browser.

The documentation is also accessible from the **Help** menu in the product graphical user interface.

Troubleshooting

If you encounter any problems with the software, try the following suggestions before you call Rational Technical Support for help.

Installation Issues

If the installation procedure fails, try any of the following suggestions:

- Stop all applications before you begin the installation.
- Turn off all virus protection software. These programs often run in the background and may interfere with the installation and file decompression process.
- Turn off any user interface managers or desktop environments that run on Microsoft Windows.
- Change to a standard VGA video driver while Rational Setup is running, or disable video features such as virtual screens or screen switching.
- Change to a standard mouse driver or disable special mouse features that perform tasks such as leaving pointer trails or changing pointer sizes.

Software Errors

If Test RealTime or PurifyPlus RealTime fails to run, try any of the following suggestions:

- Check that the environment variables such as $TESTRTDIR are correctly set. If not, refer to Chapters 2 and 3 of the UNIX installation instructions, or set the environment variables manually. See the *Reference Manual* for a list of required environment variables.
- For any license-related issues, please refer to the *License Management Guide* manual provided with the relevant product.

Documentation Problems

If the Online Documentation fails to display correctly:

- Ensure that you have the latest supported version of Internet Explorer on Windows or a browser that supports Java and frames on UNIX, such as Netscape 4 or later. Check that you have enabled Java support in the browser.
- When using an X terminal, ensure that the DISPLAY parameters are correctly set. On UNIX, try launching the web browser before launching the online Help from the Test RealTime or PurifyPlus RealTime application.

Uninstalling Rational Test RealTime or PurifyPlus RealTime

4

This chapter explains how to remove Rational Test RealTime or PurifyPlus RealTime v2002 Release 2 - SR1 from your computer.

Removing the product from a Windows Platform

Use the Windows **Add/Remove Programs** control panel to select and remove Test RealTime or PurifyPlus RealTime.

All the files and registry settings installed are removed from the system. If you have run the examples in the examples directory, then any intermediate files generated by your compiler will remain. You must delete these files manually.

Note: Removing either product does not remove any Test RealTime or PurifyPlus RealTime project data from your system.

Removing the product from a UNIX Platform

To remove the product from a UNIX platform, simply delete the relevant installation directory.