

Installing Rational RequisitePro®

Version 2000.02.10

Rational®
the e-development company™

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Preface

Welcome to *Installing Rational RequisitePro*. This document provides the information you need to install Rational RequisitePro. It includes instructions for configuring enterprise databases for RequisitePro projects, and configuring your Web server for RequisiteWeb. This document also provides extensive instructions for installing and managing Rational Software licenses.

RequisitePro, the premier requirements management tool, integrates a powerful multi-user requirements database utility with the familiar environment of Microsoft Word for Windows, enabling you to simultaneously work with a requirements database and requirements documents.

Audience

This guide is intended for anyone who is installing Rational RequisitePro. It assumes a basic knowledge of Microsoft Windows and its conventions.

Other Resources

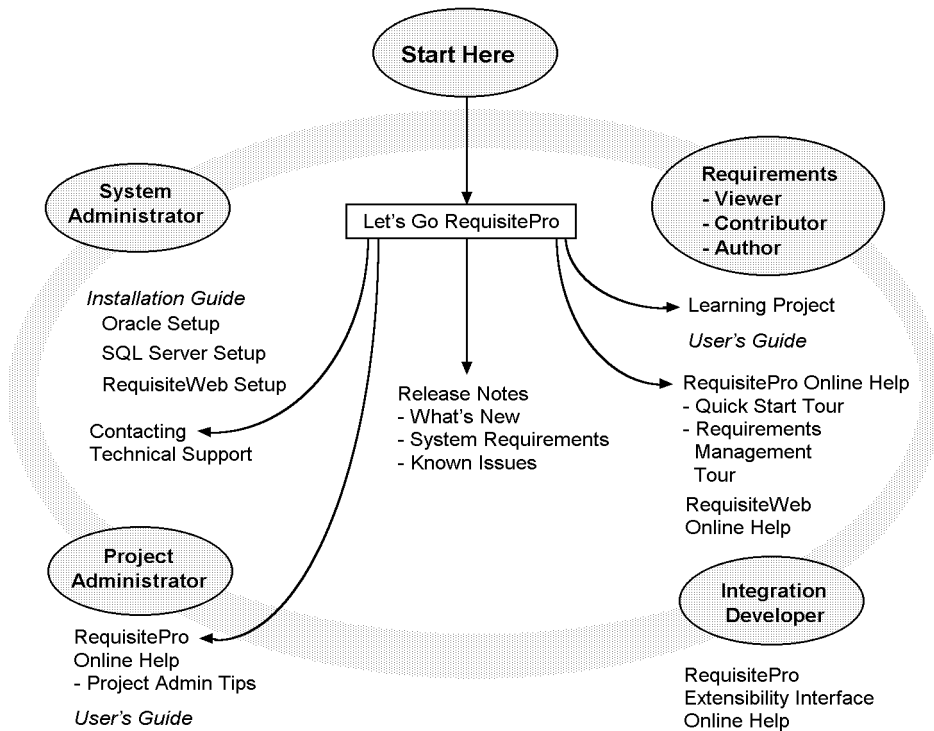
- The **release notes** appear at the end of the RequisitePro installation. They are available from a link in the **Let's Go RequisitePro** application, which appears when you first launch RequisitePro. They are also available after installation on the Start menu in the Rational RequisitePro program group. A Web browser is required for viewing the release notes.
- The guide *Using Rational RequisitePro* and other Rational product documentation is included on a separate Rational Solutions for Windows – Online Documentation CD. Rational RequisitePro online documentation is available in PDF. To read PDF files, you need to install Adobe Acrobat Reader, available from the Adobe Web site, <http://www.adobe.com/>, or on the Rational Solutions for Windows CD in the [extras] directory.



Help

- **Online Help.** You can view online help within RequisitePro whenever you need assistance. To display the Help Contents: Click the Help button on the Tool Palette, click Help > Contents and Index, or press the F1 key. You can also click the Help button in any dialog box.
- **Rational Training Services.** For more information on training opportunities, see the Rational University Web site: <http://www.rational.com/university>.

Rational RequisitePro Documentation Roadmap



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

If you have questions about installing, using, or maintaining this product, contact Rational Technical Support as follows:

Table 1: Rational Technical Support Information

| Location | Contact Information | Notes |
|-----------------|---|---|
| U.S. and Canada | 800-433-5444 781-676-2450 support@rational.com | When sending e-mail: – Specify the product name in the subject line, for example, "Rational RequisitePro". – For existing issues, include your case ID in the subject line. |
| Europe | +31 (0) 20 4546 200 support@europe.rational.com | |
| Asia Pacific | +61-2-9419-0111 support@apac.rational.com | |
| World Wide Web | http://www.rational.com | Click the Technical Support link. |

Please help our Technical Support staff deliver quality customer service by providing complete information. The *techsupport.html* file, which is located in the RequisitePro installation directory and is also available by clicking **Help > Contacting Technical Support**, contains a Customer Information Form. You can use this form to document problems, questions, or suggestions and to detail your company and system information. The form can be copied into your e-mail message.

Attach your *error.log* file (located in the RequisitePro installation directory in the bin folder) if you are getting an error message. Add any files, screen captures, and other information you feel are relevant.

Licensing Support

Table 2 provides Rational License Support contact information. If you have questions about acquiring license keys for your Rational Software products, contact Rational License Support. See the online help in the Rational License Key Administrator for additional licensing support information.

Table 2: Rational Licensing Support

| Region | Telephone | E-mail |
|---|---|--|
| North and South America | 1-800-728-1212 1-781-676-2510 FAX: 781-676-2510 | lic_americas@rational.com |
| Europe (includes Israel and Africa) | Phone: +31 20 4546 200 Fax: +31 20 4546 202 | lic_europe@rational.com |
| Asia Pacific | Phone: +61-2-9419-0111 FAX: +61-2-9419-0123 | lic_japan@rational.com (Japanese) lic_apac@rational.com (English only) |

Other Contacts

Joining the RequisitePro Users Mailing List

Rational has created an open e-mail list “req_forum@rational.com” for customers to exchange ideas on using RequisitePro. This list is monitored to ensure product questions and problems are being answered. To subscribe to the mailing list, go to the following Web site: <http://www.rational.com/products/reqpro/usergroups>.

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.

1

Before You Begin

The Rational Software Setup program lets you perform standard and custom installations of Rational software products.

This document provides you with:

- An overview of the installation procedures for Rational software products, included in this chapter.
- Information needed to perform an installation of Rational RequisitePro, including installation options and configuration instructions for enterprise databases. See “Installing Rational RequisitePro and Configuring Databases” on page 5.
- Configuration instructions for RequisiteWeb. See “Rational RequisiteWeb Installation and Configuration” on page 41.
- Software licensing description, procedures, and licensing administration information. The online help for Rational License Key Administrator contains detailed information about common user licensing activities. See “Licensing Overview” on page 83.
- Support information. See “Contacting Rational Technical Support” on page xiii.

Installing Rational Software Products

This section provides a summary of the steps for installing Rational software products and the FLEXlm license server software.

Refer to the chapter “Installing Rational RequisitePro and Configuring Databases” on page 5 for information about prerequisites and detailed installation procedures. Refer to the chapter “Rational RequisiteWeb Installation and Configuration” on page 41 for information on installing and configuring RequisiteWeb.

Note This guide assumes drive C as your default installation drive. Substitute your actual installation drive name, as needed.

Installation Quick Start

After you install the software, you must install a permanent license key to use this software, unless a temporary license key was entered or a license server was pointed to during installation.

Table 3, Installation Quick Start Guide, summarizes the steps for installing Rational software and license keys:

Table 3: Installation Quick Start Guide

| Step | For More Information |
|---|---|
| <p>If you are using floating licenses: Install and configure the FLEXlm License Server software. The FLEXlm License Server software is on the Rational Solutions for Windows CD.</p> | <p>See the chapter “FLEXlm License Server Installation” on page 101.</p> |
| <p>Install Rational RequisitePro from the Rational Solutions for Windows CD. You can either enter a temporary license key or point to a license server during installation. You will have to use the Rational License Key Administrator to install a permanent license.</p> | <p>See the chapter “Installing Rational RequisitePro and Configuring Databases” on page 5 for custom installation options and configuration procedures.</p> |
| <p>Request permanent license keys from Rational using the License Key Administrator. Make certain that you are requesting keys for the product you have purchased and installed.</p> | <p>See the chapters “Rational Software Client Licensing” on page 87 and “Rational Software Server Licensing” on page 91. Also see the Rational License Key Administrator online help.</p> |
| <p>If you are using node-locked licenses: Install the new permanent license key on your client system. If you are using floating licenses: Install the new permanent license key on your license server system.</p> | <p>See the Rational License Key Administrator online help.</p> |

Table 3: Installation Quick Start Guide (Continued)

| Step | For More Information |
|--|---|
| If you are using floating licenses: Set up your client systems to use the licenses from the license server system. | See the Rational License Key Administrator online help. |
| Use the Start menu to select and start the program. | See the guide <i>Using Rational RequisitePro</i> . |

Note Temporary license key information is included with your Rational RequisitePro software media kit. The temporary license expiration date is noted on your temporary license key certificate. For additional licensing information, see the Rational License Key Administrator online help.

Caution If you are selecting a node-locked license, make certain that you select the product you purchased when you use the Rational Software Setup program. Review the License Key Certificate that you received with your purchase. If you install a program other than the one you purchased and for which you do not have a license key, you will not be able to use that program.

Installation Types

The Rational Software Setup program provides you with several installation types, letting you install the configuration most appropriate for your system. Table 4, Installation Types, describes the installation types:

Table 4: Installation Types

| Type | Description |
|----------------|---|
| Typical | Installs the most commonly used features for a product. Use this option for standard installations. |
| Custom/Full | Allows you to add or remove features. Defaults to all features in a Typical installation. Note: Use this option to install Web Server Components on a Web Server for RequisiteWeb, and to install enterprise database scripts and documentation for RequisitePro. |
| Compact/Laptop | Installs a subset of the standard configuration. May omit optional files, including online documentation or online help. Use this option on systems with limited disk space. |
| Minimal | Installs the files needed to run the program from a CD or network location. Use this option to run the program from a centrally managed location. Note: You must have write permission to run products from a minimal install area. |

Configuring RequisitePro and RequisiteWeb as an Administrator

As an administrator, you must set up the databases used with RequisitePro if your team is using an enterprise database (Oracle or SQL Server) for your project. For information about installing and configuring enterprise databases for use with RequisitePro, see “Enterprise Database Configuration” on page 14.

To install RequisiteWeb on your IIS server, refer to “Rational RequisiteWeb Installation and Configuration” on page 41.

2

Installing Rational RequisitePro and Configuring Databases

This chapter describes how to use the Rational Software Setup wizard to install Rational RequisitePro, version 2000.02.10. It also includes instructions on configuring Oracle® and Microsoft® SQL Server databases for RequisitePro projects.

RequisitePro organizes your software development requirements, linking Microsoft Word to a requirements repository that can be shared among other Rational products.

For the most current information related to RequisitePro features and known issues, refer to the release notes, which appear at the end of the RequisitePro installation. The release notes are available from a link in the Let's Go RequisitePro application, which appears when you first launch RequisitePro. After installation, access the release notes on the Start menu in the Rational RequisitePro program group.

Before You Start the RequisitePro Installation

The following sections provide you with steps you must take and information you must prepare prior to installing RequisitePro.

Create Backups

Be sure you have a current backup of your Registry and system directories prior to running the Rational Software Setup procedure.

Upgrading from Earlier Versions

Upgrades from previous versions of products contained in Rational Suite are performed during and after the installation. See “Installing Shared Components” on page 7 and the first note under “Removing RequisiteWeb” on page 67 for related information.

Specifying Installation Paths

The Rational Software Installation procedure uses `c:\Program Files\Rational` as the default installation path. You may specify another drive during the installation procedure.

If your `C:\` drive lacks sufficient free disk space, you may either specify another drive or make space available on the default drive. Some files will be installed on your `C:\` drive; the Software Setup wizard will report the amount of space required on all drives for your installation.

Note If you have installed another Rational Suite product, you cannot select an alternate location for your RequisitePro installation.

Installation Requirements

Table 5, RequisitePro Requirements, describes the system and software requirements for installing RequisitePro.

Table 5: RequisitePro Requirements

| Item | Requirement |
|---|--|
| Operating Systems | Microsoft Windows NT 4.0, Service Pack 4, 5, or 6, or Windows 95 Retail Version with Service Release 2 and updates, or Windows 98 with Service Release 1, or Microsoft Windows 2000. |
| Enterprise Database Requirements (optional) | Microsoft SQL Server 7.0; Oracle7 or Oracle8 server and client software -- (specifically, Oracle version 7.3.4 or greater). Note: Oracle 8i is not compatible with Windows 2000. |
| Processor | 200 MHz or greater; 300 MHz or higher is recommended. |
| Memory | 64 MB or greater; 128 MB is recommended; for projects with more than 50,000 requirements, 256 MB is recommended. |
| Disk Space | 96 MB. |
| Monitor | 800 X 600 X 256-color video resolution, or greater. |
| Mouse/pointing device | Microsoft Mouse or compatible pointing device. |

Table 5: RequisitePro Requirements

| | |
|--------------------------------|---|
| Word Processor | Microsoft Word 97 or 2000, if requirements documents are used. |
| Requirement Metrics Reporting | Microsoft Excel 97 or 2000. |
| LAN Support | Windows NT. |
| Privileges | To use the Rational Software Setup program on a Windows NT system, you must have Windows NT administrator privileges on the local system. You must have Windows NT administrator privileges on the local system to run the License Administrator as well. |
| Automated License Key Requests | Internet connection required for automated license requests. |

Caution Installation of Rational RequisitePro on dual-boot systems is not supported.

After you install the software, you must then install a permanent license key to use this software, unless a temporary license key was entered or a license server was pointed to during installation. The Rational License Key Administrator online help provides detailed instructions for installing startup and permanent license keys. See “Rational Software Client Licensing” on page 87 for more information about licenses, including the procedure for obtaining an updated license key.

The installation program requires specific versions of Microsoft files. The installation program will install them or you may choose to install them yourself from other sources.

Installing Shared Components

The Rational Software Setup program needs to install shared components. A shared component is software provided by a company other than Rational. It is potentially available to other applications on your system.

If the setup program needs to update shared components, the setup program displays a list of the required files. The files listed must be installed on your system before the installation can proceed.

Setup installs U.S. English versions of the files. It does not overwrite newer file versions.

The checkbox, **Replace files with newer versions in English**, is enabled when you have installed earlier versions of the files that are localized to a non-U.S. English language. If you select this checkbox, the U.S. English versions of the files will replace your versions. If you clear this checkbox, the files will not be updated and you will need to update them yourself.

When to Install Files Yourself

In general, we recommend that you allow the installation procedure to install shared files for you. Under some circumstances, you may want to install the files yourself:

- You are using a U.S. English system, but installing new files may invalidate your current environment. In this case, you need to determine how to correct your environment so that you can run existing tools and the Rational products you want to install.
- Your site may mandate that you obtain shared files directly from the source, for example, from Microsoft, rather than using files supplied by a third party. Or your site may prohibit end-users from installing shared components.
- Rational supplies U.S. English versions of shared files. You may want to install equivalent files that are localized to your language.
- There may be a later version of the files available. Rational products should work with the supplied version of shared files or any later versions.

Installing RequisitePro with Rational Software Setup

Caution Interrupting an installation that is in progress may leave your system in an indeterminate state. If you try to close the Rational Software Setup window while the installation is in progress, you are asked to confirm that you want to exit from the incomplete installation.

This section describes a typical installation of Rational RequisitePro.

- 1 Insert the Rational Solutions for Windows CD into your system's CD drive. The setup program starts automatically.

If autorun is disabled on your system, click **Start > Run**. Using the drive letter of your CD-ROM drive, enter `drive:\SETUP.EXE`.

- 2 The Rational Software Setup wizard will guide you through the software installation. On each dialog box, click **Next** to proceed to the next one.

The Rational Software Setup dialog box provides general information about the software installation. Click **Browse** to review Rational product information. You must have a Web browser installed to view the product gallery.

The **Save** button lets you copy the contents of the setup wizard message window to a file. The **Copy** button copies the contents of the message window in the setup wizard to the Windows clipboard. The **Copy** and **Save** buttons are enabled on wizard dialog boxes that display the license agreement or installation messages.

The **Help** button, when enabled, provides you with additional information regarding setup options.

- 3 On the Select Licensing Option dialog box, choose which type of license option you want: install licensed Rational products, install the license server, or install unlicensed utilities.

If you choose to install the license server or any unlicensed utilities, the Select Licensing Source or License Key Certificate dialog boxes will not appear.

- 4 On the Select License Option dialog box, choose either to import a license file, to obtain a floating license key from a server, to enter a temporary node-locked key, to use an existing license because you are upgrading or reinstalling a Rational product, or to install the product before you configure the licensing.

If you choose a temporary node-locked license, the Enter Temporary Key dialog box appears so that you can enter the license key and expiration date found on your license key certificate.

5 The Choose Product to Install dialog box displays the installation options for the software installation. If you are not licensed for a particular product, it will not appear in the product list. Select **Rational RequisitePro**.

6 The License Agreement dialog box displays the Rational Software license agreement. Choose to accept or not accept the license agreement.

If you accept the license agreement, the installation continues installing Rational Suite on your system. If you do not accept the license agreement, the installation does not let you proceed further. If you exit from the installation by clicking the **Finish** button at this point, no changes are made to your system.

7 The Setup Configuration dialog box describes the setup options for this software installation. Select the installation option and install path. The options are **Typical**, **Custom/Full**, **Compact/Laptop**, and **Minimal**, described in “Installation Types” on page 4.

Confirm that you have sufficient free space for the installation. If the amount of free space is less than the amount required, either exit from the installation procedure and make more space available on the specified disk or specify an alternate Install Path.

To specify another installation path, type the new path in the **Install Path** field or use the **Browse** button to select a drive and directory.

The setup procedure installs Microsoft Core Components and some additional files on your C:\ drive, even if you have specified an alternate drive for installation. These files can require up to 20 MB of disk space on your C:\ drive.

Note

The installation program requires that all Rational programs be installed in the same directory. If any Rational product has been previously installed with the Rational Software Setup program, the browse option and Install Path field are disabled. You must remove and reinstall Rational Suite to specify a new Install Path.

If you are an administrator who is responsible for setting up an Oracle or SQL Server database for RequisitePro, select the **Custom/Full** installation option. If not, go to step 9. If you choose the **Custom/Full** installation option, the Choose Features dialog

box appears, which lets you specify exactly which features and subfeatures to install on your system. Use the **+** to expand and select or deselect options as desired. There are dependencies between some features which may force an installation option, even if you have deselected it.

- 8** At the Choose Features dialog box, select the **Oracle Setup** or **SQL Server Setup** options (under Rational RequisitePro) if you plan to use those databases for your RequisitePro projects.

If you select either option, the program will install schema creation scripts in one or both of the following default locations on your local machine:

```
c:\Program Files\Rational\RequisitePro\database\oracle  
c:\Program Files\Rational\RequisitePro\database\sqlserver
```

For more information on configuring Oracle or SQL Server for RequisitePro projects, refer to “Enterprise Database Configuration” on page 14.

- 9** The Update Shared Components dialog box appears if the Rational Software Setup program needs to update some shared files or components on your system. Click **Next** to have Rational Software Setup install these files for you or **Cancel** to install these files yourself. For additional information, see “Installing Shared Components” on page 7 or the Rational Software Setup online help.

Note The Rational Software Setup wizard does not recalculate the disk space required for your updated selections.

- 10** The Upgrade Compatibility dialog box appears if you have additional, older Rational products installed on your system. Because Rational tools share files and components, this installation can cause the older Rational products to stop working. You will see no visual clue to indicate that the older products may be compromised.

For each of the additional, older products listed, we strongly recommend that you take one of the following actions:

- **Upgrade it:** Complete this installation, and then restart the Setup wizard to upgrade the next product. Upgrading a product updates all necessary files, registry entries, startup menu items, and shared components on your system.

- **Remove it:** Complete this installation, and then use the Control Panel's Add/Remove Programs tool to remove the next product. Removing a product deletes files, registry entries, and startup menu items from your system.

A Web site exists to provide more details about interactions between specific products. To visit the Web site, please see <http://www.rational.com/sitewide/support/index.jtmpl>. Click **Patches and Upgrades**, and then click **Upgrade Compatibility**.

- 11 The Confirmation dialog box displays the product features that will be installed.
- 12 The Error Summary dialog box displays errors from the first part of the software installation. If the installation is successful, you will not see this dialog box.

The Rational Software Setup program writes a log of installation activities. The log file is located in

<Install Path>\Rational\RSSetup\RSsetup.log.

Possible Reboot Required

If files required for the installation are in use during the installation procedure, and if the setup procedure needs to install shared components on your system, the Rational Software Setup program may need to reboot your system to complete the installation. After rebooting, proceed as follows:

- 1 Log on as the same user to complete the installation procedure. If you do not log on as the same user, the installation will not complete correctly.

The installation process continues on your system.

- 2 Click **Finish** to exit from the Rational Software Setup program.

Configuring E-mail for Discussions

Use the Rational E-mail Reader application to configure e-mail for all discussion participants with a valid e-mail address in their RequisitePro user information. The Rational E-mail Reader application is included with your Rational Software installation at the following default location:

```
c:\Program Files\Rational\common\mailreader.exe
```

This separate application offers full e-mail integration with RequisitePro by associating an e-mail handler with each RequisitePro project. Initial discussion items and replies are automatically stored in the RequisitePro database and sent to discussion participants via e-mail. Participants can reply to the discussion items using their e-mail, as well as from within RequisitePro.

Caution The E-mail Setup option on the RequisitePro Tools menu only configures notification e-mail for users who initiate a discussion or reply to a discussion from within the RequisitePro Discussion dialog box. To allow users to reply to discussions via e-mail, and to enable discussion e-mail for RequisiteWeb users, configure an e-mail handler for each project using the Rational E-mail Reader.

Discussion E-mail Configuration Requirements

- You must configure a unique e-mail address for each RequisitePro project
- **For RequisiteWeb:** You must run the Rational E-mail Reader on a different server than the IIS server where RequisiteWeb is installed.
- **For RequisiteWeb:** In order to enable e-mail for RequisiteWeb discussions, you must configure discussion e-mail using the **SMTP** protocol option rather than MAPI protocol option in the Rational E-mail Reader.
- In order to complete the Rational E-mail Reader setup for SMTP protocol, you need the following information from your e-mail administrator:
 - SMTP Server name
 - POP3 Server name
 - E-mail address; one for each RequisitePro project
 - POP3 server login and password for the e-mail address

Note Refer to the online help in the Rational E-mail Reader for more information.

Removing RequisitePro

This section describes how to remove RequisitePro from your system.

Preparing to Remove RequisitePro

Make sure that no one is using RequisitePro and any associated files. You will not be able to remove files that are in use.

To remove RequisitePro from a Windows NT system, you must have Windows NT administrator privileges on the local machine.

To Remove RequisitePro

Use the Windows **Add/Remove Programs** control panel to select and remove RequisitePro. The Rational Software Setup removes RequisitePro from your system.

Notes Removing RequisitePro does not remove RequisitePro project data from your system.

If you are upgrading to a new version of RequisitePro that uses a different installation path and you choose to leave the previous directories intact, you should delete the .gid files from your former help directories; for example:

```
\Rational\RequisitePro 4.5\help\reqpro.gid
```

This prevents the new RequisitePro help from looking in the old directories for its contents information.

Enterprise Database Configuration

The following sections describe the configuration of Oracle® and Microsoft® SQL Server™ databases for RequisitePro projects.

The use of client/server databases offers significantly increased power and expandability to your organization's implementation of Rational RequisitePro. RequisitePro provides the capability to use Oracle7 and Oracle8 and Microsoft SQL Server 7.0, as well as

Microsoft Access databases. Project data currently in Access can be easily migrated to Oracle or SQL Server using the RequisitePro Database Type Conversion Wizard.

To create and access RequisitePro projects in Oracle or Microsoft SQL Server databases, you must configure an Oracle or SQL Server schema on your database server, and install RequisitePro on your client PC.

Database Setup

Refer to Oracle or Microsoft documentation for information on installing Oracle or Microsoft SQL Server. To configure an Oracle or SQL Server database for RequisitePro projects, refer to the sections “Configuring Oracle for RequisitePro” on page 16 and “Configuring SQL Server for RequisitePro” on page 29.

Client Installation

Access to RequisitePro projects on Oracle and SQL Server databases requires the installation of RequisitePro on the client PC. If you are using an Oracle database, you must also install the Oracle client software on your PC.

See “Installation Requirements” on page 6 for RequisitePro system requirements.

Installing Database Configuration Scripts

If you are responsible for setting up an Oracle or SQL Server database for RequisitePro, you should have installed the database configuration scripts with the **Custom/Full** installation option, described in “Installing RequisitePro with Rational Software Setup” on page 8.

If you selected the Oracle or SQL Server options, the program installed schema creation scripts in one or both of the following locations on your local machine:

```
c:\Program Files\Rational\RequisitePro\database\oracle  
c:\Program Files\Rational\RequisitePro\database\sqlserver
```

If you did not install the scripts during the installation process, you can copy them to your local machine from the RequisitePro/database directory on your installation media.

Configuring Oracle for RequisitePro

Purpose

This section provides information about configuring Rational RequisitePro for use with an Oracle database server. It includes:

- database management information for setting up an Oracle schema to accommodate Requisite projects,
- instructions for accessing an Oracle host from the client PC using Oracle's SQL*Net or Net8 Easy Configuration tool, and
- a procedure for creating a RequisitePro project in the Oracle database.

These instructions are intended for use by Oracle database administrators, system administrators, and RequisitePro project administrators.

For the most current information related to Oracle database configuration, refer to the “Oracle Database Configuration for RequisitePro” document that is, by default, at the following location on your system after installation:

```
c:\Program Files\Rational\RequisitePro\help\OracleSetup.html
```

Introduction

To create and access RequisitePro projects in the Oracle database, follow the instructions in this document for enabling your Oracle database compatibility. RequisitePro supports multiple projects within a single Oracle schema. Refer to the procedure in this document, “Creating a Project in Oracle” on page 25 for instructions on adding an Oracle database project within RequisitePro. Use the same schema name for each of your RequisitePro projects.

Prerequisites

This document assumes that you have Oracle, installed on your LAN and the Oracle client software installed on your PC. Refer to the Oracle documentation for all questions regarding that product.

The following installation and configuration tasks need to be accomplished prior to performing the RequisitePro/Oracle integration outlined in this document.

Oracle Database Administration

Notice to database administrator:

For proper execution of the RequisitePro application, be sure to set the initialization parameter, `OPEN_CURSORS`, to at least 110.

In order to configure access to Oracle for RequisitePro projects, the database administrator needs to establish the following:

- Oracle database server name (TCP/IP Host Name)
- Oracle database alias or service name
- Oracle schema name for storing RequisitePro projects (see procedure below)
- your user ID for logging on to the Oracle database
- your user password for logging on to the Oracle database

The following sections provide instructions for configuring the last three of these items.

Platform Compatibility

RequisitePro database implementation is compatible with all Oracle-supported platforms.

Creating an Oracle Schema for RequisitePro

Oracle database administration allows the creation of multiple schemas within your Oracle database instance. **Use the scripts listed below to create a RequisitePro user and schema** within Oracle for storing your projects. The RequisitePro scripts are designed to initially allocate disk space for the various database tables and indexes that are used by RequisitePro, based on the following approximations:

- 25 projects
- 250 documents (10 per project)
- 125 document types (5 per project)
- 125 requirement types (5 per project)
- 1250 user defined attributes (10 per requirement type)

- 125 user groups (5 per project)
- 100 users
- 12,500 requirements (500 per project)
- 12,500 discussions (500 per project)

The scripts simply provide an initial size for the RequisitePro schema. They in no way imply any constraints on size or number of projects.

Extents are set to the same size as the initial allocations. They define additional table space that Oracle will allocate if the original allocation becomes insufficient.

As database administrator, you can customize the scripts to adjust the table space allocations for tables and indexes in order to accommodate your organization's intended use of RequisitePro. See the section “Editing Scripts” on page 19.

Schema Creation Scripts

The following scripts are used for creating a RequisitePro schema within your Oracle database. They can be run automatically by executing the main script, `CREATE_REQPRO`, as described in the procedure “Creating a Schema” on page 22, or you can run them individually as needed.

CREATE_REQPRO. Establishes a log which can be used to review the results of running the script and runs the other scripts, listed below.

TABLESPACE. Creates table spaces for data and indexes. Creates disk files to support these table spaces.

CREATE_USER. Creates the default RequisitePro user (REQPRO) and password (REQPRO) and connects to the database with that user ID.

TABLES. Creates tables for the RequisitePro database.

PRIMARY. Creates primary keys for each table in RequisitePro.

INDEXES. Creates indexes for the RequisitePro database.

FOREIGN. Creates foreign key relationships between tables.

FUNCTIONS. Creates user-defined functions used within RequisitePro.

SEQUENCE. Creates sequences and triggers for auto-sequencing the RqToRelationships and RqQueryCriteria tables.

PROCEDURES. Creates stored procedures used within RequisitePro.

DATA. Inserts data into the RqKeys and RqRequisite tables.

GRANT_ROLE. Creates a user role with access to the RequisitePro schema objects.

Copying the RequisitePro Scripts

If you did not install the Oracle database creation scripts as described in “Installing RequisitePro with Rational Software Setup” on page 8, you can repeat the Custom/Full installation procedure or copy the Oracle scripts from the Rational Windows Solutions media in the following location:

```
CD-ROM:\\RequisitePro\database\Oracle\
```

After installation, the scripts are located, by default, at the following location on your local machine:

```
c:\Program Files\Rational\RequisitePro\database\oracle
```

Copy the scripts to a subdirectory on your Oracle database server. We suggest that you create a “sql” directory below the home directory on the server.

Note If your database server is running on an international operating system, be sure that the path to these scripts does not include folders with double-byte character names.

Editing Scripts

All modifications described below are made in the CREATE_REQPRO script, unless otherwise indicated.

Modifying the User Name and Password (Optional)

If you want to create the RequisitePro schema with a different entry than the default user name and password values of "ReqPro", modify the following entries:

```
DEFINE USR=reqpro  
DEFINE PWD=reqpro
```

Specifying the Path for the Schema Scripts

Edit the `DEFINE PATH` entry to indicate the full path where the RequisitePro SQL scripts are located. The suggested path (from the "Copying..." procedure, above) is:

```
DEFINE PATH="$HOME/sql/"
```

Note

If your environment limits your path to a maximum 8-character name for directories, be sure to reflect this format in your entry.

Indicating Data and Index Files Directory

Edit the `DEFINE ORACLE _DATA` entry to indicate the path and directory where the data file for the data table space will be created:

```
DEFINE ORACLE_DATA=/ORACLE_DATA/
```

Edit the `DEFINE ORACLE _INDEX` entry to indicate the path and directory where the data file for the index table space will be created:

```
DEFINE ORACLE_INDEX=/ORACLE_INDEX/
```

Specifying a Temporary Tablespace

Edit the `DEFINE TEMP` entry in the `CREATE_REQPRO` script to assign temporary tablespace for storing temporary objects for the user's operations.

```
DEFINE TEMP=TEMP
```

Make sure that the value for this entry is a valid, existing tablespace in your Oracle database. Some versions of Oracle use "TEMPORARY_DATA" rather than "TEMP." Your installation of Oracle may contain a custom name for the temporary tablespace.

Customizing Disk Space Allocation for Database Objects

The schema creation scripts are designed to allocate disk space for the various database tables and indexes that are used by an average set of RequisitePro projects, as described in "Creating an Oracle Schema for RequisitePro" on page 17.

If you anticipate a much larger or smaller requirement for your organization's use of RequisitePro, you can customize the disk

space allocation specified in the CREATE_REQPRO script to accommodate your projected capacity.

Edit the following sizing variables:

```
SMALL      = 10K
MEDIUM    = 100K
LARGE     = 1000K
REQS      = 6000K
REQHIST   = 75000K
```

Note The last two variables, REQS and REQHIST, are used for the requirements (RqRequirements) and requirement history (RqRequirementHistory) tables, respectively.

Edit the DEFINE DATA_SIZE and DEFINE INDEX_SIZE entries to reflect the change in the total size of the database caused by your edits to the sizing variables.

Modifying the Limits of the VARCHAR2 Data Type

RequisitePro uses the VARCHAR2 data type to store searchable text for requirement text, revision history reasons, and textual attribute values.

While Oracle7 supports a maximum of 2000 characters in the VARCHAR2 data type, Oracle8 supports up to 4000, allowing you to expand the constraints on the size of the searchable text from 2000 to 4000 characters.

The RequisitePro Oracle scripts set the limit on this data type to 2000 characters to accommodate both Oracle7 and Oracle8 databases. To modify this limit for Oracle8 databases, edit table settings in the TABLES and DATA scripts.

In the TABLES script, all occurrences of 2000 in the following columns can be set to the new maximum value of 4000:

| Table | Column |
|-------------------|---------------|
| RQDOCUMENTHISTORY | VERSIONREASON |
| RQDOCUMENTS | VERSIONREASON |
| RQPROJECTHISTORY | VERSIONREASON |
| RQPROJECTS | VERSIONREASON |

| Table | Column |
|-------------------------|-----------------|
| RQUERYDEFINITIONS | QUERYSTRING |
| RREQUIREMENTHISTORY | VERSIONREASON |
| RREQUIREMENTS | REQUIREMENTTEXT |
| RREQUIREMENTS | VERSIONREASON |
| RUSERDEFINEDFIELDVALUES | FIELDVALUE |

In the DATA script, all occurrences of 2000 in the following columns can be set to the new maximum value of 4000:

| Table | Column |
|------------|---------------------|
| RREQUISITE | REQUIREMENTTEXTSIZE |
| RREQUISITE | FIELDVALUESIZE |
| RREQUISITE | VERSIONREASONSIZE |

Creating a Schema

The Oracle database administrator performs the following procedure to create a RequisitePro schema in Oracle:

- 1 Edit the CREATE_REQPRO script, as described above in the section “Editing Scripts” on page 19.
- 2 On the Oracle database server, log on to SQL*Plus with system administrator permissions.

Note

If you run SQL*Plus from a remote client, you need to edit the RequisitePro CREATE_USER script. Change the entry connect &3/&4 to the following:

```
connect &3/&4@<target Oracle database server alias>
```

- 3 Run the CREATE_REQPRO script using the command:
@<setup directory>\CREATE_REQPRO

This script runs the schema creation scripts. A message appears upon successful completion of the schema creation. If errors occur or the completion message does not appear, review the log CREATE_REQPRO.LOG.

User ID for Accessing Oracle Database

All RequisitePro projects should access the Oracle database using the same user ID, which was created during the schema creation process, described above. The initial user name and password created by the script are "reqpro" and "reqpro", unless you modified the CREATE_REQPRO script, as described in “Editing Scripts” on page 19. You can also change the password using your Oracle database utilities.

Each user does not need a separate Oracle account because RequisitePro uses its own user and user group tables to control access to a project.

Using Multiple Projects within an Oracle Database

RequisitePro supports multiple projects within a single Oracle schema. Refer to the procedure “Creating a Project in Oracle” on page 25 for instructions on adding an Oracle database project within RequisitePro. Use the same schema name for each of your RequisitePro projects.

Connecting Projects Across Databases

Perform the following steps to enable cross-project traceability between projects in distributed Oracle databases. Refer to the following sections for details.

- Creating a reference to the remote database instance
- Creating a database link to the remote database
- Defining database aliases on each RequisitePro client

Creating a reference to the remote database instance

In order to run traceability queries between projects in distributed Oracle databases, you need to define a reference in each database instance that refers to the remote database instances. Edit the `tnsnames.ora` file, located on the Oracle server, to define the name, host, port and protocol of the remote service.

The following example shows the syntax for defining the database instance “server02” as a remote database server to “server01” in the `tnsnames.ora` file:

```

Server02.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = server02)
        (Port = 1521)))
    (CONNECT_DATA = (SID = ORCL)))

```

In similar fashion, the “server02” database instance needs an entry to define the remote “server01” database instance:

```

Server01.world =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS =
        (COMMUNITY = tcp.world)
        (PROTOCOL = TCP)
        (Host = server01)
        (Port = 1521)))
    (CONNECT_DATA = (SID = ORCL)))

```

Note

This feature was tested using TNSNAMES for service name resolution. Use of Oracle Names Server or any other name server mechanism will require different setup.

Creating a database link to the remote database

Next, create a database link to each remote database in each database instance using an SQL utility. The link should be defined under the user account which owns the RequisitePro schema. The following example shows the required syntax for linking to “server02” from “server01”:

```

CREATE DATABASE LINK server02.world
CONNECT TO reqpro IDENTIFIED BY reqpro
USING 'server02.world';

```

A similar statement should be executed on the server02 database instance in order to define a link to server01.

If the db_name.db_domain does not result in a unique name for each database for which a link is required, use the @connection_qualifier syntax to create a unique name.

This naming convention will work regardless of the setting of the `global_names` parameter in the `initorcl.ora` file.

Defining database aliases on each RequisitePro client

Define SQL*Net database aliases or Net8 service names (resulting in local `tnsnames.ora` file entries) on each RequisitePro client machine (or shared centrally on a network) for each database instance. The database alias or service name on the client **MUST** match the database link you defined in the previous step for RequisitePro cross-project traceability to function correctly.

For more information on configuring client PCs for use with a Rational RequisitePro Oracle database, refer to the following section.

Setting Up PCs for Oracle Access

Use the Oracle SQL*Net or Net8 Easy Configuration tool to configure access from your client PC to the Oracle database server. If you plan to share projects with other users, be sure to use a consistent database alias or service name, as determined by your database administrator.

Creating a Project in Oracle

Note

To convert a project from an existing Microsoft Access database to an Oracle database, use the Database Type Conversion Wizard. Open the Database Type Conversion Wizard in Windows Explorer. The executable, `rqdbtypewiz.exe`, is located in the directory:
`\Program Files\Rational\RequisitePro\bin\`

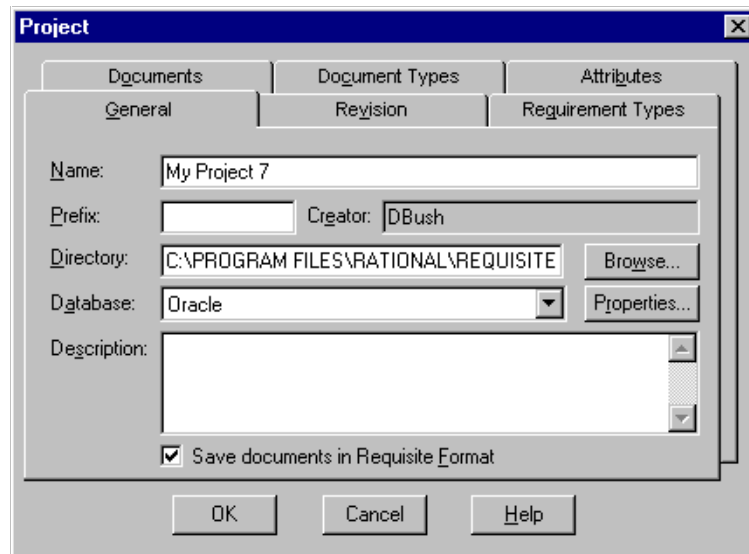
Perform the following steps to create a RequisitePro project that uses the Oracle database server for storing the RequisitePro project database.

Prior to configuring your access to Oracle from RequisitePro, the database administrator needs to provide the following information:

- Oracle database server name (TCP/IP Host Name)
- Oracle database alias or service name
- Oracle schema name for storing RequisitePro projects (see procedure below)

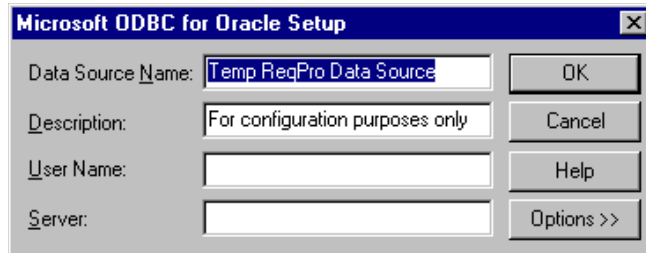
- your user ID for logging on to the Oracle database
- your user password for logging on to the Oracle database

- 1 In RequisitePro on the **Project** menu, click **New**.
- 2 At the New Project dialog box, select the method **Blank project database**.
- 3 Click **OK**. The Project dialog box appears.



- 4 Perform all actions you would normally perform when creating a project; in addition, do the following.
- 5 In the Project dialog box General tab, select **Oracle** from the **Database** drop-down list.
- 6 Click the **Properties** button. The Database Properties dialog box appears.

- 7 Click the **Configure** button. The Microsoft ODBC for Oracle Setup dialog box appears.

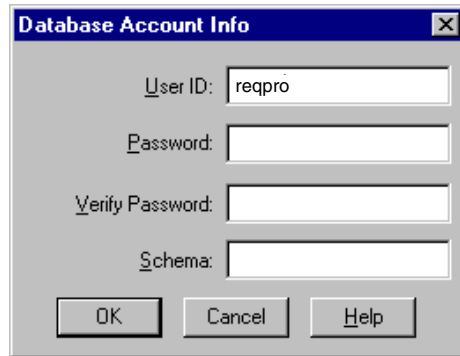


- 8 Do not modify the default entries in the **Data Source Name** and **Description** fields.
- 9 Type your **User Name** for logging into the Oracle database, as provided by your Oracle database administrator. By default, the user name is "reqpro".
- 10 For the **Server** field, type the alias or service name you entered when configuring your PC for access to the Oracle database.

Note This database alias or service name must be identical when configuring all PCs that will access shared RequisitePro projects in the Oracle database.

- 11 Click **OK**.

- 12 On the Database Properties dialog box, click the **Account Info** button. The Database Account Info dialog box appears.



The screenshot shows a dialog box titled "Database Account Info". It contains four text input fields: "User ID" (containing "reqpro"), "Password", "Verify Password", and "Schema". At the bottom, there are three buttons: "OK", "Cancel", and "Help".

- 13 Do not modify the User ID field. This should match the user name you entered in the previous dialog box.
- 14 Type your user password for logging into the Oracle server. This should be supplied to you by your Oracle database administrator.
- 15 Retype your password in the **Verify Password** field.
- 16 In the **Schema** field, type the name of the Oracle schema that your Oracle database administrator has established for storing RequisitePro data in Oracle.
- 17 Click **OK** to close the dialog box.
- 18 Click **OK** to close the Database Properties dialog.
- 19 Finish creating your project, then click **OK** to close the Project dialog box.

Archiving an Oracle Project

Refer to the topic "Archiving and backing up enterprise database projects" in the RequisitePro online help. This help topic is also available in Let's Go RequisitePro. Click the Project Administration Tips icon and select the link to "Archiving and backing up enterprise database projects".

Configuring SQL Server for RequisitePro

Purpose

This section provides information about configuring Rational RequisitePro for use with Microsoft SQL Server. The section includes:

- database management information for setting up a SQL Server schema to accommodate RequisitePro projects, and
- a procedure for creating a RequisitePro project in the SQL Server database.

This document is intended for use by SQL Server database administrators, system administrators, and RequisitePro project administrators.

For the most current information related to SQL Server database configuration, refer to the “SQL Server Database Configuration for RequisitePro” document that is, by default, at the following location on your system after installation:

```
c:\Program Files\Rational\RequisitePro\help\SQLsetup.html
```

Introduction

To create and access RequisitePro projects in the SQL Server database, follow the instructions in this section for enabling your SQL Server database compatibility. RequisitePro supports multiple projects within a single SQL Server schema. Refer to the procedure “Creating a Project in SQL Server” on page 33 for instructions on adding an SQL Server database project within RequisitePro. Use the same schema name for each of your RequisitePro projects.

Prerequisites

This document assumes that you have SQL Server, Version 7.0, installed on your LAN. Refer to the SQL Server documentation for all questions regarding that product.

The following installation and configuration tasks need to be accomplished prior to performing the RequisitePro/SQL Server integration outlined in this document.

SQL Server Database Administration

Prior to configuring your access to SQL Server from RequisitePro, the database administrator needs to establish the following:

- SQL Server machine name (TCP/IP Host Name)
- SQL Server default database for RequisitePro projects, such as “RequisitePro”
- a user ID for logging on to the SQL Server database, such as “ReqPro”
- a user password for logging on to the SQL Server database, such as “reqpro”

The following sections provide instructions for configuring the last three of these items.

Platform Compatibility

RequisitePro database implementation is compatible with all Microsoft SQL Server-supported platforms.

Creating a SQL Server Database for RequisitePro

Use the following instructions to create a SQL Server database and schema for RequisitePro projects. The initial database size is based on the following approximations for your use of RequisitePro:

- 25 projects
- 250 documents (10 per project)
- 125 document types (5 per project)
- 125 requirement types (5 per project)
- 1250 user-defined attributes (10 per requirement type)
- 125 user groups (5 per project)
- 100 users
- 12,500 requirements (500 per project)
- 12,500 discussions (500 per project)

To create a database in **SQL Server 7.0**, do the following:

- 1 Enter a name for the RequisitePro database. The database has an .MDF extension. The recommended database name is “RequisitePro.”

Note If you use a different database name, you will need to modify the database configuration scripts to reflect the actual name.

- 2 Set the initial size of the database to 150 MB.
- 3 Set the initial size of the transaction log file (.LDF) to one third the size of the database, in this case 50 MB.

Schema Creation Scripts

The scripts listed below are used for creating a RequisitePro schema within your SQL Server database.

- **Login and User.** Creates a default RequisitePro login and user. For more information refer to the section below, “Default Login and User.”
- **Tables and Indexes.** Creates the tables and indexes required by RequisitePro.
- **Triggers.** Creates triggers that enforce cascading deletes.
- **Initial Data.** Inserts data required by RequisitePro when it first runs.

Copying the RequisitePro Scripts

If you did not install the SQL Server database creation scripts as described in “Installing RequisitePro with Rational Software Setup” on page 8, you can repeat the Custom/Full installation procedure or copy the SQL Server scripts from the Rational Windows Solutions media in the following location:

CD-ROM: \\RequisitePro\database\SQLserver\

After installation, the scripts are located, by default, at the following location on your local machine:

c:\Program Files\Rational\RequisitePro\database\sqlserver

Copy the scripts to a subdirectory on your SQL Server database server. We suggest that you create a “sql” directory below the home directory on the server.

Running Schema Creation Scripts

The scripts listed below are used for creating a RequisitePro schema within your SQL Server database. Run the scripts in the sequence presented below. Run the scripts individually using the **SQL Server Query Analyzer**. Be sure to select the RequisitePro database in the DB drop-down list when running the scripts.

- 1 login and user.sql
- 2 tables and indexes.sql
- 3 triggers.sql
- 4 initial data.sql

Default Login and User

The schema creation scripts, described above, create default user information for accessing and creating projects in SQL Server. The user name also establishes the ownership and name of the schema (by default, “reqpro”). The default user permissions are required for use with RequisitePro.

Note

If you modify the **login and user.sql** script to use a different login and user name, you will need to modify subsequent scripts.

The scripts create the following default user information:

| User | Login | Password |
|--------|--------|----------|
| ReqPro | ReqPro | reqpro |

The ReqPro user is assigned the following statement permissions in SQL Server:

| User | Statement Permissions |
|--------|--|
| ReqPro | Create Default, Create Procedure, Create Rule, Create Table, Create View |

As the owner of the RequisitePro database objects, the ReqPro user is automatically assigned the following database permissions in SQL Server:

| User | Database Permissions |
|--------|---|
| ReqPro | Select, Insert, Update, Delete, DRI on all Tables and Views |

Creating a Project in SQL Server

Note To convert a project from an existing Microsoft Access database to an Oracle database, use the Database Type Conversion Wizard. Open the Database Type Conversion Wizard in Windows Explorer. The executable, `rqdbtypewiz.exe`, is located in the directory:
`\Program Files\Rational\RequisitePro\bin\`

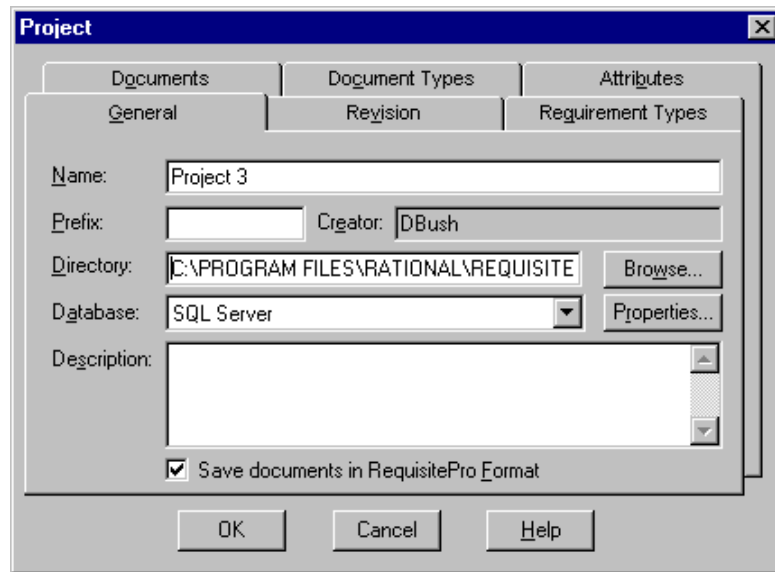
Perform the following steps to create a RequisitePro project that uses the SQL Server for the project database.

In order to configure access to SQL Server from RequisitePro, the database administrator needs to provide you with the following information:

- SQL Server machine name (TCP/IP Host Name)
- SQL Server default database for RequisitePro projects, such as “RequisitePro”
- a user ID for logging on to the SQL Server database, such as “ReqPro”
- a user password for logging on to the SQL Server database, such as “reqpro”

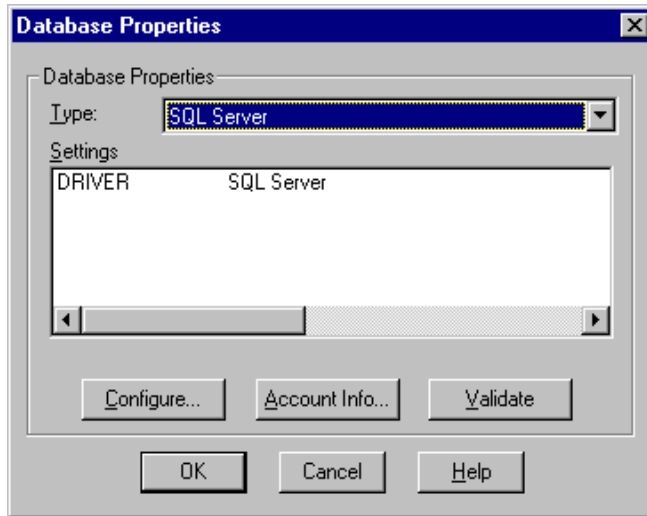
- 1 Start RequisitePro.
- 2 On the **Project** menu, click **New**.
- 3 At the New Project dialog box, select the method **Blank project database**.

- 4 Click **OK**. The Project dialog box appears.



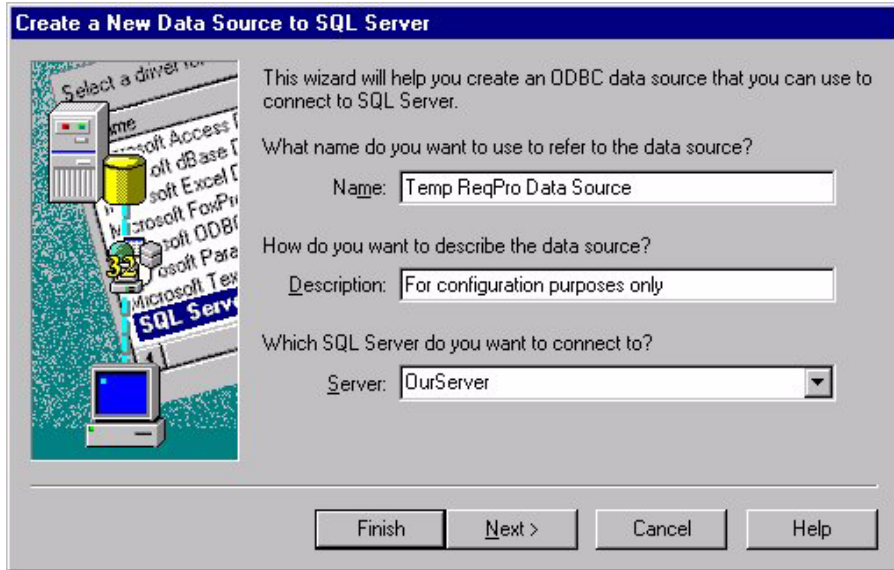
- 5 Perform all actions you would normally perform when creating a project; in addition, do the following.
- 6 In the Project dialog box General tab, select **SQL Server** from the **Database** drop-down list.

- 7 Click the **Properties** button. The Database Properties dialog box appears.



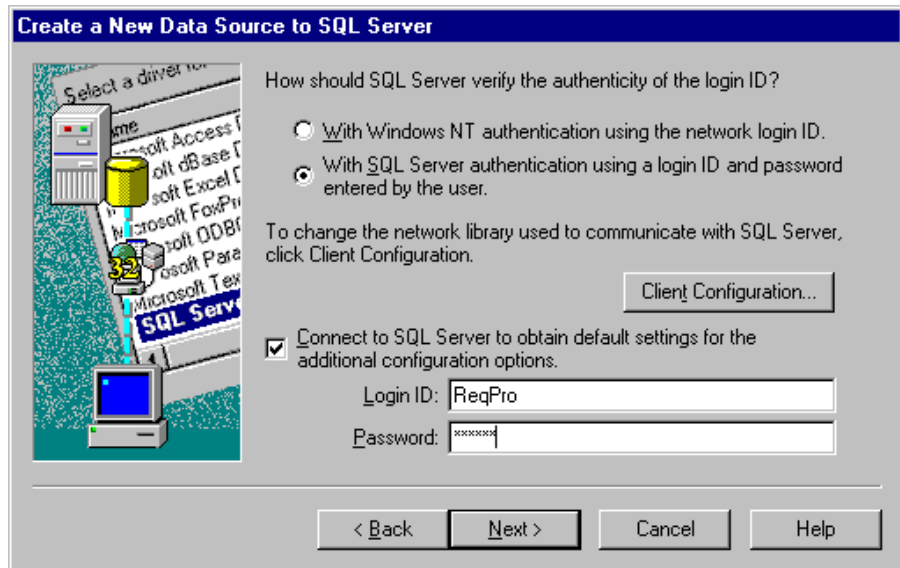
Configuring the Database

- 1 At the Database Properties dialog box, click the **Configure** button. The “Create a New Data Source to SQL Server” dialog box appears.



- 2 Do not modify the data source **Name** or **Description** fields.
- 3 In the **Server** field, type the name of the SQL Server, supplied by your database administrator.

4 Click **Next**. The second data source screen appears.



5 Select the option **With SQL Server authentication using a login ID and password entered by the user**.

Note: RequisitePro does not support Windows NT authentication.

6 Be sure the check box **Connect to SQL Server to obtain default settings for the additional configuration options** is checked.

7 Type the **login ID** and **password** supplied by your database administrator, such as “ReqPro” and “reqpro.”

8 Click **Next**.

9 Click the check box **Change the default database to** and select a database name supplied by your database administrator, such as “RequisitePro.”

10 Click **Next**.

11 Click **Next** to accept the default language, character, and regional settings. The use of log files, shown on the following screen, is optional.

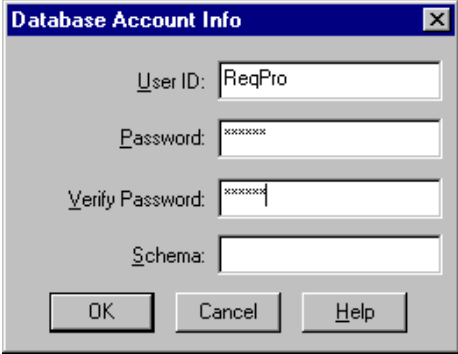
Note: Do not mark the check box **Change the language of SQL**

Server system messages to... The use of this check box prevents users from opening the project after its initial creation.

- 12 Click **Finish**. The ODBC Microsoft SQL Server Setup dialog box appears.
- 13 Click the **Test Data Source** button. The SQL Server ODBC Data Source Test dialog box appears.
- 14 Click **OK**. The ODBC Microsoft SQL Server Setup dialog box appears.
- 15 Click **OK**. You return to the Database Properties dialog box.

Setting Up the Project Account Information

- 1 At the Database Properties dialog box, click the **Account Info** button. The “Database Account Info” dialog box appears.



The screenshot shows a dialog box titled "Database Account Info". It has a blue title bar with a close button (X) on the right. The dialog box contains four input fields with labels: "User ID:" with the text "ReqPro", "Password:" with "xxxxxxx", "Verify Password:" with "xxxxxxx", and "Schema:" which is empty. At the bottom of the dialog box are three buttons: "OK", "Cancel", and "Help".

- 2 Type the **user ID** and **password**, supplied by your database administrator for accessing the SQL Server database, such as “ReqPro” and “reqpro.”
- 3 Retype your password in the **Verify Password** field.
- 4 In the **schema** field, type the user name of the owner of the RequisitePro database tables, supplied by your database administrator, such as “ReqPro.”
- 5 Click **OK** to close the dialog box.
- 6 Click **OK** to close the Database Properties dialog box.

- 7 Finish creating your project, then click **OK** to close the Project dialog box.

Archiving a SQL Server Project

Refer to the topic "Archiving and backing up enterprise database projects" in the RequisitePro online help. This help topic is also available in Let's Go RequisitePro. Click the Project Administration Tips icon and select the link to "Archiving and backing up enterprise database projects".

3

Rational RequisiteWeb Installation and Configuration

Overview

This chapter describes the installation and configuration of RequisiteWeb.

RequisiteWeb allows clients to read, modify, create, and reparent Rational RequisitePro project requirements across the Internet or an Intranet. By utilizing browsers – Netscape Navigator or Microsoft Internet Explorer – RequisiteWeb provides platform-independent, thin-client access to RequisitePro project data.

RequisiteWeb requires the configuration of the Microsoft Internet Information Server and the installation of Web components on the same Microsoft Windows NT or Windows 2000 server. In addition, a Web browser must be installed on the client system. No RequisitePro application-specific files need to be installed on the client system.

For the most current information on RequisiteWeb, including installation, configuration, and known issues, refer to the RequisiteWeb Installation and Configuration document that is, by default, at the following location on the system where you install RequisiteWeb:

```
c:\Program Files\Rational\RequisitePro\reqweb\reqwebsetup.html
```

The “RequisiteWeb Installation and Configuration” document is also available from the online Release Notes in RequisitePro.

RequisiteWeb Server

Server Configuration Overview

The following sections provide system requirements, installation, and configuration information for installing RequisiteWeb on your NT server. This information is necessary for performing the following procedures:

- 1 Reviewing Installation Requirements
- 2 Installing RequisiteWeb on the IIS Server
- 3 Copying RequisiteWeb Components on the IIS Server
- 4 Creating a Virtual Web Directory
- 5 Configuring for UNIX Navigator Access
- 6 Creating Required Directories on the IIS Server
- 7 Granting Launch Permissions for Word with IIS 5.0
- 8 Setting Directory Permissions on the IIS Server
- 9 Building the Web Project Catalog
- 10 Configuring E-mail for Discussions
- 11 Configuring RequisiteWeb for Oracle Database Projects
- 12 Starting RequisiteWeb

Reviewing Installation Requirements

Note Make certain that you have a current backup of your Registry and system directories prior to running the Rational Software Installation procedure.

You must install either a RequisitePro startup or permanent license key to use this software. The Rational License Key Administrator online help provides detailed instructions for installing startup and permanent license keys. See “Rational Software Client Licensing” on page 87 for more information about licenses, including the procedure for obtaining an updated license key. To use the Rational Software Setup program on Windows NT or Windows 2000 Server, you must have Windows administrator privileges.

RequisiteWeb Server Requirements

The following table summarizes the requirements for the RequisiteWeb server.

Table 6: RequisiteWeb Server Requirements

| Item | Requirement |
|------------------|--|
| Operating System | NT Server 4.0, Service Pack 3 or later NT 4.0 Option Pack which includes: Microsoft Internet Information Server (IIS) 4.0 and Microsoft Transaction Server (MTS) 2.0 or Microsoft Windows 2000 Server, which includes: Internet Information Services (IIS) 5.0 |
| Processor | 300 MHz or greater |
| Memory | 128 MB. For projects with more than 10,000 requirements or Web sites with more than 10 concurrent users, 256 MB or more is recommended. |
| Disk space | RequisiteWeb (includes system DLLs) -- 40 MB ASPs, Web DLLs, bitmaps -- 2 MB |
| Other products | Word 2000 (recommended version) or Microsoft Word 97; in Word 97, you must include the installation option: Converters and Filters/Text Converters/HTML Converter Oracle, version 7.3 or greater, client software (for accessing projects in an Oracle database) Microsoft Internet Explorer 5, or Internet Explorer 4 with the XML parser available at http://msdn.microsoft.com/downloads/tools/xmlparser/xmlidl.asp |

RequisiteWeb Security Requirements

After you have installed RequisiteWeb, you may need to alter security permissions on your IIS server for reasons unrelated to RequisiteWeb. Use caution when modifying permissions on RequisiteWeb-related folders. For more information, see “Setting Directory Permissions on the IIS Server” on page 55.

Installing RequisiteWeb on the IIS Server

Note For current RequisiteWeb users, be sure to uninstall any earlier version of RequisiteWeb prior to installing RequisiteWeb on your server. Refer to “Removing RequisiteWeb” on page 67 for specific instructions. Be sure to retain your existing `catalog.txt` file.

- 1 Insert the Rational Solutions for Windows CD into your system’s CD drive. The setup program starts automatically. If autorun is disabled on your system, click **Start > Run**. Using the drive letter of your CD-ROM drive, enter `drive:\SETUP.EXE`.
- 2 The Rational Software Setup wizard guides you through the software installation. On each screen, click the **Next** button to proceed to the next screen. The Rational Software Setup program writes a log of the installation activities. The log file is located, by default, in
`c:\Program Files\Rational\RSSetup\RSSetup.log`
- 3 At the Choose Product screen, select **Rational RequisitePro** on the drop-down list.
- 4 At the Setup Configuration screen, click **Custom/Full**.

Note If your database server is running on an international operating system, be sure that the install path does not include folders with double-byte character names.

- 5 At the Choose Features screen, mark the **Web Server Components** and clear the **RequisitePro** and **Rational Synchronizer** check boxes. You can expand the Web Server Components selection and clear the **RequisiteWeb Sample Projects** to install RequisiteWeb without the Learning Project and QuarterByte Bank example projects.

Possible Reboot Required

If files that are required for the installation are in use during the installation procedure, the Rational Windows Setup program may need to reboot your system to complete the installation.

After rebooting, log on as the same user to complete the installation procedure.

Copying RequisiteWeb Components on the IIS Server

The IIS installation creates a `wwwroot` directory in the server file structure; typically this is located in the `C:\Inetpub` directory.

The RequisiteWeb installation creates a `ReqWeb` directory in the RequisitePro installation directory; typically located in:
`C:\Program Files\Rational\RequisitePro`. Copy and paste this directory into the `wwwroot` directory using Windows NT Explorer.

This copy procedure follows standard IIS guidelines for Web installations and ensures that proper permissions are created for RequisiteWeb.

- 1 Copy the `ReqWeb` directory located in
`C:\Program Files\Rational\RequisitePro`.
Be sure to include the `ReqWeb` directory and all its contents and subdirectories.
- 2 Paste the `ReqWeb` directory and all its contents in the
`C:\Inetpub\wwwroot` directory on your IIS installation.

Creating a Virtual Web Directory

RequisiteWeb requires a virtual directory on your Web server in order to access the RequisiteWeb catalog and other components.

Creating a Virtual Directory on Internet Information Server 4.0

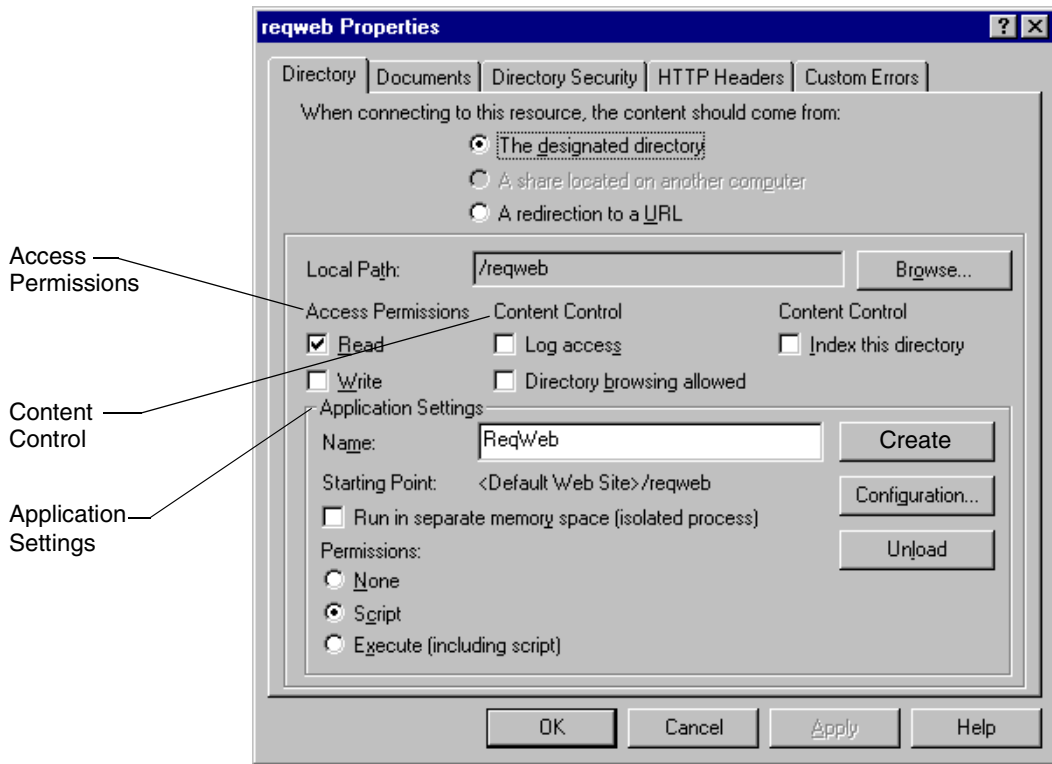
For information of creating a virtual directory on IIS 5.0, see “Creating a Virtual Directory on Internet Information Services 5.0” on page 50.

- 1 Start the Microsoft Management Console (MMC).

Note The default **Start** menu selections for the MMC are Programs/Windows NT 4.0 Option Pack/Microsoft Internet Information Server/Internet Service Manager.

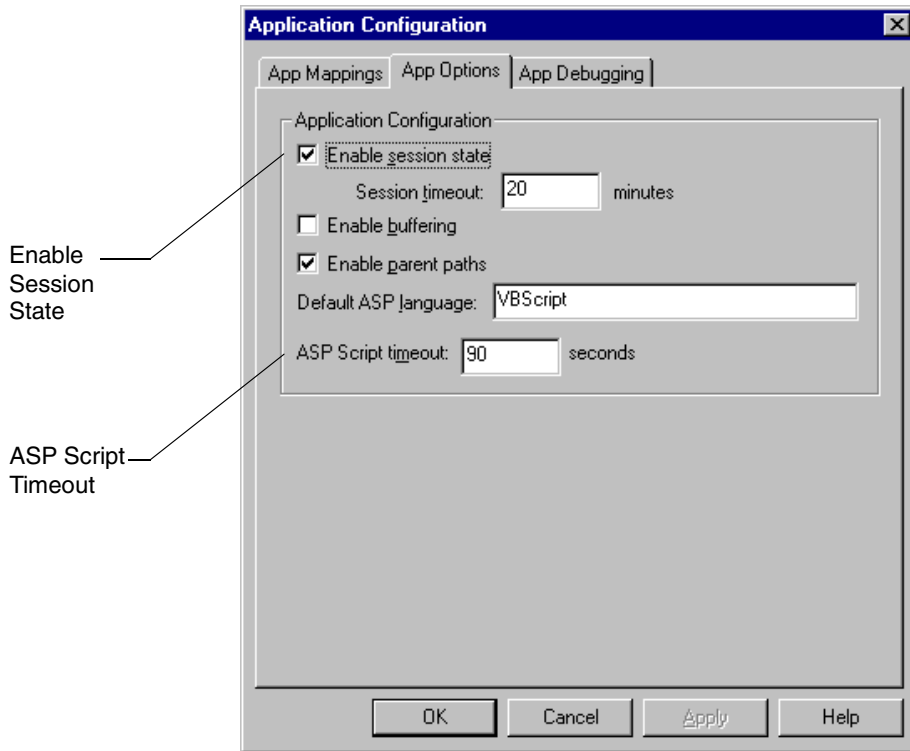
- 2 Navigate to the `ReqWeb` directory under the `Default Web Site`.

- 3 Right-click on the ReqWeb directory and click **Properties**. The Properties dialog box appears.

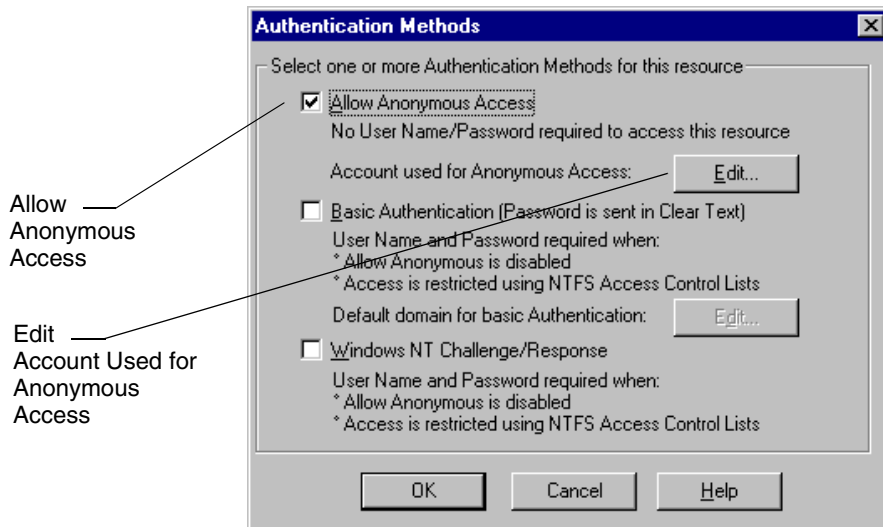


- 4 At the **Directory** tab, under Access Permissions, mark the **Read** check box and clear the **Write** check box.
 - 5 Clear all the **Content Control** check boxes.
 - 6 Under Application Settings, click the **Create** button to create a virtual Web directory.
- Note** If the Remove button is displayed instead of the Create button, click it. The Create button appears.
- 7 In the **Name** field, type ReqWeb.
 - 8 Clear the check box **Run in separate memory space (isolated process)**.

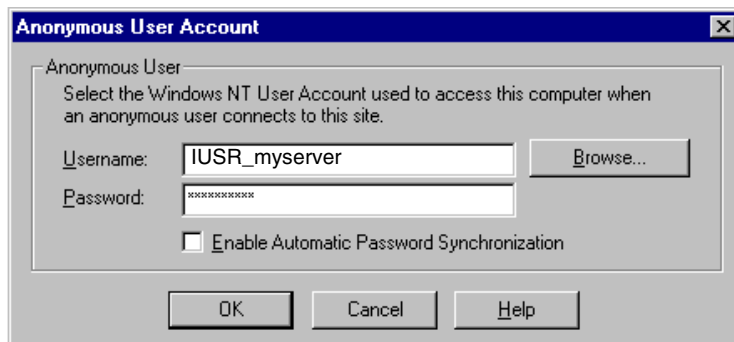
- 9 Under the Application Settings Permissions, select the **Script** option.
- 10 Click the **Configuration** button. The Application Configuration dialog box appears.



- 11 Click the **App Options** tab. Be sure that the **Enable session state** check box is marked.
- 12 Be sure that the **ASP script timeout** field is set to at least 90. Click **OK**.
- 13 In the Properties dialog box, click the **Directory Security** tab.
- 14 In the **Anonymous Access and Authentication Control** frame, click the **Edit** button to access to display Authentication Methods dialog box.



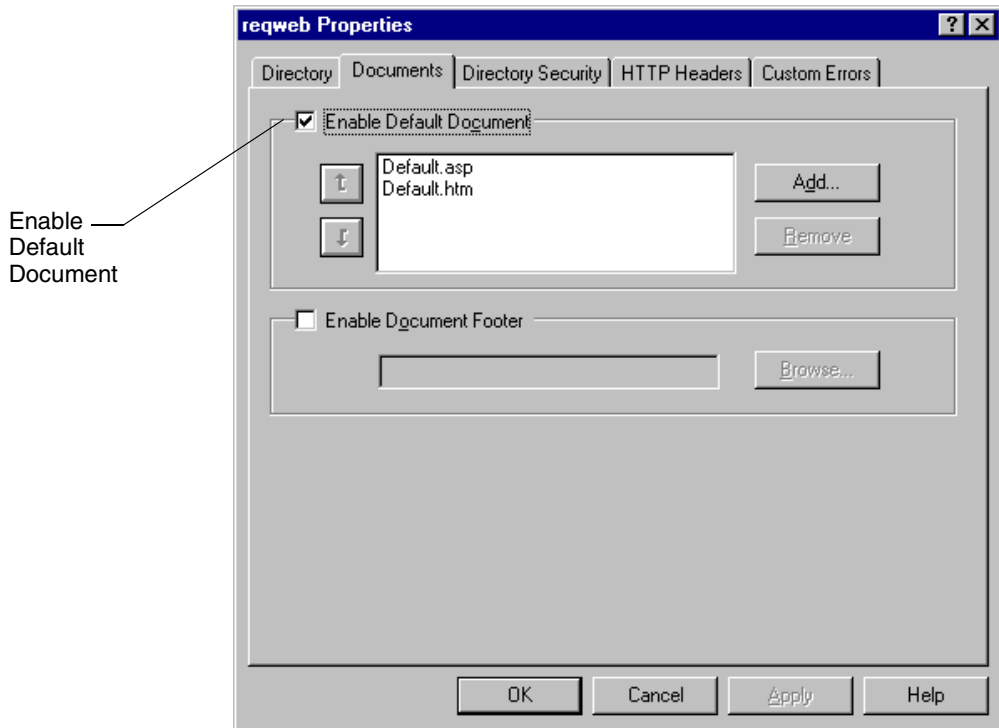
- 15 Mark the **Allow Anonymous Access** check box and clear the **Basic Authentication** and **NT Challenge/Response** check boxes. Click the **Edit** button next to the **Account Used for Anonymous Access** label. The Anonymous User Account dialog box appears.



- 16 At the **Username** field, note the IUSR user name. It should be in the form IUSR_<server name>. You will use this user name in subsequent configuration steps.

Note If you change the name of the default IIS user name in the Anonymous User Account dialog box, be sure to specify that name at each occurrence of the “IUSR_<server name>” user in this document.

- 17 Click **OK** twice to return to the Properties dialog box. Click the **Documents** tab.



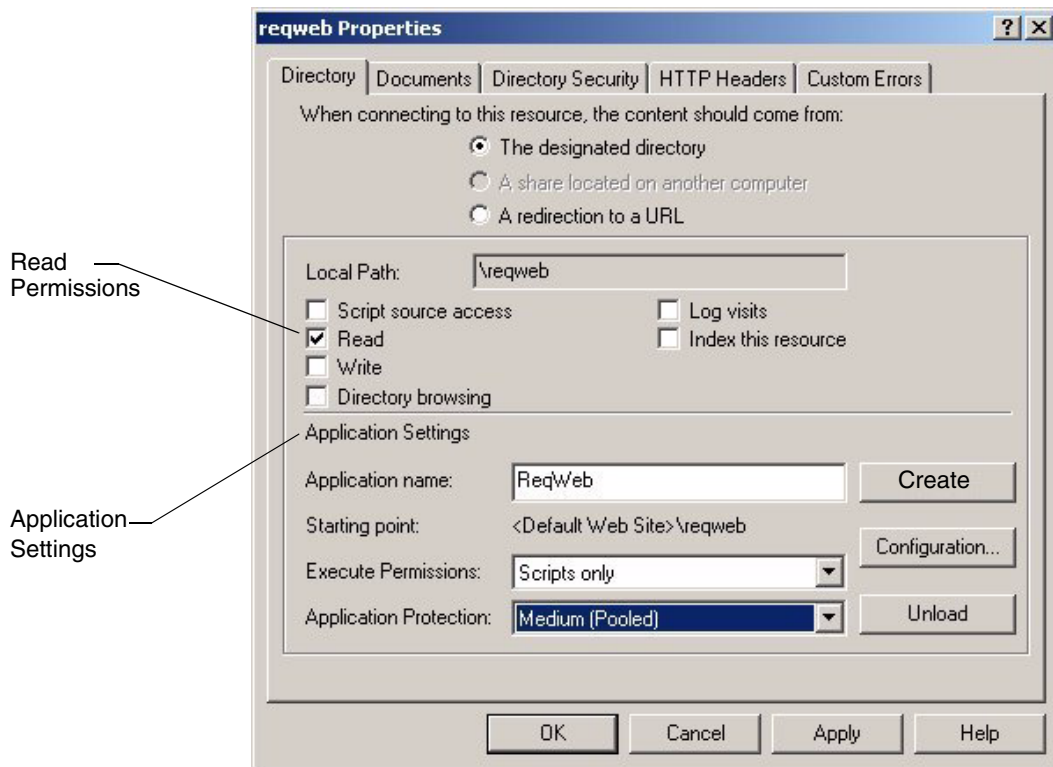
- 18 Be sure the **Enable Default Document** check box is selected. If `Default.asp` is not on the Default Document list, click **Add** and type `Default.asp` and click **OK**. If `Default.asp` is not at the top of the Default Document list, select it and click the up arrow. Click **OK**.

Creating a Virtual Directory on Internet Information Services 5.0

- 1 Start the Microsoft Management Console (MMC).

Note The default **Start** menu selections for the MMC are Programs/Administrative Tools/Internet Services Manager.

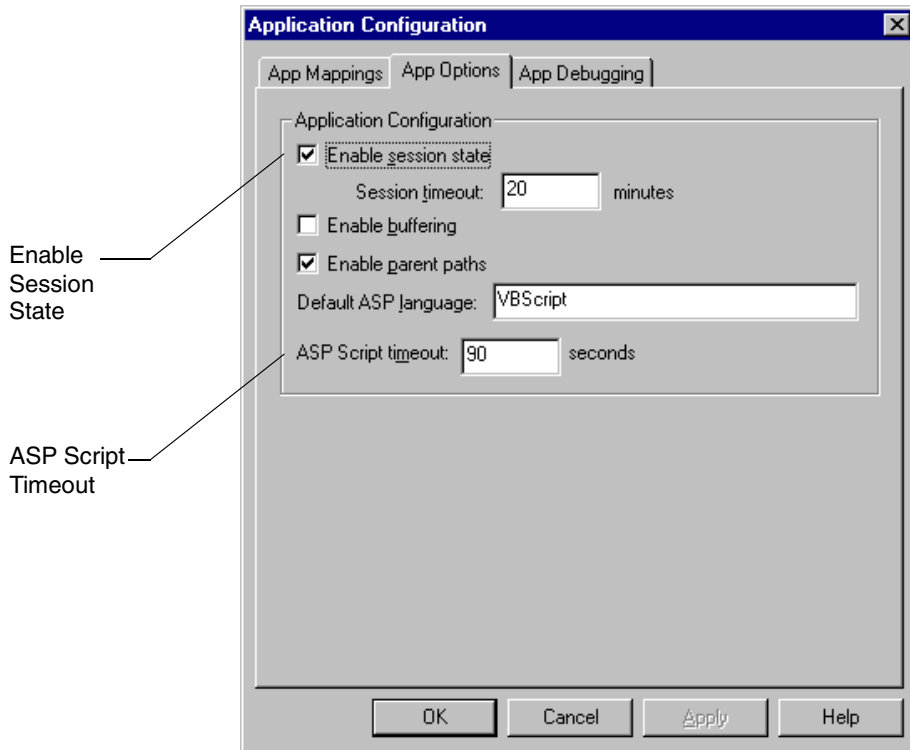
- 2 Navigate to the ReqWeb directory under the Default Web Site.
- 3 Right-click on the ReqWeb directory and click **Properties**. The Properties dialog box appears.



- 4 At the **Directory** tab, mark the **Read** check box and clear all the other check boxes.
- 5 Under **Application Settings**, click the **Create** button to create a virtual Web directory.

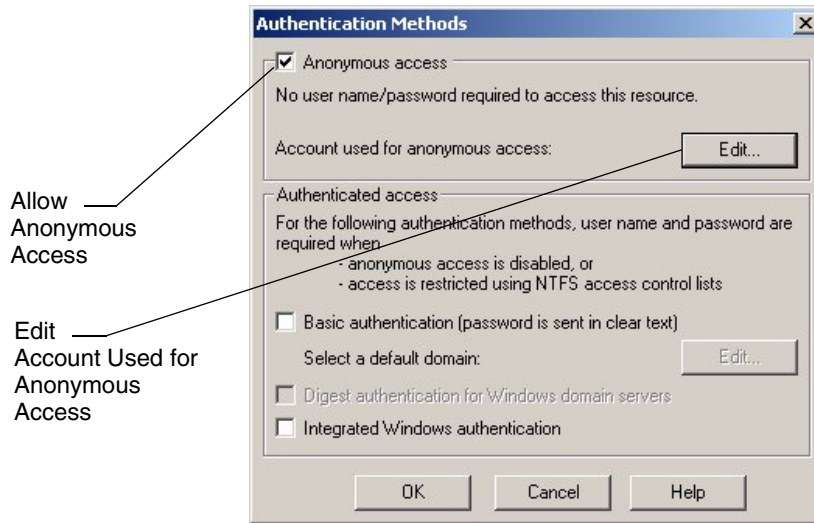
Note If the Remove button is displayed instead of the Create button, click it. The Create button appears.

- 6 In the **Application Name** field, type ReqWeb.
- 7 Accept the default **Application Protection** setting of **Medium**.
- 8 Click the **Configuration** button. The Application Configuration dialog box appears.



- 9 Click the **App Options** tab. Be sure that the **Enable session state** check box is marked.
- 10 Be sure that the **ASP script timeout** field is set to at least 90. Click **OK**.
- 11 In the Properties dialog box, click the **Directory Security** tab.

- 12 In the **Anonymous Access and Authentication Control** frame, click the **Edit** button to access to display Authentication Methods dialog box.



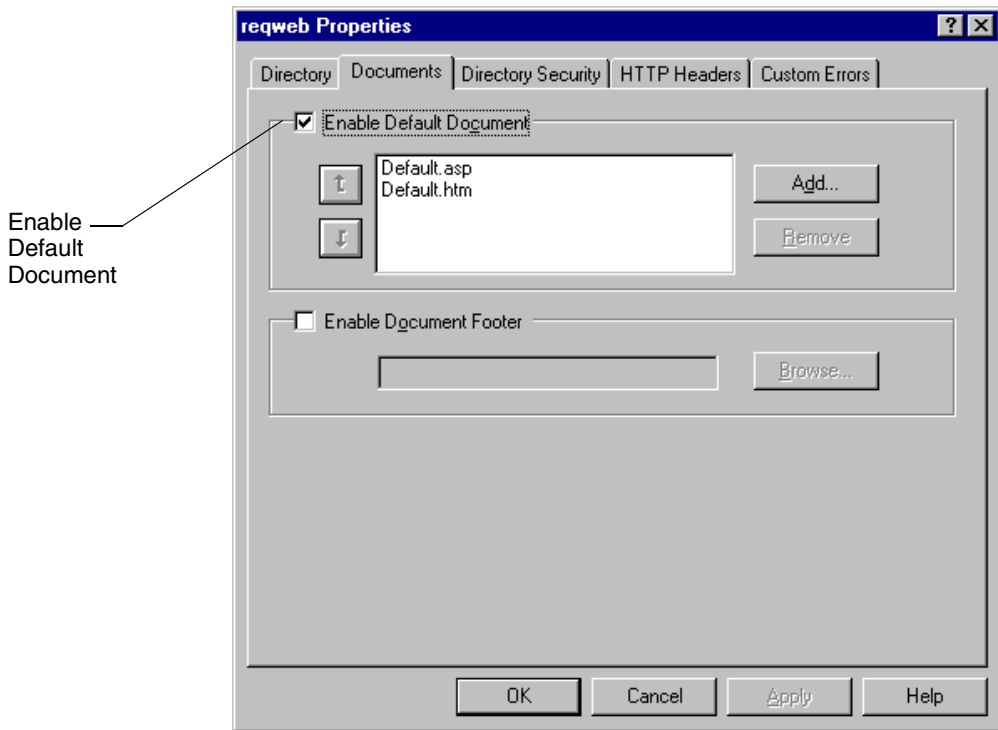
- 13 Mark the **Anonymous access** check box and clear the other check boxes.
- 14 Click the **Edit** button next to the **Account used for anonymous access** label. The Anonymous User Account dialog box appears.



- 15 At the **Username** field, note the IUSR user name. It should be in the form IUSR_<server name>. You will use this user name in subsequent configuration steps.

Note If you change the name of the default IIS user name in the Anonymous User Account dialog box, be sure to specify that name at each occurrence of the “IUSR_<server name>” user in this document.

- 16 Click **OK** twice to return to the Properties dialog box. Click the **Documents** tab.



- 17 Be sure the **Enable Default Document** check box is selected. If `Default.asp` is not on the Default Document list, click **Add** and type `Default.asp` and click **OK**. If `Default.asp` is not at the top of the Default Document list, select it and click the up arrow. Click **OK**.

Configuring for UNIX Navigator Access

If any of your RequisiteWeb users will access RequisiteWeb through the UNIX version of Netscape Navigator, you must use Microsoft Management Console (MMC) to disable the HTTP Keep-Alives setting for the RequisiteWeb default Web site.

- 1 Log on to the RequisiteWeb server.
- 2 Start the Microsoft Management Console (MMC).
- 3 In the left pane of the MMC display, right-click on the `Default Web Site` virtual directory and click **Properties**. The Properties dialog box appears.
- 4 On IIS 4.0, click the **Performance** tab; on IIS 5.0, click the **Web Site** tab.
- 5 Clear the check box **HTTP Keep-Alives Enabled** in the Connection Configuration frame.
- 6 Click **OK** to close the Properties dialog box.

Creating Required Directories on the IIS Server

In order to support RequisitePro projects and documents, you must create the following directories on your IIS server:

- `c:\Program Files\Rational\RequisitePro\Projects`
- `c:\Inetpub\wwwroot\ReqWeb\GenDoc`

Projects Directory for Storing Project Files

The Projects directory is the recommended location for your RequisitePro project subdirectories and files. Refer to the section “Accessing Projects from the RequisiteWeb Server” on page 65 for more information.

GenDoc Directory for Displaying Documents

In order to dynamically display RequisitePro documents, RequisiteWeb creates temporary directories that contain copies of the project documents on the IIS server. By default, the anonymous IIS user (`IUSR_<server name>`) does not have permission to create directories in the `ReqWeb` virtual directory.

Therefore, you must create the GenDoc directory that will contain the temporary directories for the documents. In addition, you must grant the IUSR_<server name> user permissions to create, change, and delete subdirectories and files within that GenDoc directory. Refer to the following section for instructions on setting permissions.

Setting Directory Permissions on the IIS Server

Note Because FAT drives do not limit access by the default IIS user, you do not need to configure security access. If the Security tab is not present on the directory properties dialog box, the drive is configured as a FAT drive. In this case, skip these procedures.

Required Read Permissions

On both Windows NT 4.0 and Windows 2000 Server, the following directories and their contents must provide Read permission for anonymous user IUSR_<server name>:

- C:\Inetpub\www\reqweb (and subdirectories)
- C:\program files\rational\common (for licensing)

For instructions on setting permissions, see one of the following:

- “Setting Permissions on IIS 4.0” on page 56
- “Setting Permissions for IIS 5.0” on page 58

Required Change or Modify Permissions

On both Windows NT 4.0 and Windows 2000 Server with an NTFS drive, the following directories and their contents must provide Change or Modify permission for anonymous user IUSR_<server name>:

- Inetpub\wwwroot\ReqWeb\GenDoc
- c:\Program Files\Rational\RequisitePro\bin
- c:\Program Files\Rational\RequisitePro\samples
- c:\WINNT\TEMP
- c:\TEMP
- c:\Program Files\Rational\RequisitePro\Projects

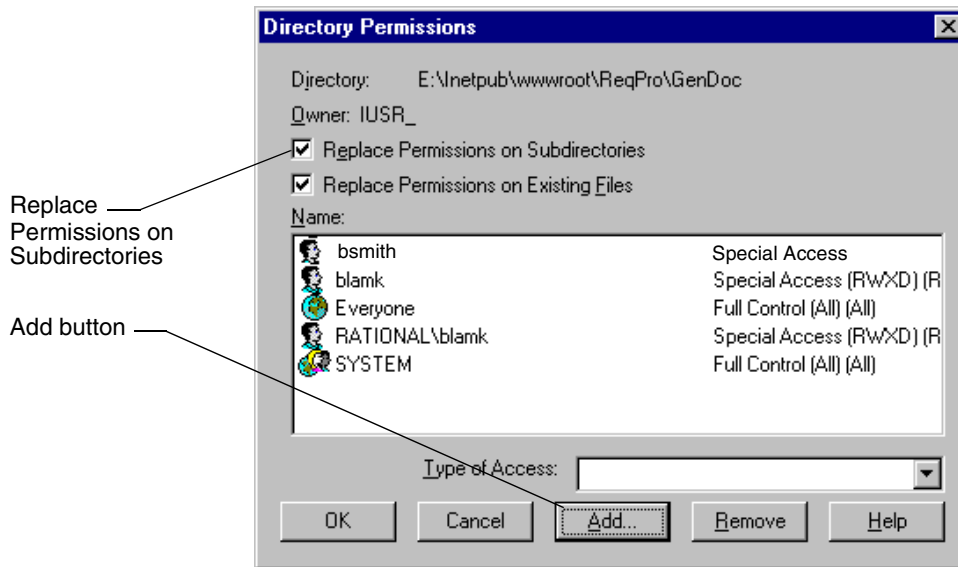
For instructions on setting permissions, see one of the following:

- “Setting Permissions on IIS 4.0” on page 56
- “Setting Permissions for IIS 5.0” on page 58

Setting Permissions on IIS 4.0

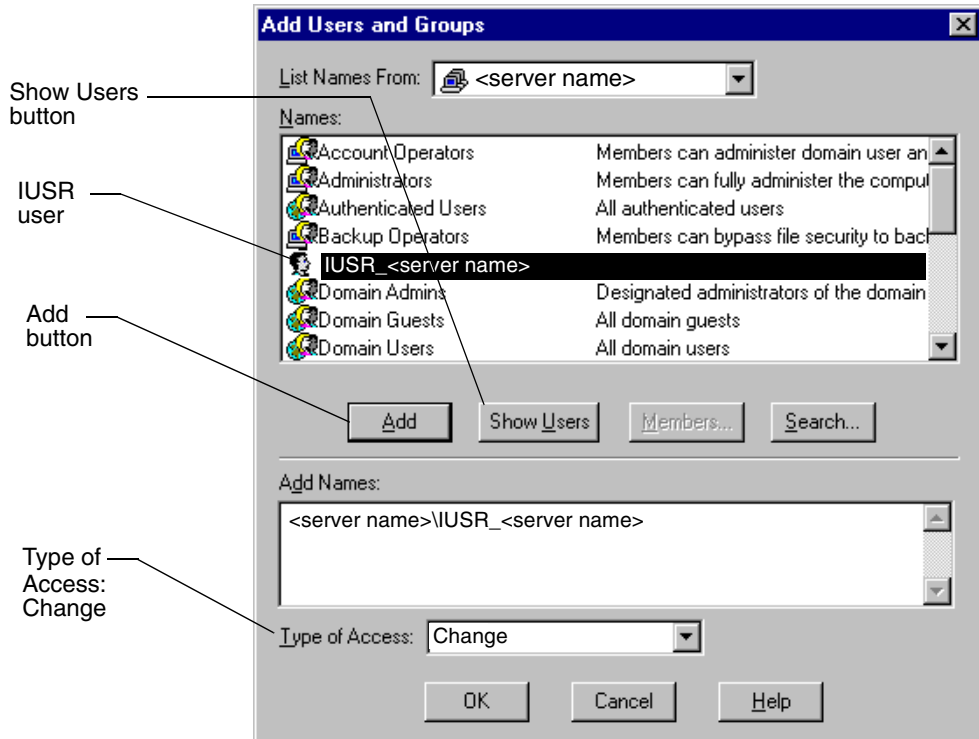
The following procedure must be applied to each of the target directories. (The target directories are listed above in the sections “Required Read Permissions” and “Required Change or Modify Permissions” on page 55.)

- 1 On the IIS 4.0 server, in the Windows NT Explorer, navigate to the target directory on your IIS installation.
- 2 Right-click on the target directory and select **Properties**. The directory Properties dialog box appears.
- 3 Click the **Security** tab, then the **Permissions** button. The Directory Permissions dialog box appears.



- 4 Mark the **Replace permissions on subdirectories** check box.
- 5 Click the **Add** button.

The Add Users and Groups dialog box appears.



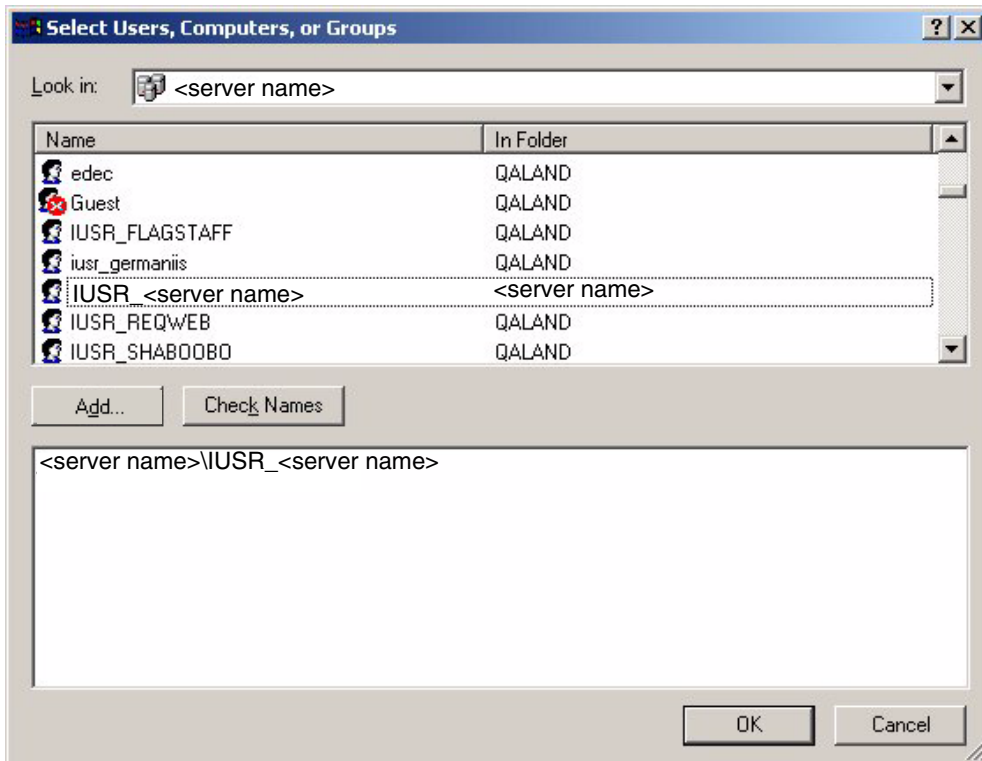
- 6 Click the **Show Users** button. Find and highlight the IUSR_<server name> user, then click the **Add** button.
- 7 In the **Type of Access** field, do one of the following:
 - select **Read** (for directories listed in “Required Read Permissions” on page 55)
 - select **Change** (for directories listed in “Required Change or Modify Permissions” on page 55).
- 8 Click the **OK** button to close the Add Users and Groups dialog box. At the Directory Permissions dialog box, you should see the IUSR_<server name> user with Change access rights listed.

- 9 Click **OK** to close the dialog box and complete the NT permissions change. Repeat this procedure for the other target directories.

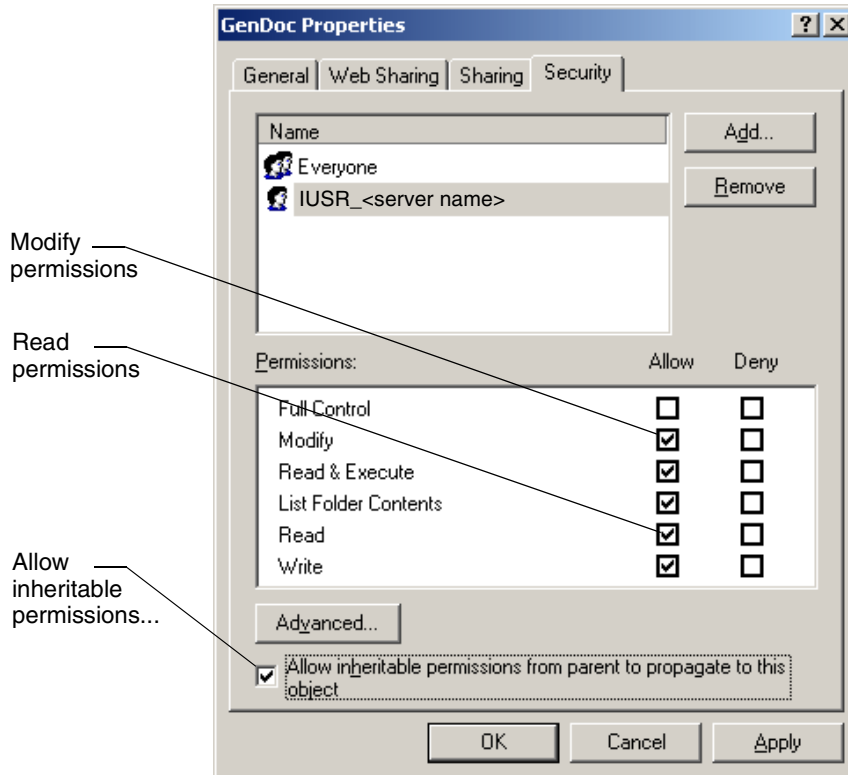
Setting Permissions for IIS 5.0

The following procedure must be applied to each of the target directories. (The target directories are listed above in the sections “Required Read Permissions” on page 55 and “Required Change or Modify Permissions” on page 55.)

- 1 On the IIS 5.0 server, navigate to the target directory.
- 2 Right-click on the target directory and select **Properties**. The target directory Properties dialog box appears.
- 3 Click the **Security** tab, then the **Add** button. The “Select Users, Computers, or Groups” dialog box appears.



- 4 Select the IUSR_<server name> entry on the **Name** list. This IUSR user name was configured for the anonymous user account when you created the reqweb virtual directory.
- 5 Click **Add**. Click **OK**. You return to the target directory Properties dialog box.



- 6 With the IUSR_<server name> entry still selected in the **Name** list, do one of the following:
 - For directories listed in “Required Read Permissions” on page 55, mark the **Read** permissions check box and clear the other check boxes.
 - For directories listed in “Required Change or Modify Permissions” on page 55, mark the **Modify** permissions check

box and accept the other permissions that are associated with the Modify option.

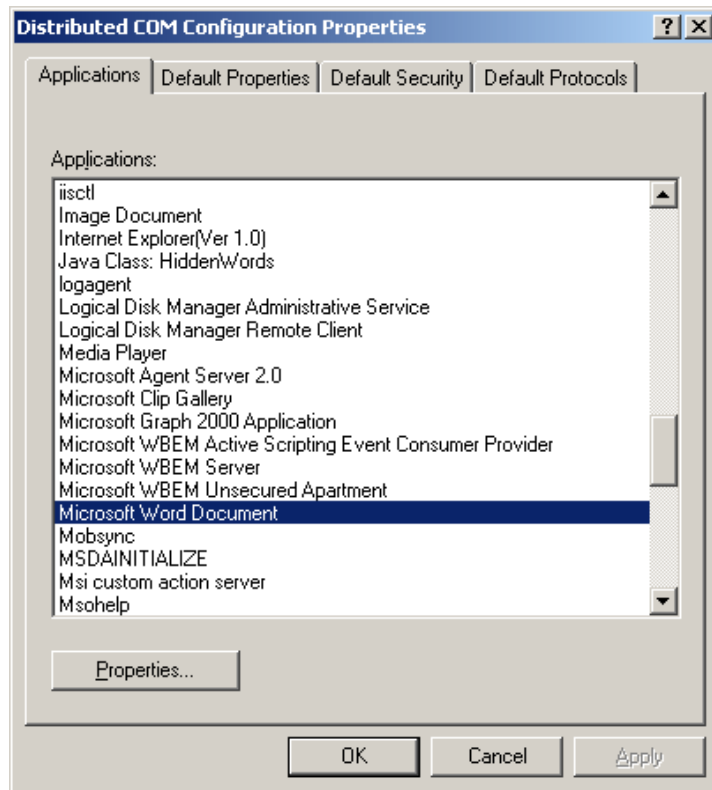
- 7 Mark the **Allow inheritable permissions...** check box.
- 8 Click **OK**. Repeat this procedure for the other target directories.

Granting Launch Permissions for Word with IIS 5.0

RequisiteWeb requires the installation of Microsoft Word on the IIS server. With IIS 5.0, RequisiteWeb uses the Distributed Component Object Model (DCOM) to launch Microsoft Word. By default on IIS 5.0, the anonymous user IUSR_<server name> does not have permission to launch Word. Use the procedure below to use the Distributed Component Object Model (DCOM) to set permissions for launching Word.

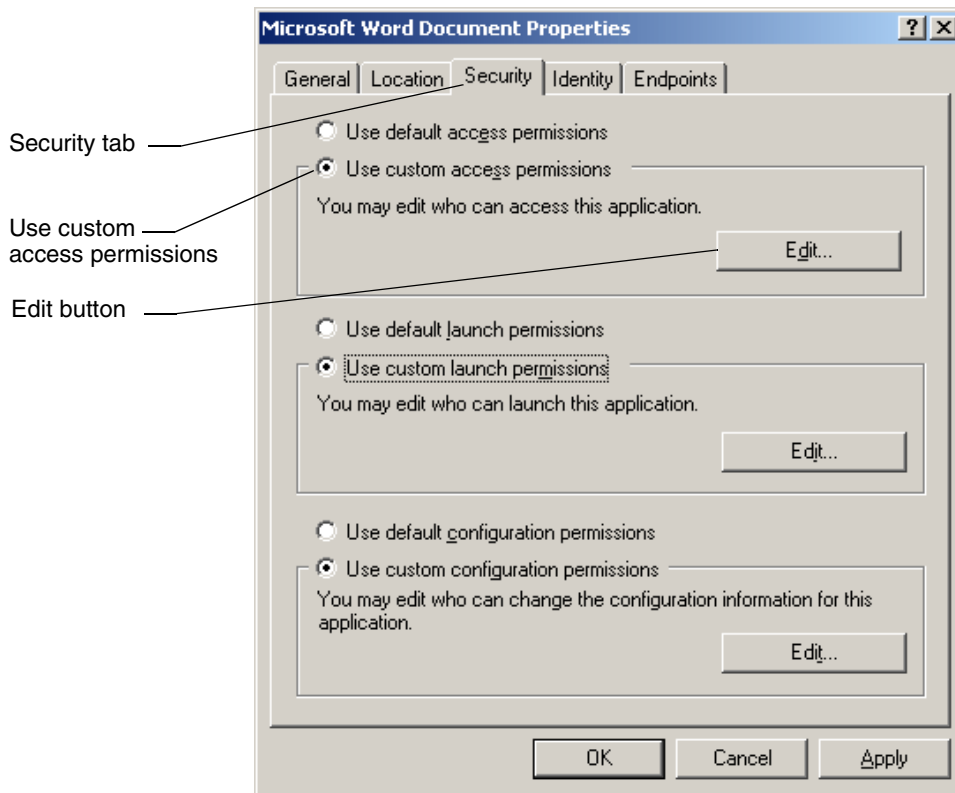
Note Do not add the IUSR_<server name> user to the Administrators group. This addition creates a security breach for all Web applications on the IIS server.

- 1 On the **Start** menu, click **Run**, and type `dcocomnfg`.
The Distributed COM Configuration dialog box appears.



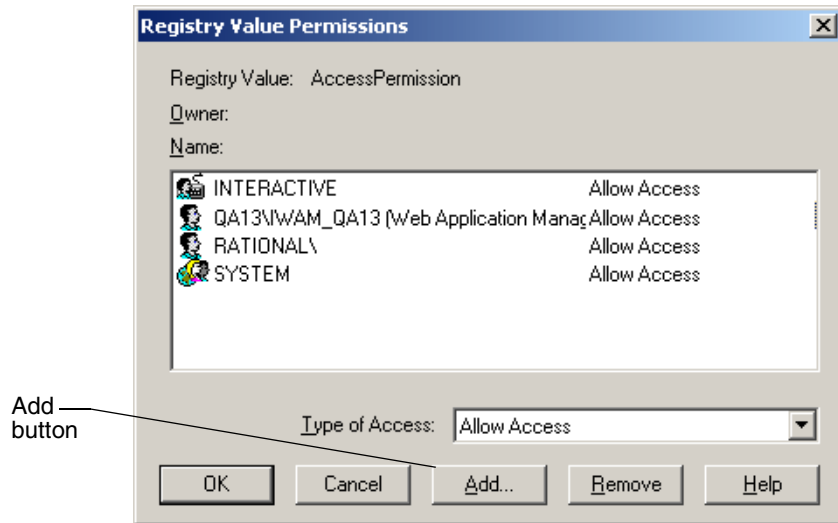
- 2 On the **Applications** tab, select **Microsoft Word Document** on the list of applications. (If the entry **Microsoft Word Basic** appears in your DCOM applications list, you will have to repeat this procedure for that entry.)

- 3 Click the **Properties** button. The Microsoft Word Document Properties dialog box appears.



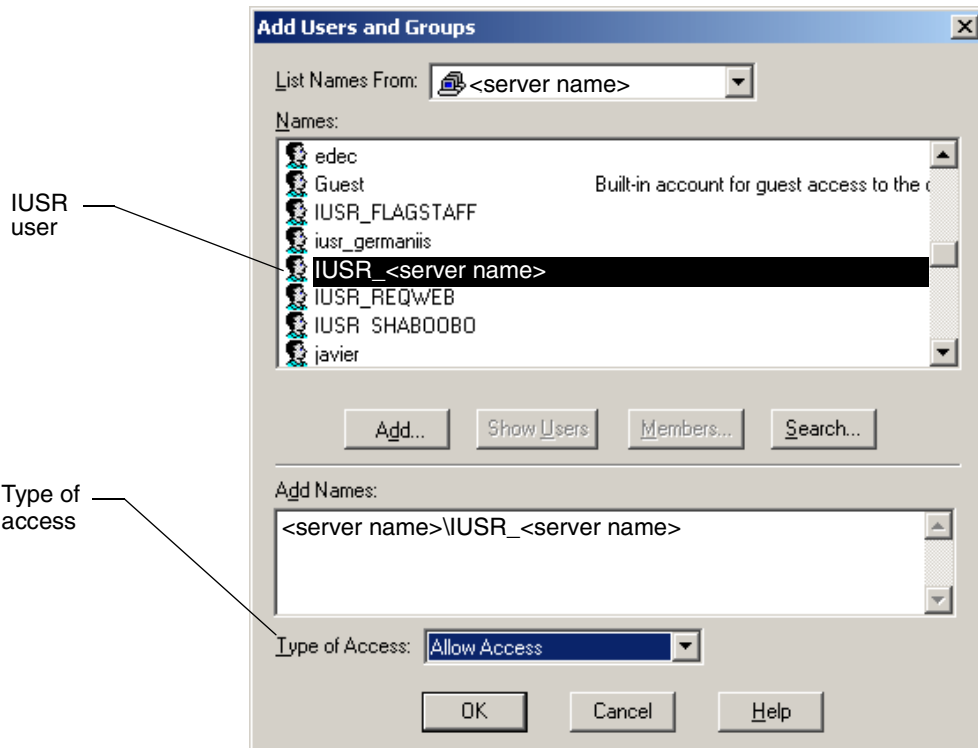
- 4 On the **Security** tab, select **Use custom access permissions**. Click the adjacent **Edit** button.

The Registry Value Permissions dialog box appears.



5 Click **Add**.

The Add Users and Groups dialog box appears.



- 6 Select the IUSR_<server name> anonymous user for RequisiteWeb. Click **Add**.
- 7 At the **Type of Access** field, select **Allow Access**. Click **OK**.
- 8 At the Registry Value Permissions dialog box, click **OK**.
- 9 At the Microsoft Word Document Properties dialog box, select the option **Use custom launch permissions**. Click the adjacent **Edit** button.
- 10 At the Registry Value Permissions dialog box, click **Add**.
- 11 Select the IUSR_<server name> anonymous user for RequisiteWeb. Click **Add**.

- 12 At the **Type of Access** field, select **Allow Launch**. Click **OK** three times to close the DCOM dialog boxes. (Repeat this procedure for the **Microsoft Word Basic** entry, if it appears in your DCOM application list.)

Building the Web Project Catalog

Before projects are available for the RequisiteWeb clients, they must be cataloged on the RequisiteWeb server. The default catalog file contains entries for the two Learning Projects.

- 1 Using a text editor, open the `catalog.txt` file in the directory:
C:\Inetpub\wwwroot\ReqWeb
- 2 Type the full path and RequisitePro project file name (*.rqs).

Note You must use full UNC paths to RQS files in Oracle and SQL Server-based projects that are not located on the IIS server.

- 3 Enter additional project files on successive lines of the text file.
- 4 Save and close the file.

Accessing Projects from the RequisiteWeb Server

The `Projects` directory that you created in the section “Creating Required Directories on the IIS Server” on page 54 is the recommended directory for your projects because you granted Change or Modify permissions to that directory.

If you are using Microsoft Access for your RequisitePro project database, the project files must be located on the IIS server in order for RequisiteWeb to access the project. RequisiteWeb can open SQL Server- and Oracle-based projects which are not physically located on the IIS server. However, to open these projects, the anonymous user `IUSR_<servername>` must have Change or Modify rights for the directory containing the RequisitePro RQS project file on the machine where that file is located.

To grant these rights, add the `IUSR_<servername>` user to the list of users with rights to that directory. Give the user a minimum of Change or Modify rights. Alternately, you may add the `IUSR_<servername>` user to a group who already has Change or Modify rights (or greater) for that directory.

Configuring E-mail for Discussions

To configure e-mail for RequisitePro discussions, refer to “Configuring E-mail for Discussions” on page 13 in this guide. You use the same Rational E-mail Reader session for both RequisitePro and RequisiteWeb; however, note the following requirements when configuring the Rational E-mail Reader for both RequisitePro and RequisiteWeb:

- You must run the Rational E-mail Reader on a **different** server than the IIS server.
- In order to enable e-mail for RequisiteWeb discussions, you must configure discussion e-mail using the **SMTP** protocol option rather than MAPI protocol option in the Rational E-mail Reader.
- The E-mail Setup option on the RequisitePro Tools menu **does not** configure e-mail for RequisiteWeb discussions. Use the Rational E-mail Reader, as described on page 13, to configure e-mail for RequisiteWeb discussions.

Configuring RequisiteWeb for Oracle Database Projects

In order to access RequisitePro projects that are stored in an Oracle database using RequisiteWeb, you must configure Oracle client software on the IIS server. Refer to the section “Setting Up PCs for Oracle Access” on page 25 in this guide. That section refers to installation on a client PC; you must perform that procedure on the IIS server.

Starting RequisiteWeb

To access a RequisitePro project in RequisiteWeb:

- 1 Open your browser.
- 2 Set the URL address to the full path of the RequisiteWeb virtual directory; for example: `http://<server name>/reqweb/`
- 3 Navigate to that address. The RequisiteWeb logon page appears.
- 4 Select a RequisitePro project from the **Project** list. If your project does not appear on the list, refer to procedure “Building the Web Project Catalog” on page 65.

- 5 Type your RequisitePro **User** name and **Password** and click **Log on**.

Removing RequisiteWeb

This section describes how to remove RequisiteWeb from your system.

Note RequisiteWeb 4.0 SR1 required the use of Distributed COM (DCOM) for managing Microsoft Word documents on the IIS server. If you created an “Admin” user for use with DCOM and Microsoft Word, you should reset the launching user for Word.

- 1 Run `dcomcnfg` at the **Start/Run** command line.
- 2 Select **Microsoft Word Document** and click **Properties**.
- 3 At the **Identity** tab, select **The launching user** and click **OK**.
- 4 At the Distributed COM dialog box, select **Microsoft Word Basic** (if it is present) and repeat step 3.

Preparing to Remove RequisiteWeb

Prior to removing RequisiteWeb from your system, make sure that no one is using RequisiteWeb or any associated files. You will not be able to remove files that are in use.

RequisiteWeb installs a new project catalog containing paths to new sample projects. Be sure to make a copy of your existing `catalog.txt` file before removing RequisiteWeb. Add your previous `catalog.txt` entries to the new catalog file that is installed with the new version of RequisiteWeb. For more information, see “Building the Web Project Catalog” on page 65.

To remove RequisiteWeb from a Windows NT or Windows 2000 server, you must have Windows administrator privileges on that machine.

Stop the IIS Web Site Processes

- 1 Launch Microsoft Management Console (MMC).

Note The default **Start** menu path for the MMC on **Windows NT 4.0** is: Programs/Windows NT 4.0 Option Pack/Microsoft Internet

Information Server/Internet Service Manager.
On **Windows 2000 Server** it is: Programs/Administrative
Tools/Internet Services Manager.

- 2 Select the Default Web Site.
- 3 Click the **Stop** button on the toolbar.
- 4 Right-click on the ReqWeb virtual directory and select **Properties**.
The ReqWeb Properties dialog box appears.
- 5 Click **Remove**.
- 6 Click **OK** to close the dialog box.

Unload RequisiteWeb Components from Memory

- 1 At the Start/Run command line, type `cmd`.
- 2 In the MS-DOS window, type the commands indicated in the following steps. Answer OK to any messages. The C:\ prompt appears after each command is successfully executed.
- 3 Type `net stop iisadmin /y` and press **Enter**.
The following message appears: "The IIS Admin Service was stopped successfully."
- 4 Type `mtxstop` and press **Enter**.
The following message appears: "Mtxstop: Stopping all application server processes..."
- 5 Type `net start w3svc` and press **Enter**.
The following message appears: "The World Wide Web Publishing Service was started successfully."
- 6 Close the MS-DOS window.

To Remove RequisiteWeb

Use the **Add/Remove Programs** function in the Windows NT Control Panel to select and remove **RequisitePro**. After the uninstall process is complete, check to see if the ReqWeb directory is still present on the server. If so, delete the ReqWeb directory and its subdirectories.

RequisiteWeb Client

Browser Requirements

To access RequisiteWeb from client machines, you must install one of the following Web browsers on the client system. No additional client installation is required for use of RequisiteWeb.

- Microsoft Internet Explorer 4 or 5
- Netscape Navigator 4 (Win 95/98/NT)
- Netscape Navigator 4 (UNIX)

4

Silent Installations

You can configure Rational Software Setup to perform silent installations of Rational software. Silent installations allow you to perform an installation of a Rational Software product using the same parameters repeatedly on a number of systems.

The following sections provide a brief summary of the silent installation features.

Note

We recommend you read Rational's *Silent Installation White Paper* before you attempt a silent installation. Download the white paper from the Rational Web site at:

http://www.rational.com/sitewide/support/whitepapers/dynamic.jt mpl?doc_key=101458

To open the paper directly from the Rational Web site without downloading it, use the following URL:

http://www.rational.com/sitewide/support/whitepapers/silent_inst all/whitepaper.htm

Overview of Silent Installations

This section describes how to perform a silent install. The basic steps, explained below, are:

- 1 Record an installation session.
- 2 Optionally, add a post-installation command to the recorded installation.
- 3 Execute the installation procedure.

Recording a Software Installation

You can record a software installation session and then use the responses that you provide to replay the installation. At the end of

the recorded installation procedure, you can exit without installing the product.

- 1 Insert the Rational Solutions for Windows CD in a CD drive.
- 2 Open a command window on your system and run `RSSetup` with the `-autocapture` switch. For example:

```
<Install Location>\setup\rssetup -autocapture
```

Where `<Install Location>` is the location of the Rational Solutions for Windows CD.

- 3 When the Rational Software Setup program starts, proceed with the installation procedure, as described in “Installing RequisitePro with Rational Software Setup” on page 8. Your responses will be recorded in the responses file
`<Install Path>\RSSetup\response.ini.`

Note The option to use a temporary license is not supported when using the `-autocapture` switch. The silent installation procedure does not support the capture of license certificate information into the `response.ini` file.

- 4 After you have answered all of the questions related to the installation, you are prompted to continue with the installation of the product or to exit from the setup program. Click **OK** to proceed with the installation or **Cancel** to exit.

Note Even if you cancel at this point, your answers are still saved.

Specifying a Post-Installation Command

You can specify a command to perform after the silent installation has completed.

After you have completed preparation for a silent installation, perform the following steps:

- 1 Use a text editor such as Notepad to edit the response file. Append a line similar to the following to the end of the file. The label `[PostInstallCmd]` is required.:
`[PostInstallCmd]`
`Command=post-installation-commands.bat`

where the `post-installation-commands.bat` is a batch file that contains the commands to execute. Such a file might contain the following commands:

```
licadmin -fserver.txt  
net send administrator "Installation Complete"
```

In this example, the License Key Administrator, `licadmin`, starts and uses the information in `server.txt` to specify the name of the license server that the current system will use. (See License Key Administrator Syntax on page 79 for the proper license command syntax.) The batch file then sends a message to the administrator, indicating that the installation procedure is complete.

- 2 Save the response file to a unique name (to ensure that it is not overwritten by subsequent autocaptures). For example, save the response file with a name such as
`c:\responses\ent-w-post.ini`

Performing a Silent Software Installation

After you have recorded your responses, use the response file to replay the installation. For example:

```
<Install Location>\setup\rssetup -silent  
-response:response-path
```

Where `response-path` is the path of the response file. The default path is `c:\Program Files\Rational\RSSetup\response.ini`.

Note

If a response file is in the default location, you do not have to specify the `-response:response-path` parameter. To override the default, include the `-response:response-path` parameter on the command line.

If you specify `-autocapture` on the `RSSetup` command line, your installation will initially select the product name identified in the previous `response.ini` file, but will allow you to select a new product for installation. A new `response.ini` file will be saved at the end of the installation procedure.

For additional information about the Rational Software Setup command-line syntax, see `RSSetup Command Syntax` on page 75.

Preparing Multiple Response Files

You can save multiple response files to support attended installation of different products.

- 1** Identify a directory where you will store your response files.
The following examples use a directory named `C:\responses`.
- 2** Record the response file for each product to install.
- 3** Rename the response file with a unique file name. For example, save the Rose response file as `C:\responses\Rose-responses.ini`.
- 4** Perform the installation and specify the path to the response file as a parameter to the `-response` switch. For example:

```
<Install Location>\setup\rssetup -silent  
-response:c:\response\Rose-response.ini
```


RSSetup Command Syntax

```
RSSetup [-silent [-response:response-path]] |
        [-verbose [-response:response-path]] |
        [-autocapture]
        [/product <product>] [/install /uninstall /update]
```

Table 7: RSSetup Command Parameters

| Parameter | Description |
|------------------------------------|--|
| -silent | Performs a silent (unattended) installation. |
| -verbose | Replays a previously recorded installation, allowing you to override the recorded responses. Note: if you override the responses, those changes are not written to the response file. |
| -response: response-path | Specifies the path to the response file. response-path is the path for the response file. You must specify the response-path . The default path is <Install Location>\Setup\ RSSetup\response.ini, where <Install Location> is the location of the installation files. |
| -autocapture | Records your responses to a software installation, storing the responses in a file for later replay. |
| /product product-identifier | Specifies the product you are installing. Do not use this parameter for silent installations. For a silent installation, you instead specify the product name in the response file. See Table 8, Product Identifiers, on page 76 for the list of identifiers you can use with this switch. |

Table 7: RSSetup Command Parameters (Continued)

| Parameter | Description |
|------------|---|
| /install | Installs the product you specified with the /product switch. This switch cannot be combined with /uninstall or /update. Do not use this parameter for silent installations. For a silent installation, you instead specify the product name in the response file. |
| /uninstall | Removes the product you specified with the /product switch. This switch cannot be combined with /install or /update. |
| /update | Updates the product you specified with the /product switch. This switch cannot be combined with /install or /uninstall. Do not use this parameter for silent installations. |

Table 8, Product Identifiers, lists the product identifiers you must use with the /product switch.

Table 8: Product Identifiers

| Product Name | Product Identifiers |
|---|-----------------------------|
| Rational Suite Performance Studio Agent | atbuPSAgent |
| Rational Suite Performance Studio | atbuRSuitePerformanceStudio |
| Rational Test Enablers | atbuSetupEnablers |
| Rational TeamTest | atbuTeamTest |
| Rational TestAccelerator | atbuTestAccelerator |
| Rational Robot | atbuTSRobot |
| Rational ClearQuest | ClearQuest-1.1 |

Table 8: Product Identifiers (Continued)

| Product Name | Product Identifiers |
|---|-------------------------------|
| Rational ClearQuest TeamTest Edition | ClearQuestTeamTestEdition-1.1 |
| Rational PureCoverage | coverageNT |
| Rational Suite DevelopmentStudio for UNIX | dsbuRSDSU |
| Rational Developer Kit | dsbuDeveloperKit |
| Rational Purify | purifyNT |
| Rational Quantify | quantifyNT |
| Rational RequisitePro | rmbuRequisitePro |
| Rational RequisiteWeb | rmbuRequisiteWeb |
| Rational Rose Enterprise Edition | Rose98i |
| Rational Rose Professional C++ Edition | Rose98iC++Professional |
| Rational Rose Professional J Edition | Rose98iJavaProfessional |
| Rational Rose Modeler Edition | Rose98iModeler |
| Rational Rose Professional Visual Basic Edition | Rose98iVBProfessional |
| Rational Rose Professional Data Modeler Edition | RoseDataModelerProfessional |
| Rational Unified Process | ruObjectory51 |
| Rational SoDA for Word | SoDA |
| Rational Suite AnalystStudio | wsbuAnalystEdition |
| Rational Suite DevelopmentStudio | wsbuDevelopmentStudio |
| Rational Suite DevelopmentStudio - RealTime Edition | wsbuDevelopmentStudioRT |
| Rational Suite Enterprise | wsbuEnterprise |
| Globetrotter FLEXIm License Server | wsbuFLEXImServer |

Table 8: Product Identifiers (Continued)

| Product Name | Product Identifiers |
|--------------------------------------|----------------------------|
| Sybase SQL Anywhere Database Server | wsbuSQLAnywhereServer |
| Rational Suite TestStudio | wsbuTestStudio |
| Rational Suite Web Server Components | wsbuWebComponents |

Examples

The following example shows how to record an installation of Rational RequisitePro. For more information, see “Silent Installations” on page 71.

```
<Install Location>\setup\rssetup -autocapture  
/product rmbuRequisitePro
```

License Key Administrator Command Line

Note This section is included because of its relevance to silent install.

You can run the Rational License Key Administrator from a command line or batch file to automate your license key installations and configuration.

Additional detailed information about the License Key Administrator command line options and usage is available on the Rational Suite Web site:
<http://www.rational.com/products/rs/prodinfo/index.jtмл>.

License Key Administrator Syntax

```
licadmin -ffilename.ext
```

Table 9: Licadmin Command Parameters

| Parameter | Description |
|----------------|---|
| -ffilename.ext | Specifies the path to the license parameter file. The license parameter file specifies the name of the license key server that you will use. For example: Server:group-license-server The keyword Server is case-sensitive. |

The status of the execution of this command is written to a file named `filename.ext_STATUS`, where `filename.ext` is the name of the license parameter file you used. The status file is created in the directory where you executed the `licadmin` command.

Example

- 1 Create a file that contains the following line:
`Server:group-license-server`
where `group-license-server` is the name of your FLEXlm License Server system.
- 2 Save the file as `server-info.txt`.
- 3 In a command window, run the following command:
`licadmin -fserver-info.txt`
Your system will be configured to use floating license keys from `group-license-server`.

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Troubleshooting

If you have any problems running the Rational Software Setup program, try the following suggestions before you call Rational Customer Support for help:

- Be sure to stop all applications before you begin the installation.
- Turn off all virus protection software. These programs often run in the background and interfere with the installation and file decompression process.
- Turn off any user interface managers or desktop environments that run on top of 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.
- Make certain that your system meets the minimum system requirements listed in:
Table 5, “RequisitePro Requirements,” on page 6 and
Table 6, “RequisiteWeb Server Requirements,” on page 43.

Installation Messages

Contact Rational Customer Support for information and assistance regarding any error messages you encounter while installing Rational software. See “Contacting Rational Technical Support” on page xiii contact information.

Installation error messages, including messages for silent installations, are displayed in the file
<Install Path>\RSSetup\Error.log.

Table 10: Silent Installation Messages

| Message | Description |
|---|---|
| Product “ProductName” specified in response file is not contained in the product list. | This error message appears when the response.ini file contains an invalid product name. |
| Unable to open response file. | Typically, this error occurs when the installation procedure cannot locate the response.ini file. Either you have specified an incorrect path or the response.ini file is not in the default location. |
| Information required to remove the specified product cannot be found. The product may not be removed automatically. | When trying to remove a product with the /uninstall switch, you either specified a product that is not installed on your system or you incorrectly typed the product name on the command line. Confirm that you are specifying a product on your system. Confirm that you have typed the product name exactly as it appears in the Rational Software Setup program. |

Support Information

Contact Rational Customer Support if you have questions regarding the installation, use, or maintenance of this Rational Software product.

Contacting Rational Technical Support on page xiii provides Rational Customer Support telephone and e-mail contact information.

6

Licensing Overview

This chapter provides an overview of the Rational Software licensing, including descriptions of the types of licenses and license keys used with Rational Software products.

The Rational Software Licensing Model

Rational Software uses FLEXlm, a software-based license management tool from GLOBEtrouter, Inc. FLEXlm provides users with a powerful and flexible mechanism for managing licensing resources.

The Rational Software installation procedure automatically installs the FLEXlm licensing software on client systems, allowing client systems to use either node-locked or floating licenses. (Table 12, License Types, on page 85 describes node-locked and floating licenses.)

Most end users configure their own systems for licensing using software provided by Rational. In cases where customers choose to use floating licenses, a system administrator typically configures a license server system for licensing, using software provided by Rational and GLOBEtrouter.

For additional information about Rational Software licensing, see “Rational Software Client Licensing” on page 87 and “Rational Software Server Licensing” on page 91.

License Types and License Key Types

Table 12, License Types, on page 85 describes the types of licenses supported by Rational licensing. Table 11, License Key Types, describes the types of license keys used by Rational licensing. The

“Glossary of Licensing Terms” on page 155 defines the terms in this table, along with other licensing terms.

Table 11: License Key Types

| License Key Type | Description | Notes |
|------------------------------|---|--|
| Temporary | A time-limited license. | The expiration date for the temporary license keys is noted on the temporary license key certificate included with your software media kit. You can use a temporary license key on any system. |
| Permanent | A license issued to a customer for running Rational products. Permanent licenses are keyed to a product and machine. Permanent Keys can be node-locked or floating. Node-locked Permanent Keys are installed on a client machine and floating Permanent Keys are installed on a License Server machine. | Rational issues Permanent Keys upon request. Use the Rational License Key Administrator to prepare and send your license requests to Rational. |
| TLA (Term License Agreement) | Variations of a Permanent Key. TLAs are issued to a site to let their employees use Rational software for a negotiated period of time. | TLAs are issued by the Rational Sales Team. If you are interested in obtaining TLAs for your organization, contact your local Rational Sales Team. |

Table 12: License Types

| License Type | Description | Notes |
|---------------------|--|---|
| Node-locked | A license that permits a user to use the licensed software on a specified system. A node-locked license is configured for a specific system. To move a node-locked license to another system, you must uninstall the license key from the old system and request a new license key for the new system. | Use the Rational License Key Administrator to add or modify a node-locked license. Contact Rational Licensing Support for help with node-locked licenses. See “Licensing Support” on page xiv. |
| Floating | A floating license is installed on a license server system and permits a specified number of users to use the licensed software from client systems. Floating licenses are shared among all users of the licensed software. | A system administrator must install the FLEXlm License Server software on a server to set up floating licenses. Use the Rational License Key Administrator to set up floating licenses for your system. See “FLEXlm License Server Installation” on page 101. |

For More Information

“Before You Begin” on page 1 provides a summary of the steps associated with installing and setting up license keys with Rational Software products.

The online help in the Rational License Key Administrator describes how to use the Rational License Key Administrator to review and modify your license configuration. The online help also provides information about configuring the FLEXlm License Server software.

The Rational License Key Administrator online help is available by clicking **Help** in the License Key Administrator program .

For more information about FLEXlm licensing, see the FLEXlm for Windows FAQ file on www.globetrotter.com/lmwinfaq.htm.

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Rational Software Client Licensing

Rational supports both node-locked and floating licenses. Node-locked licenses are restricted to an individual system. Floating licenses can be shared by multiple users and multiple machines, with one person using a license at a time.

If your system administrator has configured your license keys on your system, you can immediately start using your Rational software product.

This chapter describes the following topics related to Rational software licensing services:

- Installing and configuring Rational software node-locked license keys on a client system
- Installing or changing license keys after installing Rational software

The online help in the Rational License Key Administrator describes how to use the Rational License Key Administrator to review and modify your license configuration.

The Rational License Key Administrator online help is available by clicking **Help** in the License Key Administrator program or by opening `<Install Path>\Rational\Common\licadmin.hlp`.

Installing a Temporary License on a Client System

After you install Rational software, you may install a temporary license, allowing you to use Rational software until you obtain your permanent license key. The temporary license key information is included with your software kit. The license key expiration date is noted on the license key certificate.

You can request permanent licenses keys, if available. The date that your permanent license key is available is noted on your temporary license key certificate. You can request the permanent key as soon as it is available, whether you have installed a temporary key or not.

In order to maintain uninterrupted use of your software, make sure you obtain and install your permanent license key before your temporary license key expires.

To install a temporary license key on a client system:

- 1 From the Windows **Start** menu, click Programs > [your product] > Rational License Key Administrator.
- 2 On the first License Key Administrator Wizard dialog box, select **Enter the data from a Rational Software License Certificate to install that license on this machine.**
- 3 On the next wizard dialog box, select **A Temporary License Key allows to to start running your Rational product without a Permanent License Key.**
- 4 On the next wizard dialog box, select **Node-Locked license keys are machine-specific and will not work on any other machine. The do not require a server.**
- 5 On the next wizard dialog box, choose the product you want to license from the **Product and Version** list box. Enter the **Expiration Date** and **License Key** for the license, using information found on the Temporary License Key Certificate.

Enter the information exactly as presented or the license key will not work. If you enter incorrect or incomplete information, the License Key Administrator reports the following message:

```
There is an error in the license key as it was entered.  
Please check your entries for a possible typo.
```

Review and correct the information in each of the fields.

- 6 Click **Finish**.

When you complete this step, the License Key Administrator displays the temporary license key in the main window.

Configuring Your Client System to Use a Node-Locked License

If you are using a node-locked license, you do not need to set up or connect to a license server system; you simply install your license keys on your client system.

Configuring Your Client System to Use a Floating License

Before configuring your system to use a floating license, obtain the name of the license server system from your system administrator. (If you are the system administrator, see “Rational Software Server Licensing” on page 23 for information about setting up server-based floating licenses.)

After you have obtained the name of the license server system, proceed as follows:

- 1 Ensure that the FLEXlm license server software is running on the license server system. Contact your system administrator or see “Installing Rational License Server Software” on page 23.
- 2 Start the Rational License Key Administrator on the client system.
- 3 Select **Settings > Service Configuration**.
- 4 Under License Key Source, select **Use Single Server** and specify the name of the FLEXlm license server system in the text box.
- 5 Click **OK** to save the settings.

Acquiring a Node-Locked Permanent Key for Your Client System

This section summarizes the steps for acquiring a node-locked permanent license.

- 1 Use the License Key Administrator to prepare the license request. Review the topic “Requesting a permanent node-locked license key” in the online help for assistance with this step.
- 2 Send the request to Rational. You may send the request to Rational:
 - electronically using the Rational License Key Administrator. You need to have an Internet connection to request license keys electronically with the Rational License Key Administrator.
 - by printing and faxing the request.
 - by printing the request and making your request by telephone.

When you create a license key request, the request is sent to Rational electronically by default. To print or fax a license key request, clear the **Send all requests to Rational immediately** check box.

Notes Make sure that the contact and account information is correct. The Rational License Key Administrator will identify any fields that are missing required information.

See “Licensing Support” on page xiv for contact information regarding licensing questions.

Reviewing Your License Configuration

Select **View > Show > Node Locked Licenses** to see the details of your node-locked license.

Receiving Your License Configuration

If you request a new license electronically, Rational will send you a license key via e-mail. If you request a license by fax and you have specified an e-mail address in your contact information, you will receive a license key file via e-mail.

If your system is not connected to the Internet, you can request license keys from another system with an Internet connection. See the License Key Administrator online Help for details about requesting license keys via proxy.

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Rational Software Server Licensing

This chapter describes the following topics related to Rational software licensing services:

- Installing Rational Software license management software
- Installing and configuring license keys on a server system
- Installing or changing license keys after installing Rational software
- Special procedures and restrictions

The information in this chapter is intended for system administrators or users who manage licenses.

If you are using node-locked licenses on a client system, you can skip this chapter. See Rational Software Client Licensing on page 87 for information about setting up node-locked licenses on a client system.

The steps required to use floating licenses are described in the following sections:

- 1 Install the FLEXlm license server software on the license server system. See FLEXlm License Server Installation on page 33 for additional information.
- 2 Configure the license server software. The online help also provides information about configuring the FLEXlm License Server software.
- 3 Install the floating license keys on the license server system.
- 4 Configure the client to use license keys from the server.

Installing Rational License Server Software

FLEXlm License Server Installation on page 101 describes how to install the FLEXlm license server software.

Configuring the License Server Software

After installing the FLEXlm License Server software, use the FLEXlm License Manager to provide the following information about your configuration:

- Location of the license key file. Rational recommends that you keep a copy of the license in the location where the application expects it.
- Location of licensing executables.
- Location of log files. You can use the debug log files to diagnose configuration problems and daemon software errors.

To configure the license server software:

- 1 Click **Start** and choose **Settings > Control Panel**.
- 2 Open the **FLEXlm License Manager** control panel.
- 3 Click the **Setup** tab to see the location of the `lmgrd.exe` file. The default location is
`<Install Path>\Program Files\Rational\Common\
The Setup tab also shows the location of the license key files on your license server computer (rational_server_perm.dat, the permanent license key file, and rational_server_temp.dat, the temporary license key file). The default location is
<Install Path>\Program Files\Rational\Common\
4 Enter the location of the license debug log file. The default location is <Install Path>\Program Files\Rational\Common\
5 Select the Use NT Services check box to start the FLEXlm License Server software as a Windows NT service.`

If you select the **Use NT Services** check box, you may also select the **Start Server at Power Up** check box. If you do not select the **Start Server at Power Up** check box, you must start the FLEXlm License Server manually each time you start your computer.

Important We recommend that you select both check boxes to start your license server as a Windows NT service automatically each time you boot your system.

To start the FLEXlm License Server manually, on the **Control** tab of the FLEXlm License Manager control panel, click the **Start** button.

- 6 If you wish, click the **Status** button to confirm that the license server has started.
- 7 Click **OK** to save this information and exit.

Configuring Redundant License Server Systems

You can configure your licensing environment to use up to three license server systems to ensure availability of license keys.

See the License Key Administrator online Help for information about setting up redundant license servers.

Installing a Temporary License Key on a Server System

You may install a temporary license key, giving client systems an interim way to use floating licenses from the server until you get your permanent license keys.

You can request permanent license keys, if available. Your temporary license key certificate indicates the date that your permanent license key is available. You may request the permanent key as soon as it is available, whether you have installed a temporary key or not.

Review the information on the Temporary License Key Certificate, included with your software media kit. Your temporary license key certificate indicates the temporary license key expiration date.

To install a temporary license key on a server system:

- 1 From the Windows **Start** menu, select **Programs > Rational License Key Administrator**.
- 2 Select **License > Enter a License**.
- 3 On the first License Key Certificate Wizard dialog box, select **Temporary License Key**.
- 4 On the next wizard dialog box, select **Floating License Key**.

5 On the next wizard dialog box, provide information based on the columns on the temporary license key certificate. Enter the information exactly as presented or the key will not work.

6 Click **Finish**.

When you complete this step, the License Key Administrator creates a file containing a temporary license and displays the temporary license key in the main window.

Acquiring Permanent Floating License Keys for Your Server System

This section summarizes the steps for acquiring permanent floating license keys.

1 Use the License Key Administrator to prepare the license request. Review the topic “Requesting a permanent floating license key” in the online help for assistance with this step.

2 Send the request to Rational. You may send the request to Rational:

- electronically using the Rational License Key Administrator. You need to have an Internet connection to request license keys electronically with the Rational License Key Administrator.
- by printing and faxing the request.
- by printing the request and making your request by telephone.

When you create a license key request, the request is sent to Rational electronically by default. To print or fax a license key request, clear the **Send all requests to Rational immediately** check box.

Notes

Make sure that the contact and account information is correct. The Rational License Key Administrator will identify any fields that are missing required information.

See Licensing Support on page xiv for contact information regarding licensing questions.

Receiving Your License Configuration

If you request a new license electronically, Rational will send you a license key via e-mail. If you request a license by fax and you have specified an e-mail address in your contact information, you will receive a license key file via e-mail.

If your system is not connected to the Internet, you can request license keys from another system with an Internet connection. See the License Key Administrator online Help for details about requesting license keys via proxy.

Reviewing Your License Configuration

Select **View > Show > Floating Licenses** to see the details of your floating licenses.

FLEXlm License Server

The following sections provide information about the FLEXlm license server, including descriptions of the license daemons running on the server systems.

FLEXlm Components

The FLEXlm license configuration includes these major components, which are described in the following sections:

- License manager daemon
- Vendor daemon
- License key file
- Application program

License Manager Daemon (lmgrd)

The license manager daemon (`lmgrd`) handles the initial contact with the client application programs, passing the connection on to the appropriate vendor daemon. It also starts, stops, and restarts the vendor daemons.

Vendor Daemon

In FLEXlm, licenses are granted by running processes. There is one process for each software vendor (for example, Rational) who has a FLEXlm-licensed product on the network. This process is called the vendor daemon. The vendor daemon keeps track of how many licenses are checked out, and who has them.

If the vendor daemon terminates for any reason, all users lose their licenses. (This does not mean the applications suddenly stop running. Users can save their work and exit safely.) Users normally regain their license automatically when `lmgrd` restarts the vendor daemon, although the applications may exit if the vendor daemon remains unavailable.

Client programs communicate with the vendor daemon, usually through TCP/IP network communications. The client application and the daemon processes (the license server) can run on separate nodes on your network, across any size wide-area network.

The format of the traffic between the client and the vendor daemon is machine-independent, allowing for heterogeneous networks. This means the license server and the computer running an application can use different hardware platforms or even different operating systems (for example, Windows NT as a server system and Windows 95 as a client).

License Key File

Licensing data is stored in a text file called the *license key file*. The license key file is created by the software vendor and is edited and installed by the License Key Administrator. It contains information about the server nodes and vendor daemons, and at least one line of data (called FEATURE or INCREMENT lines) for each licensed product. Each FEATURE line contains a license key based on the data in that line, the *hostids* specified in the SERVER lines, and other vendor-specific data.

In some environments, you can combine the licensing information for several vendors into a single license key file. The FLEXlm default location is:

```
<Install Path>\license.dat (Windows, Windows/NT)
/usr/local/flexlm/licenses/license.dat (Unix)
```

See Table 13, License Key Files, on page 98 for details about the files used by Rational.

If your site has software from multiple vendors with incompatible license key files (due to different sets of servers), manage these files with multiple server processes. See “Multiple License Server Processes” on page 151 for more details.

The `LM_LICENSE_FILE` variable is used on UNIX systems and on systems with multiple license key files to set the location of the license file.

You will not typically need to set the `LM_LICENSE_FILE` variable in order to use Rational software products. We strongly recommend that you keep a copy of the license key file in the vendor’s default location, so that users do not need to set `LM_LICENSE_FILE` to run their applications.

On Windows systems, set the variable `LM_LICENSE_FILE` in the **Environment** tab of the **System** control panel.

Application Program

The application program (for example, Rational TestStudio) using FLEXlm is linked with the program module (called the FLEXlm client library). The program module provides communication with the license server. On Windows, the program module is called `LMGRxxx.DLL`, where `xxx` indicates the FLEXlm version. During execution, the application program communicates with the vendor daemon to request a license.

License Activation Process

When you run a ‘counted’ FLEXlm-licensed application, such as a Rational RequisitePro that uses a floating license, the following occurs:

- 1 The license module in the client application finds the license key file, which lists the host name of the license server and the port number of the license manager daemon, `lmgrd`.
- 2 The client establishes a connection with the license manager daemon (`lmgrd`) and specifies the appropriate vendor daemon.
- 3 `lmgrd` determines which machine and port correspond to the master vendor daemon and returns that information to the client.

- 4 The client establishes a connection with the specified vendor daemon and sends its license request.
- 5 The vendor daemon checks in its memory to see if any licenses are available and sends a grant or denial back to the client.
- 6 The license module in the application grants or denies use of the feature, as appropriate.

‘Uncounted’ features, where the number of licenses is ‘0’ (zero), do not require a server and the FLEXlm client library routines in the application grant or deny usage based solely upon the license contents. Node-locked licenses, for example, set the license number to 0 (zero).

License Key Files

As a system administrator, be aware of the files used by Rational software licensing. You will need access to them only when you are changing your license configuration. Table 13, License Key Files, on page 98 describes the license key files.

All files are installed in <Install Path>\Rational\Common\ unless otherwise noted. Client files are installed during the installation of Rational software products with the Rational Software Setup program. Server files are installed on the license server system during the installation of the FLEXlm license software.

Table 13: License Key Files

| File Name | Description | Notes |
|-------------------|---|---|
| rational_temp.dat | Contains all client node-locked temporary license keys. | You must obtain a permanent license key to continue to use your Rational software product past the temporary key expiration date. |
| rational_perm.dat | Contains all client node-locked permanent license keys. | Run the License Key Administrator program on your client system to request new permanent keys. |

Table 13: License Key Files (Continued)

| File Name | Description | Notes |
|--------------------------|---|--|
| rational_redirect.dat | Used on a client to specify the name of the license server system that manages floating licenses. | This file is initially empty. The Rational License Key Administrator updates this file with the name of your license server(s) when you select server-based licensing. |
| rational_server_temp.dat | Contains all temporary floating license keys on a license server. | You must obtain a permanent license key to continue to use your Rational software product. |
| rational_server_perm.dat | Contains all permanent floating license keys on a license server. | Run the License Key Administrator program on your license server system to request new permanent license keys. |

9

FLEXlm License Server Installation

This chapter describes how to use the Rational Software Setup wizard to install FLEXlm License Server, a software-based license server that:

- Provides flexible installation and maintenance of license keys
- Supports standard networking protocols

If you want to install floating licenses, you must first install and configure the FLEXlm License Server.

Before You Start the FLEXlm License Server Installation

The following sections describe how to prepare for installing the FLEXlm License Server.

Installation Requirements

Table 14, FLEXlm License Server Requirements, lists the system and software requirements for installing FLEXlm License Server:

Table 14: FLEXlm License Server Requirements

| Item | Requirement |
|------------------|---|
| Operating System | Microsoft Windows NT 4.0, SP3 |
| Processor | 133 MHz or greater |
| Memory | 64 MB |
| Disk space | 1.8 MB |
| Privileges | Windows NT administrator privileges on the local system |

Make sure that you have a current backup of your Registry and system directories before running the Rational Software Setup program.

Installing FLEXlm License Server with the Rational Software Setup Procedure

Preparing to Install FLEXlm License Server

The Rational Software Installation procedure uses C:\Program Files\Rational as the default install path. If your C:\ drive lacks sufficient free disk space, you may either specify another drive or make space available on the default drive.

Caution We recommend that you allow an installation to run to completion. Interrupting an installation that is in progress may leave your system in an indeterminate state. If you try to close the Rational Software Setup window while the installation is in progress, you are asked to confirm that you want to exit from the incomplete installation.

Typical Installation

The Rational Software Setup wizard guides you through the software installation. The **Save** button lets you copy the contents of the setup wizard message window to a file. The **Copy** button copies the contents of the message window in the setup wizard to the Windows clipboard. The **Copy** and **Save** buttons are enabled on wizard pages that display the license agreement or installation messages.

This section describes a Typical installation of FLEXlm License Server.

- 1 Insert the Rational Solutions for Windows CD into your system's CD drive.

The setup program starts automatically.

If autorun is disabled on your system, use Windows Explorer to locate and run the SETUP.EXE file on the Rational Solutions for Windows CD.

- 2 The Rational Software Setup wizard guides you through the software installation.

Click **Browse** to review Rational product information. You must have a Web browser installed to view the product gallery.

- 3 The Select Installation Option dialog box displays the available installation options. Choose **Install License Server**.

- 4 The License Agreement page displays the Rational Software license agreement. Choose to accept or not accept the license agreement.

If you accept the license agreement, the installation continues installing Rational Suite on your system.

If you do not accept the license agreement, the installation does not let you proceed further. If you exit from the installation by clicking **Cancel** at this point, no changes are made to your system.

- 5 The Setup Configuration dialog box displays the setup options for the software. The only choice available for the License Server is **Typical**.

- 6 The Upgrade Compatibility dialog box will appear if you have additional, older, Rational products installed on your system. Because Rational tools share files and components, this installation can cause the older Rational products to stop working. You will see no visual clue to indicate that the older products may be compromised.

For each of the additional, older products listed, we strongly recommend that you take one of the following actions:

- **Upgrade it:** Complete this installation, and then restart the Setup wizard to upgrade the next product. Upgrading a product updates all necessary files, registry entries, startup menu items, and shared components on your system.
- **Remove it:** Complete this installation, and then use the Control Panel's Add/Remove Programs tool to remove the next product. Removing a product deletes files, registry entries, and startup menu items from your system.

A Web site exists to provide more details about interactions between specific products. To visit the Web site, please see <http://www.rational.com/sitewide/support/index.jhtml>. Click **Patches and Upgrades**, and then click **Upgrade Compatibility**.

- 7 The Confirmation dialog box displays the product features that will be installed.
- 8 The Error Summary dialog box displays errors from the first part of the software installation. If the installation is successful, you will not see this dialog box.

The Rational Software Setup program writes a log of installation activities. The log file is located in
<Install Path>\Rational\RSSetup\RSsetup.log.

Note

If files required for the installation are in use during the installation procedure, the Rational Software Setup program may need to reboot your system to complete the installation.

After rebooting, log on as the same user to complete the installation procedure. Part 2 of the installation automatically starts on your system.

- 9 Click **Finish** to exit from the Rational Software Setup wizard. The Rational License Key Administrator starts automatically.

After you finish installing the FLEXlm License Server software, you must configure your license server. See “Configuring the License Server Software” on page 92.

For a more detailed description of the installation procedure, see “Using the Rational Software Setup Program in *Installing Rational Suite*.”

Removing FLEXlm License Server

This section describes how to remove FLEXlm License Server from your system.

Preparing to Remove FLEXlm License Server

Make sure that no one is using FLEXlm License Server or any associated files. You cannot remove files that are in use.

To remove FLEXlm License Server from a Windows NT system, you must have Windows NT administrator privileges on the local machine.

To Remove FLEXlm License Server

Use the Windows **Add/Remove Programs** control panel to select and remove FLEXlm License Server. The Rational Software Setup program removes FLEXlm License Server from your system. It does not remove directories that contain files that you have created while using Rational Suite products.

Note Removing a Rational Suite product does **not** remove the FLEXlm License Server, because someone else may be using it.

10

Using the FLEXlm License Manager

This chapter describes how to use the FLEXlm License Manager to configure and manage your license server.

For an overview of FLEXlm components (the license manager daemon, the vendor daemon, the license key file, and the application program), see “Receiving Your License Configuration” on page 95.

The FLEXlm License Manager

The FLEXlm License Manager consists of five tabs: Control, Setup, Licenses, Diagnostics, and About.

Starting the FLEXlm License Manager

Follow the steps below to start the FLEXlm License Manager:

- 1 Click **Start** and choose **Settings > Control Panel**.
- 2 Double-click the **FLEXlm License Manager** icon to open the program.

Starting and Stopping the License Server

Use the **Control** tab to start and stop the license server and to check its status. The **Service Name** field contains the name of the Windows NT system service with which you start the license server. You either specify the name on the **Setup** tab or use the default, which is FLEXlm License Manager.

Click **Start** to start the license server. You might have to wait 5 to 15 seconds for the server to start running.

Click **Stop** to stop the license server.

Click **Status** to verify whether the license server is running. You might have to wait 5 to 15 seconds for the status to appear.

Configuring a License Server

Use the **Setup** tab to configure a license server.

- 1 In the **Service Name** field, enter a name for the Windows NT system service with which to start the license server. The default is FLEXlm License Manager.
- 2 In the **lmgrd.exe** field, enter or browse for the location of the license server executable file, `lmgrd.exe`. This file is located by default in `\Program Files\Rational\Common`.
- 3 In the **License File** field, enter or browse for the location of the file that contains license keys (`Rational_server_temp.dat` for temporary license keys, and `Rational_server_perm.dat` for permanent or TLA license keys). License key files are located by default in `\Program Files\Rational\Common`.
- 4 In the **Debug Log File** field, enter or browse for the location of the debug log file, `debug.log`. This file contains information about configuration problems and daemon software errors.
- 5 Select **Use NT Services** to start the FLEXlm License Server software as a Windows NT service.

If you select the **Use NT Services** check box, you may also select the **Start Server at Power Up** check box. If you do not select the **Start Server at Power Up** check box, you must start the FLEXlm License Server manually each time you start your computer.

Important We recommend that you select both check boxes to start your license server as a Windows NT service automatically each time you boot your system.

To start the FLEXlm License Server manually, on the **Control** tab of the FLEXlm License Manager control panel, click the **Start** button.

Removing a License Server

To remove a license server, click the **Remove** button.

Viewing the Current License File

Use the **Licenses** tab to display the contents of the current license file.

The **License File** area displays the fully qualified name of the file that contains license keys (`Rational_server_temp.dat` for temporary license keys, and `Rational_server_perm.dat` for permanent or TLA license keys).

Click **Show License File** to display the specified license file.

Displaying Information about the Installation

Use the **Diagnostics** tab to display information about the license installation:

- Click **Hostid's** to display information about the license server system on this machine.
- Click **Version** to display the version of the FLEXlm License Manager that is running.
- Click **Environment** to view information about the license file, such as registry settings and environment variables.
- Click **Connection** to verify that the license server system is connected to the license server.

Displaying Information about FLEXlm

Use the **About** tab to view copyright and other information about FLEXlm and about GLOBEtrotter Software.

For More Information

For more information about FLEXlm licensing, see <http://www.globetrotter.com>.

For more detailed information about using the FLEXlm License Manager than can be provided here, see <http://www.globetrotter.com/manual.htm>.

11

FLEXlm Features and Configuration

GLOBEtrotter's FLEXlm license management software offers software vendors a wide variety of features and options. This allows vendors such as Rational Software to selectively build a customized licensing model by implementing the FLEXlm features that best meets their business needs.

This chapter describes the FLEXlm features and options Rational Software has implemented with Rational Common Licensing. The information in this document pertains to products licensed using Rational Common Licensing for Windows (the License Key Administrator) unless otherwise noted. The FLEXlm information in this document does not apply to products not licensed using the Common Licensing paradigm.

The term "supported" refers to a licensing configuration that Rational has tested and guarantees will work under normal operating conditions. This applies to configurations that the software was designed to handle. This also applies to configurations for which the software was not specifically designed, but with which it will work with some manual intervention.

Many of the tasks in this chapter are not recommended for the casual or novice user. Attempt them only if you are familiar with your system(s), Rational Common Licensing, and GLOBEtrotter's FLEXlm.

- For more information on the license key types that are supported, see Supported License Key Types on page 112.
- To see which FLEXlm options are supported by Rational Common Licensing, see Supported FLEXlm License Key Type Options on page 114.
- To find information about the license key types not used by Rational, see Other Common License Key Types Not Used By Rational on page 120.
- The components of the FLEXlm SERVER line are in the section The FLEXlm SERVER line on page 120.

- The components of the FLEXlm DAEMON or VENDOR line are in the section The FLEXlm DAEMON or VENDOR line on page 121.
- For information on combining license files, see Combining License Files on page 124.
- To run more than one FLEXlm server on the same machine, see Running Multiple FLEXlm Servers on the same machine on page 125.
- To set up the FLEXlm Options File, see Setting up the FLEXlm Options File on page 126.
- To find out more about redundant servers, see FLEXlm Redundant Servers on page 127.
- To find out more about configuration on the client side, see Client Configuration on page 128.
- To find out more about how a Windows client can use a UNIX server, see Windows Clients using UNIX Servers on page 129.
- For information on various network configurations with regard to floating licenses, see Networking Configurations on page 131.
- For information about diagnostic tools, see Diagnostics on page 131.
- To find out which common license configurations are supported, see Common Licensing Configurations on page 132.

Supported License Key Types

Rational currently offers customers two FLEXlm license key types: floating and node-locked.

Floating License Keys

Rational offers standard FLEXlm floating license keys. Floating keys must be managed by a FLEXlm server.

Node-locked License Keys

With FLEXlm, vendors can deliver two types of node-locked license keys: uncounted and counted. All node-locked license keys are specific to a certain host and can be used on that machine only.

Uncounted Node-Locked Licenses

Rational currently supports uncounted node-locked licenses for Windows products only. Standard Rational terminology refers to uncounted node-locked license keys for Windows products simply as “node-locked license keys”.

You do not need a FLEXlm server to be installed and running to use an uncounted node-locked license key. Uncounted node-locked licenses contain a 0 (zero) in the license count field in the FLEXlm feature line.

Because uncounted license keys do not use a server, the user may run multiple sessions of a Rational product concurrently using a single key.

Counted Node-Locked Licenses

Node-locked Rational products on UNIX (that use Rational Common Licensing) are licensed with counted node-locked license keys.

- Unlike uncounted node-locked licenses, you manage counted node-locked licenses with a FLEXlm license server.
- Unlike floating license keys, uncounted node-locked keys have DISKID of the machine in the FLEXlm feature line and can only be used on the machine for which they are licensed.

Clients connect to the license server and acquire a counted node-locked license specific to their machine. This process is the same as the one used to acquire floating license keys.

Essentially, a counted node-locked license key is a floating license key that can only be used on a specific host.

License Key Definition

The information below details the FLEXlm features or options Rational uses in the Common Licensing FLEXlm license key definition. This section also discusses common FLEXlm features that Rational did not elect to use.

Supported FLEXlm License Key Type Options

The following sections describe common FLEXlm options that are supported by Rational Software in the Common Licensing FLEXlm license key definition.

INCREMENT

The string INCREMENT tells FLEXlm that the information that follows in the line defines a FLEXlm license key. Other vendors often define license keys using the FEATURE option instead of INCREMENT. All Rational license keys use INCREMENT because INCREMENT supports the use of the SUPERSEDE option.

SUPERSEDE

All Rational license keys include the SUPERSEDE option. This option tells FLEXlm to use the most recent INCREMENT line in situations where two license keys with the same INCREMENT name appear in the same license file.

ISSUED

All Rational license keys include the ISSUED option. The value of the option is the date on which the license key was encrypted.

VENDOR_STRING

All Rational license keys include the VENDOR_STRING option. This option allows Rational to include company-specific information in the key, which is generally product related. For example, Rational defines the point products in a Suite using the VENDOR_STRING.

Note that the VENDOR_STRING options and values are encrypted into the key. Addition or removal of any characters in the VENDOR_STRING will invalidate the key.

DISKID

With Rational Common Licensing, the default DISKID value on a Windows systems is the diskid of the user's boot drive.

Example:

```
DISKID=12345678.
```


In cases where the Windows machine is configured to run multiple operating systems, the DISKID routine will continue to return the value of the boot drive's diskid by default. Rational software licensed to a particular diskid may not work if the act of booting various operating systems results in the boot drive's diskid changing depending on the operating system used. In those cases, customers can license the software to the machine's ethernet card instead of the diskid.

Rational also allows customers to license the software to the value returned by GLOBEtrouter's `lmhostid` command. This is supported on Windows and is the default for Rational software licensed to UNIX systems. In most cases `lmhostid` returns the ethernet address (network ID) of the machine and will be written in the format `HOSTID=nnnnnnnnnnnn`.

FLEXlm allows for multiple values of HOSTID to be defined within a single key, but Rational currently does not support this configuration.

DUP_GROUP

Rational currently supports the use of the DUP_GROUP feature in our license keys. The DUP_GROUP allows the vendor to control the behavior of the key under specific circumstances.

OVERDRAFT

The OVERDRAFT feature is supported in Rational floating license keys with the value of 0 (zero) only. This feature enables the vendor to allow their customers to check out more floating licenses than they actually have purchased. The OVERDRAFT value for Rational products is set to zero.

Vendor_info

All Rational license keys include the `vendor_info` option. This option allows Rational to include customer-specific licensing information in the license key such as the customer's account number.

`Vendor_info` information is *not* encrypted into the license key.

NOTICE

All Rational license keys include the NOTICE feature. The value of the NOTICE field is the customer's name which is encrypted into the key.

Rational FLEXlm License Key Examples

This section provides examples of Rational FLEXlm license keys for node-locked and floating products.

Node-locked License Key for Windows

```
INCREMENT RationalSuiteEnterprise rational 1.0 31-dec-1999 uncounted \  
3665A1B59899 VENDOR_STRING="3121-08470|NodeLocked|ClearQuest:1.1, \  
RequisitePro:4.0, soda_word:3.5, rose_enterprise_windows:6.0, \  
TestFactory:7.1, Robot:7.1, TestManager:7.1, LogViewer:7.1, \  
VisualPureCoverage:6.0, PurifyNT:6.0, VisualQuantify:6.0, \  
UnifiedProcess:5.1 " DISKID=14760cf6 SUPERSEDE \  
vendor_info="43999S-0-728|Rational Suite Enterprise 1.0|1.0 " \  
ISSUED=23-Jun-1999 NOTICE="EBIZ Company" ck=60
```

Where:

| Item in License Key | Explanation |
|-------------------------|---|
| INCREMENT | The INCREMENT string tells FLEXlm that the information that follows defines a license key. |
| RationalSuiteEnterprise | This field defines the FLEXlm "feature name". This is the name of the license key as far as FLEXlm is concerned. |
| rational | This is the name of Rational's license server daemon. It is defined in both floating and node-locked licenses. |
| 1.0 | The license key release number. |
| 31-dec-1999 | The license key expiration date. License keys with the string "permanent" or "1-jan-0" in this field do not expire. |

| Item in License Key | Explanation |
|--|---|
| uncounted | This field is the license count field. Node-locked products on Windows will have "uncounted" in this field. |
| 3665A1B59899 | The license key code. This code is specific to all the information in the license key with the exception of the value of the "vendor_info" field. The key will become invalid if any of the information in the key is changed (with the exception of the vendor_field). |
| VENDOR_STRING | The VENDOR_STRING field allows the vendor to encrypt vendor-specific information into the key. |
| 3121-8470 NodeLocked Clear Quest:1.1,RequisitePro:4.0, soda_word:3.5,Rose_enterprise_windows:6.0,TestFactory:7.1, Robot:7.1,TestManager:7.1,Log Viewer:7.1,VisualPureCoverage :6.0,PurifyNT:6.0,VisualQuantify :6.0,UnifiedProcess:5.1 | This is the value of the VENDOR_STRING for a Rational Suite Enterprise license. 3121-8470 represents the product part number; "node-locked" indicates the product is node-locked. The remainder of the VENDOR_STRING value defines the Suite point products. |
| DISKID=14760cf6 | The DISKID field. By default this is the diskid of the host machine on Windows systems. |
| SUPERSEDE | All Rational license keys include the SUPERSEDE option. This option tells FLEXIm to use the most recent INCREMENT line in situations where two license keys with the same INCREMENT name appear in the same license file. |
| vendor_info="43999S-0-728 Rational Suite Enterprise 1.0 1.0 " | The customer's account number and the product are defined "vendor_info" field. These values are not encrypted into the license key code. |
| ISSUED=23-Jun-1999 | The ISSUED field defines the date on which the license key was encrypted by Rational. |
| NOTICE="EBIZ Company" | The customer's company name is defined in the NOTICE field. |

Floating License Key for Windows

```
INCREMENT AnalystStudio rational 1.0 02-mar-2000 2 D292AB08B025 \
  VENDOR_STRING="3121-08471|Floating|0|ClearQuest:1.1, \
  RequisitePro:4.0, soda_word:3.5, rose_modeler_windows:6.0, \
  UnifiedProcess:5.1" OVERDRAFT=0 SUPERSEDE DUP_GROUP=UH \
  vendor_info="999999-0-999|Rational Suite AnalystStudio \
  1.0|<B.0.V.>" ISSUED=31-aug-1999 NOTICE="EBIZ Company" ck=88
```

Where:

| Item in License Key | Explanation |
|---------------------|---|
| INCREMENT | The INCREMENT string tells FLEXlm that the information that follows defines a license key. |
| AnalystStudio | This field defines the FLEXlm “feature name”. This is the name of the license key as far as FLEXlm is concerned. |
| rational | This is the name of Rational’s license server daemon. It is defined in both floating and node-locked licenses. |
| 1.0 | The license key release number. |
| 02-mar-2000 | The license key expiration date. License keys with the string “permanent” or “1-jan-0” in this field do not expire. |
| 2 | This field is the license count field. The FLEXlm server will allow two users to use this license at one time because the value of this field (in this example) is “2”. |
| D292AB08B025 | The license key code. This code is specific to all the information in the license key with the exception of the value of the “vendor_info” field. The key will become invalid if any of the information in the key is changed (with the exception of the vendor_field). |
| VENDOR_STRING | The VENDOR_STRING field allows the vendor to encrypt vendor-specific information into the key. |

| Item in License Key | Explanation |
|--|--|
| 3121-08471 Floating 0 ClearQuest:1.1,RequisitePro:4.0,soda_word:3.5,rose_modeler_windows: 6.0,UnifiedProcess:5.1 | This is the value of the <code>VENDOR_STRING</code> for a Rational Suite Enterprise license. 3121-8471 represents the product part number, "floating" indicates the product is node-locked. The Suite point products are defined in the remainder of the <code>VENDOR_STRING</code> value. |
| OVERDRAFT | The <code>OVERDRAFT</code> field is used to define the number of licenses FLEXlm will allow the customer to use when the license pool for that feature has been exhausted. The value to the <code>OVERDRAFT</code> field is "0" for all floating products. |
| SUPERSEDE | All Rational license keys include the <code>SUPERSEDE</code> option. This option tells FLEXlm to use the most recent <code>INCREMENT</code> line in situations where two license keys with the same <code>INCREMENT</code> name appear in the same license file. |
| DUP_GROUP=UH | The <code>DUP_GROUP</code> defines the configuration in which FLEXlm will allow the user to run multiple sessions with the license key. Defining this value as UH allows the same user on the same host to run multiple instances of Rational Analyst Studio with a single license key. |
| vendor_info="999999-0-999 Rational Suite AnalystStudio 1.0 <B.0.V.> | The customer's account number and the product are defined "vendor_info" field. These values are not encrypted into the license key code. |
| ISSUED=31-aug-1999 | The <code>ISSUED</code> field defines the date on which the license key was encrypted by Rational. |
| NOTICE="EBIZ Company" | The customer's company name is defined in the <code>NOTICE</code> field. |

Other Common License Key Types Not Used By Rational

The information below describes common FLEXlm options that other software vendors commonly include in their FLEXlm implementations. Rational chose not to use these options because they did not meet a specific license enforcement need.

FEATURE

FLEXlm allows license keys to be defined using the FEATURE option instead of INCREMENT. Rational uses INCREMENT instead of FEATURE because INCREMENT supports multiple license keys with the same name in the license file. Rational does not ship license keys using FEATURE.

UPGRADE

Rational does not use the UPGRADE feature in the INCREMENT line. To define upgraded products, Rational uses a combination of INCREMENT and SUPERSEDE.

SUITE

Rational does not use the SUITE option to define Rational Suite license keys. Suite point products are defined using the `VENDOR_STRING` in the Rational Suite INCREMENT lines.

Server Setup

This section explains each line used to set up a server, and what you need to configure different server setups.

The FLEXlm SERVER line

A typical Rational FLEXlm SERVER line is similar to the example below:

```
SERVER      curley      DISKID=123123
```

| Item in SERVER Line | Explanation of Item |
|---------------------|---|
| SERVER | Tells FLEXlm that the license file will be used for floating or counted node-locked licenses. This is needed in a floating license file along with a VENDOR or DAEMON line. |
| curley | This is the hostname of the license server machine. FLEXlm allows the license server's hostname or IP address to populate the hostname field in the SERVER line. Rational also allows both values. The hostname value is not encrypted into floating license keys. |
| 123123 | This is the diskid of the license server machine. The default value is the diskid of the user's boot drive. The DISKID value is encrypted into floating license keys. |

TCP/IP Port

FLEXlm also allows the vendor to specify a default TCP/IP port on the SERVER line after the DISKID field. The TCP/IP port is used for client/server communication for floating licenses.

Rational does not specify a port in the SERVER line; instead, the default FLEXlm port of 27000 port is used. However, Rational supports specifying a TCP/IP port by manually adding the port number to the SERVER line after the DISKID field.

Note that if you specify a unique TCP/IP port in the SERVER line of the license file, you need to update the client's `rational_redirect.dat` file to reflect the same value.

The FLEXlm DAEMON or VENDOR line

Rational specifies the path to the `rational.exe` vendor daemon using the FLEXlm DAEMON line. Rational also supports specifying the path to the FLEXlm options file on the DAEMON line after the path to the vendor daemon.

A typical Rational DAEMON line for Windows will appear as:

```
DAEMON rational "D:\Rational\common\rational.exe"
```

Where:

| Item in DAEMON Line | Explanation |
|---------------------------------|--|
| DAEMON | The DAEMON string tells FLEXlm that the vendor's license daemon name and path are specified in this line. |
| rational | This as the name of Rational's license server daemon. Both floating and node-locked licenses have this value defined in the DAEMON string. |
| D:\Rational\common\rational.exe | This is the path to Rational's FLEXlm server executable. The default value is: <rational_directory>\common. |

The License Manager Daemon (Lmgrd) and the Vendor Daemon

FLEXlm uses two daemons (or processes) to manage floating licenses:

- Lmgrd, the license manager daemon
- The “vendor daemon”

The lmgrd daemon and the vendor daemon work together to manage the license keys.

Lmgrd handles the initial contact with the client application programs, passing the connection on to the appropriate vendor daemon. It also starts and restarts the vendor daemons.

The vendor daemon is a program developed by the software vendor implementing FLEXlm. The vendor daemon keeps track of how many licenses are checked out and who has them. Rational's vendor daemon (called `rational.exe`) is customized to behave in a specific manner. Other vendors may customize their vendor daemons to behave differently.

Lmgrd Versions

Rational currently ships lmgrd version 6.1 with Rational Common Licensing on Windows and FLEXlm 6.0 with UNIX products. FLEXlm allows the end-user to replace the lmgrd version with a

more recent version of `lmgrd` (you can download the latest version from the *GLOBEtrotter* web site), and Rational supports this configuration.

Lmgrd as a Windows NT Process

By default, the Rational FLEXlm server on Windows will start as an NT process, and not as an NT service. See the next section for more details.

Lmgrd as a Windows NT Service

Rational supports running `lmgrd` as a Windows NT service. To do this:

- 1 Select **Start > Settings > Control Panel** and double-click the FLEXlm License Manager icon.
- 2 Select **Use NT Services** on the Setup tab and click **Apply**.
- 3 You can also elect to start the server automatically upon reboot by selecting **Start Server at Power-Up** and clicking **Apply**.

Although this configuration is currently not the default, it is recommended and supported.

- 4 Click OK when you are finished.

Multiple Lmgrd Daemons Running on One System

You may need to configure your license servers to serve Rational products and non-Rational products that are all licensed using FLEXlm. In these cases, you will need to manage multiple vendor daemons. Each vendor daemon requires that an `lmgrd` daemon be running in order to operate.

In this case, you have two choices:

- You can run a separate `lmgrd` daemon for each vendor daemon (recommended)
- You can configure a single `lmgrd` daemon to communicate with multiple vendor daemons.

By default, Rational installs and runs a separate `lmgrd` daemon.

Important Technically, FLEXlm supports both configurations. **However, Rational and GLOBEtrotter recommend running a separate `lmgrd` instance for each vendor daemon.**

Configuring the system to use a single `lmgrd` daemon offers you no advantage over running separate instances (that is, Rational's default configuration), and only results in additional work.

The FLEXlm License File

The license file is a text file that stores the license keys. Rational creates the license file; it is installed when you install either a node-locked product or the FLEXlm license server.

Combining License Files

You may need to configure your license server to serve Rational products and non-Rational products that are all licensed with FLEXlm. In these cases, you will likely have been given a license file for each vendor daemon.

If the `SERVER` lines for each license file have the same hostname and `hostid`, the license keys in each license file can be combined into a single license file with multiple `DAEMON` lines. FLEXlm supports this configuration. **However, Rational and GLOBETrotter recommends keeping the license keys in separate files.**

Example 1: The customer has a FLEXlm server for a product called "Foobar" and wishes to combine Foobar's license file with the Rational license file. The `SERVER` and `DAEMON` lines for each vendor are as follows.

Rational's license file:

```
SERVER      goofy DISKID=12345666
DAEMON      rational "C:\rational\common\rational.exe"
```

INCREMENT (for Rational license key)

Foobar's license file:

```
SERVER      goofyDISKID=12345666
DAEMON      foobar "C:\foobar\licensing\obj\foorbar.exe"
```

INCREMENT (Foobar license key)

Because the hostnames and the `DISKID` values are the same, the license files can be combined into a single file as follows:

```
SERVERgoofy DISKID=12345666
DAEMONrational "C:\rational\common\rational.exe"
DAEMONfoobar"C:\foobar\licensing\obj\foorbar.exe"
```

```
INCREMENT (for Rational license key)
INCREMENT (Foobar license key)
```

Please note – although this technically works, this is not a recommended configuration.

Example 2: The customer wants to combine license files for floating Rational permanent keys and floating Rational evaluation keys.

Permanent license file:

```
SERVER      goofy DISKID=12345666
DAEMON      rational "C:\rational\common\rational.exe"

INCREMENT (for permanent license key)
```

Evaluation license file:

```
SERVER      goofy DISKID=ANY
DAEMON      rational "C:\rational\common\rational.exe"

INCREMENT (for evaluation license key)
```

In this case, you can not combine the license files because the values for the DISKIDs in each SERVER line are different. You must keep these keys in separate license files.

Running Multiple FLEXlm Servers on the same machine

You may need to install Rational's FLEXlm server on a machine that is currently running FLEXlm for another vendor (company). This is a supported configuration should work without incident if configured properly.

When running multiple FLEXlm servers on a single host, you need to consider three items: the lmgrd process, the vendor daemon, and the vendor license file. Each standalone FLEXlm server uses those three integral items.

The lmgrd daemon communicates with the vendor daemon which uses the vendor license file.

To run multiple FLEXlm servers on a single host, Rational recommends that you install the Rational FLEXlm server without combining lmgrd daemons or license files with the other vendor. To do this, install the FLEXlm server from the Rational CD.

There is no need to combine lmgrd daemons. Technically, FLEXlm supports combining lmgrd daemons, **however, Rational and GLOBEtrotter recommend running a separate lmgrd instance for each vendor daemon.** Configuring the system to use a single lmgrd daemon offers no advantage over running separate instances (Rational default configuration) and only results in additional work for your license server administrator.

There is also no need to combine license files. Refer to “Combining License Files” on page 124 for additional information.

The FLEXlm Options file

Rational's current implementation of FLEXlm provides the least restrictive licensing environment possible. By default, the server does not restrict access to any client requesting a license key. This configuration works best for most customers.

If you want a more controlled floating license environment, you can use the FLEXlm options file to reserve or deny licenses for certain users, hosts, displays, groups, or IP addresses. You can also set limits to the number of licenses each user or group can access.

Rational supports using the FLEXlm options file with Rational Suite 1.1 and 1.5. Please note this applies only to floating licenses.

Setting up the FLEXlm Options File

To use FLEXlm options, create a text file called “rational.opt” in the `<rational flexlm dir>\common` directory. The FLEXlm server needs to be restarted in order for the server to recognize the file or any changes made to it.

Details on FLEXlm options are located on the GLOBEtrotter web site at <http://www.globetrotter.com/chap6.htm>.

FLEXlm Options File Examples

This section gives two simple examples of how the FLEXlm options file can be used.

Example 1. A customer has 10 floating licenses of Rational ClearQuest. The customer wants to ensure that users Greg and Peter always have a license of ClearQuest available for their use. The customer can setup the FLEXlm options file as follows:

```
RESERVE      1  ClearQuest  USER  greg
RESERVE      1  ClearQuest  USER  peter
```

Where:

| Item in Options File | Explanation |
|----------------------|--|
| RESERVE | Tells the FLEXlm server to reserve a license |
| 1 | Is the number of licenses to reserve |
| ClearQuest | Is the name of the license to reserve |
| USER | Tells FLEXlm to reserve a license for a specific user id |
| greg | Is the userid for which the license will be reserved |

Example 2: Customer has 10 floating licenses of Rational ClearQuest. The customer wants to ensure that user Bob does not have access to a ClearQuest license. The FLEXlm options file would be setup as follows:

```
EXCLUDE      ClearQuest  USER  bob
```

Note that the FLEXlm server must be restarted if you make any modifications to the license file.

FLEXlm Redundant Servers

FLEXlm license servers can be setup to run in a fault-tolerant configuration known as "redundant servers". Redundant servers are a system of three FLEXlm servers that work as a team to manage a single pool of floating license keys. If one of the server

machines goes down, the other two license servers automatically continue managing the license pool.

Example: A customer purchases 25 floating licenses of Enterprise Suite and wishes to setup a redundant server configuration. The customer requests permanent keys for the redundant servers using the License Key Administrator (available in Rational Suite 1.5) and installs FLEXlm on each of the three redundant server partners; machines A, B, and C. These three servers work as a team to manage all 25 floating licenses in unison. Now let's suppose the customer has 20 license keys checked out to their users and machine A crashes. Machines B and C continue to manage the 25 licenses. The recovery effort is completely transparent to the end-users who have the 20 licenses checked out.

Caution It is a common misperception that separating redundant server partners across multiple sites (for example, one partner in Munich, one in London, one in Paris) provides maximum fault tolerance. This is not the case. Redundant server partners should always be at the same site and on the same subnet.

Rational supports redundant servers on Windows with Rational Suite 1.5 only.

Client Configuration

License Server or License File Specification

The hostname of the license server or license file is written to the file called `rational_redirect.dat` which is located in the `<rational>\common` directory on the client. Rational does not use the `LM_LICENSE_FILE` option to specify the location of the license source.

LM_LICENSE_FILE

Rational Common Licensing on Windows does not use the `LM_LICENSE_FILE` variable to specify the location of a license server or file.

Specifying Multiple Servers in Serial

Some customers may want to specify multiple license servers in serial. Example: A customer wants to configure a client to acquire

a license key from server A. If there are no available licenses on server A, the customer wants the software to automatically request a license key from server B. This configuration is not possible with the current Rational licensing implementation.

Special Configurations

Windows Clients using UNIX Servers

This configuration works and is supported by Rational. Before setting up this configuration please read the information below.

Although this configuration has been tested and works, Rational Common Licensing was not specifically designed to support the case where a FLEXlm server on a UNIX machine serves licenses to Rational products on Windows platforms. Setting up this licensing environment will require manual intervention as outlined below.

The items below outline the steps that need to be taken in order to setup this configuration. These items are not specific instructions but are guidelines.

- 1** Install a Rational FLEXlm server on the UNIX machine.
- 2** Install a FLEXlm server on a Windows machine. The server does not need to be configured to serve licenses but the server software must exist on a Windows machine in order to complete the next step.
- 3** Run the LKAD (Rational Suite 1.5 required) on the Windows machine in proxy mode and request license keys for the Windows products that will be served from the UNIX server.
- 4** When the Rational Back Office fulfills the license request, edit the license file on the UNIX license server and add the keys for the Windows products.
- 5** Restart or refresh the UNIX FLEXlm server using the “lmutil lmreread” command.
- 6** Install the Rational products on the Windows clients and configure them to acquire license keys from the UNIX server.

Rational recognizes the importance of supporting this configuration and is working to provide better tools and processes for making this configuration easier to use in the future.

Firewalls

Rational's FLEXlm implementation is supported with a firewall. As with any FLEXlm server, the Rational daemon must be given a specific TCP/IP port to run on. You can do this by specifying a TCP/IP port number on the DAEMON line after the path to the Rational vendor daemon executable:

```
SERVER <hostname> <lmgrd port number optional>
DAEMON rational <path to rational.exe> port=<port number>
```

Example:

```
SERVER server1
DAEMON rational C:\rational\common\rational.exe port=5566
```

The lmgrd port number and the vendor daemon port number can exist without the other. However, if you use both ports do not set them to the same value.

Disconnected Use of Floating Licenses

Rational does not currently support disconnected use of floating licenses. Disconnected use involves acquiring a floating license on a laptop, disconnecting from the network, then using the software (with the borrowed license) remotely. This configuration is also known as license borrowing.

Rational is currently working to provide a solution to this use case. Customers asking for or requiring this functionality should contact Rational's Licensing Product Manager. As a workaround you can use node-locked licenses for this situation.

Home Use

This is a situation where the customer buys a seat of software for a machine at their workplace and wants a second seat of software for use on their system at home. Rational currently requires the customer to purchase an extra copy of the software for this situation.

Rational Products and Windows Terminal Server, Citrix, and Windows 2000 Server

- These platforms are not supported with Rational Suite 1.0 nor with any of the products included in Rational Suite 1.0.
- These platforms are not supported with Rational Suite 1.5. The standalone products Rational Rose and Rational RequisitePro will install and run on these systems.
- Rational Suite 1.5 and all standalone products on the Rational Solutions for Windows CD can be installed and run on these platforms if the software is installed and used on the server. Rational Rose2000 and Rational SoDA for Word 3.6 run in a remote session with floating license keys only.

Networking Configurations

WAN Support

Rational floating licenses can be used over a wide area network if this is in compliance with the geographical allowance of their License Agreement.

If you choose to run licenses over a WAN should be aware of how their systems resolve hostnames. Rational recommends, but does not require, that you always use the fully qualified domain names in the SERVER line and on the clients. This technique tends to reduce the number of issues with hostname resolution.

Novell Support

Rational's FLEXlm implementation does not support Novell Netware 5.0 directly with floating licenses. Rational floating licenses can be used in a Novell 5.0 environment that is configured with TCP/IP and/or IPX.

Node-locked licenses with Novell 5.0 are supported.

Diagnostics

Lmtools

Lmtools is a GLOBEtrouter application designed to help diagnose FLEXlm issues. It is available on Windows only. Rational installs this application with all products in the <rational>\common

directory. If the FLEXlm license server is installed you can use the License Tools Start Menu shortcut the lmtools GUI.

Lmutil

By default, Rational installs the lmutil program in the <rational>\common directory. Lmutil is fully supported with Rational's implementation and has a number of useful options. More information can be found at <http://www.globetrotter.com/chap7.htm>.

Lmreread

The lmutil lmreread command is a supported option that forces the FLEXlm server to source the license file without having to shut down the server. This allows systems administrators to make changes to the license file without stopping and restarting the server.

License Monitoring

Some customers need to monitor and report on license usage. GLOBEtrotter offers a robust solution for license usage reporting called SAMreport. SAMreport is designed specifically for reporting on FLEXlm server activity. SAMreport offers a full set of administrative tools that generates reports, graphs, high-water marks, and even sets alarms to notify individuals when a server has gone down or the license pool is nearly exhausted. SAMreport works with any vendor's FLEXlm server, not just Rational's. It is available only through GLOBEtrotter. Detailed information on SAMreport can be found at: <http://www.globetrotter.com/samreport.htm>.

Common Licensing Configurations

Node-locked license key in a file; Windows client

This configuration is fully supported by Rational and the LKAD as of Rational Common Licensing 1.0.

Node-locked license key in a file; UNIX client

This configuration is fully supported by Rational and with Rational Common Licensing 1.0 and beyond.

FLEXIm server and Rational products installed on a single Windows system

This configuration is fully supported by Rational and the LKAD as of Rational Common Licensing 1.5.

FLEXIm server and Rational products installed on a single UNIX system.

This configuration is fully supported by Rational Common Licensing 1.0.

Floating licenses with Windows redundant license servers; Windows clients

This configuration is fully supported by Rational and the LKAD as of Rational Common Licensing 1.5. Rational does not support counted or uncounted node-locked licenses in this configuration.

Floating licenses with Windows redundant license servers; UNIX clients

This configuration is not yet officially supported by Rational.

Floating licenses with UNIX redundant servers; UNIX clients

Redundant servers are not supported on UNIX platforms as of Rational Common Licensing 1.5. It is planned for a future release.

Floating licenses for UNIX products. Licenses to be served from a Windows FLEXIm server

This configuration is not yet officially supported by Rational.

Floating licenses for Windows products. Licenses to be served from a UNIX FLEXIm server

This configuration is supported with Rational Common Licensing 1.5. See section 4.5.1 for details.

12

Troubleshooting Licenses

This chapter provides troubleshooting examples based on questions commonly asked with regard to licensing. You will also find an alphabetical list of error messages and possible solutions in Table 15, *Back Office Error Messages*, on page 137, and in Table 16, *Licensing Error Messages*, on page 140.

Node-locked Licenses

What exactly is a node-locked license?

How many users does it support at one time? Altogether? Does each additional user cost as much as the first?

A node-locked license supports a single user on a single system. Contact your Rational Sales office for information about pricing for node-locked licenses.

Does the node-locked software use the IP address as the hostid?

We have DHCP using Windows NT and the software is Rational Rose 98i.

Node-locked licenses use the diskid for the licensed system, not the IP address. Using DHCP or static IP addresses does not affect your Rational Software licenses.

Does a change in the IP address and internet address affect the node-locked license?

Node-locked licenses use the hostid of the computer for the licensed system. Therefore, a change in the IP address or a change in Internet address will not affect your Rational Software license. However, you should notify Rational Licensing Support if the Internet address of the license contact has changed.

License Key Administration

Can we request permanent license keys without entering a temporary key?

Yes, you can use the Rational License Administrator to request permanent license keys without first installing your temporary licenses.

How long does it take to obtain the license key?

When we reinstall an OS on a machine, the user has to request the deletion of the license key for each product. If we want to move the license to another machine, then it would first have to be deleted through a request to Rational, and then we would have to request the license key again from the new machine. What would happen if I did a clean install of the operating system, on my machine (which would wipe out all the license keys currently on it), without deleting the license key first? Would it be easy to obtain a new license key or a replacement for this key?

The request for move and for a new license usually takes no longer than your initial license request, as long as you have all the information filled out correctly and pick the right product. The whole process for moving a license key takes less than 10 minutes.

If you install a new version of the operating system or initialize the disk where your license keys are stored, you can request a replacement license key from Rational. Contact Rational Licensing Support for assistance.

Does an administrator handle all the details of requesting and deleting the license keys?

Yes. A system administrator installs the FLEXlm License Server software on a license server system and manages the license keys on that system.

For a floating license, you or your administrator need to set up the server by installing GLOBEtrouter FLEXlm License Manager on it. Then request your permanent license key from the server system.

Error Messages

Table 15, Back Office Error Messages, lists back office error messages and their solutions. The Back Office is an automated system that manages the supply of license keys and supplies them in response to license key requests.

Table 15: Back Office Error Messages

| Message or Condition | Description and Action |
|--|--|
| EMAIL ADDRESS REQUIRED FOR LICENSE AND RENEWAL CONTACT Please enter a valid email License Contact and/or a valid email Renewal Contact. | Enter the email address under License Contact, then re-send your license request. |
| ERROR IN CREATION OF RENEWAL ADDRESS. The following Oracle error occurred: ORA-01536: space quota exceeded for tablespace 'VANINDEX'. Please contact Rational. Error in creating Reg Product: 3121-08626, requested license quantity not available with customer. Please contact Rational. | This is a Rational internal error. Resubmit your request later. If the problem persists, contact Rational Licensing Support. |
| ERROR IN CREATION OF UPGRADE ADDRESS The following Oracle error occurred: ORA-01536: space quota exceeded for tablespace 'VANINDEX'. Please contact Rational. | This is a Rational internal error. Resubmit your request later. If the problem persists, contact Rational Licensing Support. |
| ERROR IN LICENSE CONTACT, MULTIPLE LICENSE CONTACTS FOUND Please contact Rational. | Rational's records for your account shows multiple entries for the license keys that you requested. Contact your Rational Sales Office for assistance. |
| ERROR IN SYSTEM CREATION The following Oracle error occurred: ORA-00001: unique constraint (SWB.RSSYSTEM04) violated. Please Contact Rational. | This is an internal Rational error. Resubmit the license request. If the error occurs again, contact Rational License Support. |

Table 15: Back Office Error Messages (Continued)

| Message or Condition | Description and Action |
|---|---|
| <p>ERROR WHEN USING 9999 AS A QUANTITY FOR LICENSE KEY REQUEST</p> <p>Your email reference number for this request is 7496 for 4124US-0-728. The quantity 9999 requested for product 3121-08626 exceeds the available amount. Please re-submit your request with a reduced quantity or please contact the Licensing Support group for your area. Please see the License Administrator Online Help file for contact information.</p> | <p>You used the default value in the License Key Administrator for your license key request. Provide the appropriate number of license keys, as specified on your License Key Certificate, and resubmit the request.</p> |
| <p>FLOATING LICENSES NOT AVAILABLE</p> <p>Your email reference number for this request is <i>nnnnn</i> for <i>nnnnnn-n-nnn</i>. According to our records, the product requested, part number <i>nnnn-nnnnn</i> <product-name> of license type Floating, has not been purchased for Rational Account Number <i>nnnnnnnn</i>. Please choose another product and resubmit a new request. In order to resubmit a new request you will need to delete your existing pending request. In order to do so, please launch the License Key Administrator. Go to the License Keys(s) tab. Click on the pending request line.</p> | <p>You are requesting a type of license that you have not purchased. Review the License Key Certificate to confirm the type of license key you have purchased. If you have further questions about the type of licenses you have purchased, contact your Rational Sales Office.</p> |
| <p>INVALID HOSTID</p> <p>See URL. Please specify the correct Host ID and send again.</p> | <p>Your license key request contained an invalid or missing hostid. You may have initialized your system disk and the system disk does not have a unique ID.</p> |

Table 15: Back Office Error Messages (Continued)

| Message or Condition | Description and Action |
|---|--|
| <p>PRODUCT NOT REGISTERED FOR YOUR COMPANY Your email reference for this request is <i>nnnn</i> for <i>nnnnn-n-nnnn</i>. The product requested, Part #: <i>nnnnn-nnnnn</i> is not registered for your company.</p> | <p>When you submitted your license request, you selected a product that your company has not purchased. In the License Key Administrator, right-click on the pending request to delete it. Then submit a new license request with the correct product.</p> <p>If you believe that your company has purchased the product for which you are requesting a license, contact the Rational Licensing support group for your area for further assistance; see Licensing Support on page xiv.</p> |
| <p>QUANTITY NOT AVAILABLE Error in creating Reg Product: 3121-08478, requested license quantity not available with customer. Please contact Rational.</p> | <p>Your system requires more licenses than you currently have; check the number of licenses available to you.</p> |
| <p>RATIONAL SOFTWARE LICENSING SYSTEM IS TEMPORARILY UNAVAILABLE Please try again later or you can contact us directly. Please see the License Administrator Online Help file for contact information.</p> | <p>The back office is down. Try again later. To contact Licensing Support, see Licensing Support on page xiv.</p> |
| <p>REQUEST EXCEEDS THE AVAILABLE AMOUNT Your email reference number for this request is <i>nnnnn</i> for <i>nnnnnn-n-nnn</i>. The quantity 1 requested for product <i>nnnnn-nnnnn</i> exceeds the available amount. Please re-submit your request with a reduced quantity or please contact the Licensing Support group for your area. Please see the License Administrator Online Help file for contact information.</p> | <p>You have requested more license keys for this product than are available to you, based on the number that your company has purchased and already requested.</p> <p>Contact your manager or the person responsible for purchasing your licenses and confirm the number of license keys available for your use. If you have further questions, contact Rational License Support.</p> |

Table 15: Back Office Error Messages (Continued)

| Message or Condition | Description and Action |
|--|---|
| REQUESTED AN INCORRECT LICENSE KEY TYPE | You have requested and received a floating license for a product. You discover that a node-locked license is required. Contact your Rational Sales Office for assistance. |
| THERE ARE NO LICENSE KEY REQUESTS TO BE SENT | Confirm that there are pending license key requests in the License Key Administrator. |

Note Startup license key information is included with your Rational Suite software media kit. The startup license expiration date is noted on your startup license key certificate. For additional licensing information, see the Rational License Key Administrator online help.

Table 16, Licensing Error Messages,, lists licensing error messages and their solutions.

Table 16: Licensing Error Messages

| Message or Condition | Description and Action |
|---|--|
| CANNOT FIND SERVER HOSTNAME Cannot find SERVER hostname in network database. The lookup for the hostname on the SERVER line in the license file failed. | When starting an application, you receive the following message: Failed to check out a <product-name> key: This often happens when NIS or DNS or the hosts file is incorrect. Workaround: Use IP-Address (e.g., 123.456.789.123) instead of hostname. Confirm with your system administrator that you have access to the license server system that you specified on the Settings dialog box of the License Key Administrator. |

Table 16: Licensing Error Messages (Continued)

| Message or Condition | Description and Action |
|--|--|
| <p>HOSTID REQUIRED FOR UNCOUNTED FEATURE 29802.inc:line 1:Invalid parameter Context: DISK_SERIAL_NUM5d14e6 FLEXIm error: -42,298 29802.inc:line 1: "INCREMENT ClearQuest rational 1.1 permanent uncounted 28D89D739A6..." Hostid required for uncounted feature Invalid license file syntax FLEXIm error: -2,269</p> | <p>You receive FLEXIm errors when starting an application. (These errors are in the context of other messages.) See the FLEXIm error messages at <FILL IN Web site>.</p> |
| <p>INVALID (INCONSISTENT) LICENSE KEY You must enter the temporary license key number EXACTLY as it is printed on the Temporary License Key Certificate. Your Rational account number should also be printed on this certificate.</p> | <p>When you enter a temporary license key number, you receive this message. Confirm that you are entering the license key information correctly.</p> |
| <p>INVALID OR INCONSISTENT LICENSE KEY FLEXIm error: Invalid (Inconsistent) license key The license-key and data for the feature do not match. This usually happens when a license file has been altered. Feature: <FeatureName> License path: C:\WINDOWS\TEMP\LICD120.TMP FLEXIm error: -8,130</p> | <p>Your license key certificate has been edited. Import the original license key that you received from Rational.</p> |
| <p>MUST RUN LICENSE ADMINISTRATOR TOOL TO REQUEST PERMANENT LICENSE User cannot run the License Key Administrator on an Windows NT 3.51 system.</p> | <p>See the installation instructions for your product to ensure that your system meets the operating system and hardware requirements.</p> |

Table 16: Licensing Error Messages (Continued)

| Message or Condition | Description and Action |
|---|--|
| <p>NO SUCH FEATURE EXISTS Failed to check out a <product-name> key.</p> | <p>The client is unable to obtain a floating license for the product. This can happen, for example, when the license server goes down before the license has been added to the server. Verify that you are pointing at the correct license server.</p> |
| <p>TEMPORARY LICENSE DIDN'T WORK Future license file format or misspelling in license file. The file was issued for a later version of FlexIm than this program understands. Feature: <product-name> License path: <path> FLEXIm error: -90,313</p> | <p>Contact Rational license support for assistance.</p> |
| <p>THE LICENSE FOR THIS PRODUCT WILL EXPIRE... The license for this product will expire in 29 days. If you are using a temporary key, please use the Rational License Key Administrator to request and install a permanent key. If you have a term license agreement (TLA) with Rational, please contact your Rational Sales Support team to renew the agreement. Click OK to run the product. If you are evaluating this product, please contact your nearest Rational Software Sales office. For a listing, please check http://www.rational.com.</p> | <p>Your startup license key is nearing its expiration date. To continue using the product, request a new permanent license key. The warning message appears each time you start the application until you install the updated license key.</p> |

FLEXIm Server Questions

How do I identify who checked out a license?

It is possible to find who checked out or checked in which license and when the user did it. Select **Start > Control Panel**, then open the FLEXIm License Manager. The **Setup** tab contains a Debug Log File entry. Locate the file and open it in Notepad. This file should display the information.

How do I set up the license server?

The customer has not installed the GLOBEtrotter FLEXIm License Manager on a computer that will act as a server.

A system administrator installs the FLEXIm License Server software on a license server system and manages the license keys on that system.

For a floating license, first set up a server by installing Globetrotter FLEXIm License Manager on it. Then request your permanent license key from the server system.

Hostid Questions

Why isn't Hostid ffffffff valid?

How do I change this? ffffffff is the value listed in the hostid field in the FLEXlm License Manager.

When you initialized your disk, your disk did not receive a diskid. Rational's licensing services regards this value as invalid.

You can reset your diskid by using third-party disk utility tools such as those by Norton. Use your Ethernet card address instead of your diskid.

Changing file system from FAT to NTFS - why doesn't my diskid work?

I changed my file system from FAT to NTFS, which changed my diskid. Could you please change my key to make it work again?

I changed my system disk and licenses no longer work.

I recently changed the disk on my PC and now <product> doesn't work.

```
"PurifyNT" v6.0, vendor: rational
uncounted nodelocked license, locked to Disk serial
number
"DISK_SERIAL_NUM=nnnnnn" no expiration date
This license cannot be checked out because:
Invalid host
The hostid of this system does not match the hostid
specified in the license file
Feature:          <product>
Hostid:           DISK_SERIAL_NUM=nnnnnn
License path:    C:\Program
Files\Rational\common\rational_perm.dat
FLEXlm error:    -9,57
```

Contact Rational License Support to obtain corrected license keys; see Licensing Support on page xiv. In the future, see the topic "How do I move a license from one system to another?" in the License Key Administrator online help.

Upgrades

Upgrades and startup license key expiration dates.

We received two upgrade packets but chose not to upgrade immediately because we were in the middle of pre-release testing. The license key certificate says, however, that the key expires on <date>.

Contact your Rational Sales Office to obtain temporary license keys when you are ready to perform your upgrades.

Requesting a License Key

How do I submit fax requests for license keys?

Please give me the fax number to which I can send my request for permanent node-locked licenses. Not all team members have Internet or e-mail so requests need to be centrally controlled.

See Licensing Support on page xiv for the appropriate fax number.

Installation and Licensing

How do I install licensed software on a second disk?

I have a second disk on my machine and I have requested a floating license for <product>. Can I obtain a license key for this system?

You can install Rational software on the appropriate disk for your system. Review the online help in the Rational Software Setup program. You can request license keys for your system, regardless of where your Rational software product is installed.

License Key Administrator Data Entry

What is my Rational Account Number (Primary)?

I just downloaded the upgrade to <product>. I am now unable to run the software. I do not know my "Rational Account Number (Primary)" which is a required field in the Rational License Key Administrator. Can someone please help me in acquiring one?

Use the Rational Account # specified on your License Key Certificate.

How do I enter the issued date?

What is the format for the date in "Issued date" when requesting a license key?

DD-MMM-YYYY – 27-JUL-1999, for example.

Moving License Keys

How do I move a node-locked license mistakenly installed on a server to a client machine?

We have purchased 2 node-locked client licenses. I made a mistake and requested and installed one of the licenses on the database/repository server. I cannot install this license on the second client because it is machine-specific.

See the topic “How do I move a license from one system to another?” in the License Key Administrator online help.

I'm trying to remove my node-locked license in order to install the license on another machine. How can I remove the current license installation?

See the topic “Requesting to remove a permanent or TLA node-locked license key” in the License Key Administrator online help.

How do I transfer a license to another computer?

I need to move the following license to another PC. Can you tell me how to do this?

See the topic “How do I move a license from one system to another?” in the License Key Administrator online help.

What does “The license was not intended for this server” mean?

I attempted to import a license key file and received a message that reported "The license was not intended for this server".

You are trying to install the license key on a system other than the one for which the license key was generated. The `license.upd` file specifies the machine for which the license is intended; the key can be installed only on that machine. Check the mail header for the server name.

Technical Notes

The Rational Web site contains Technical Notes concerning licensing topics and issues. For example, you can use a Technical Note to find out how to:

- Set up floating licensing to use server's IP address instead of the hostname.
- Set up Rational Common Licensing on a system that has a 3rd party product using FLEXlm.
- Determine an NT machine's FLEXlm HOSTID.
- Use the FlexLM options file to exclude certain users.
- Troubleshoot the FLEXlm License Server Setup for floating licenses.
- Troubleshoot the FLEXlm License Server when it is not running and cannot be started.

New Technical Notes appear on a regular basis. Go to <http://www.rational.com/sitewide/support/technotes/index.jtмл> to see the Technical Notes page on the Rational Web site.

To see the Technical Notes listed under the “Licensing” topic, go to <http://www.rational.com/sitewide/support/technotes/lic.jtмл#lic?borschtid=75964045851195935501>.

For Technical Notes related to licensing that are listed under the “Rational Suites” topic, go to:

- <http://www.rational.com/sitewide/support/technotes/suites.jtмл#rsgen>.
- <http://www.rational.com/sitewide/support/technotes/suites.jtмл#rse>.

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Additional Licensing Information

FLEXlm Technical Information

For a summary of questions regarding FLEXlm, see the FLEXlm FAQ file at <http://www.globetrotter.com/lmwinfaq.htm>.

Licensing Messages

For a description of FLEXlm error messages, see the FLEXlm message documentation at <http://www.globetrotter.com/chap12.htm>.

Sample License Key File

For a detailed description of the license key file format, see the FLEXlm documentation at <http://www.globetrotter.com/chap3.htm#3.2>.

Note The FLEXlm documentation refers to the license key file as `license.dat`. Table 13, License Key Files, on page 98 lists the files used by Rational software licensing.

Windows Registry Information

This section describes the Windows Registry settings for Rational Software licensing.

Warning Use extreme caution when editing the Windows Registry. Incorrect edits can render your system unusable.

Windows Registry entries are located in:

HKEY_LOCAL_MACHINE\SOFTWARE\Rational Software\Licensing\1.0

Table 17: Rational Licensing Registry Entries

| Key and Description | Default Value |
|--|---|
| UseLicenseServer Is this system using a license server to obtain its license keys? | FALSE |
| LicenseRequest Path of license request file | <Install Path>\\common\\rational_request.dat |
| LicenseTemp Path of temporary license key file | <Install Path>\\common\\rational_temp.dat |
| LicensePerm Path of permanent license key file | <Install Path>\\common\\rational_perm.dat |
| LicenseServer Path of file containing name of license server | <Install Path>\\common\\rational_redirect.dat |
| LicenseRequestAddress E-mail address for sending license requests to Rational | auto-licensing@rational.com |
| LicenseServerName Name of system used as a license server. | |
| ClientInstalled Does this system have client software installed? | TRUE |
| ServerInstalled Is this system a license server? | FALSE |

<Install Path> refers to the path specified during installation. The default value for <Install Path> is C:\Program Files\Rational.

Multiple License Server Processes

You can configure your license server system to support multiple configurations of products that use FLEXlm licensing.

If node-locked licenses are being used for your products, then there is minimal interaction between the licensing components of the two products. This is because Rational Common Licensing does not use the default FLEXlm license file, `c:\license.dat`, or the environment variable `LM_LICENSE_FILE`. All Rational Common license files can be found in `<Install Path>\common`. The only thing the two products would share is the DLL `lmgr326a.dll`, found in the system directory. The DLL is intended to be backward compatible, so there should be no disruption to either product if the newer version of the DLL is used. By default, Rational Software Setup will replace any older versions of the DLL with what is on the Rational Solutions for Windows CDROM. If the DLL found in the system directory is newer, it will not be replaced.

If floating licensing is used for both the Rational product and the third-party product, there is potential for more interactions. To minimize these interactions, the license servers for the two product should be run as separate services. The Rational License Key Administrator, does not support license files with multiple vendor tokens. Rational license files should not be merged with third party vendor files. Doing so may result in loss of third party licensing information.

Please note that some products using FLEXlm licensing may not provide the FLEXlm License Manager to their customers. In that case, there is even less interaction between the two applications; the only FLEXlm file shared by the applications is `lmgr326a.dll`. As long as the latest version of that DLL is found in your system directory, you may proceed with standard setup for the FLEXlm License Manager, as outlined in “To configure the license server software:” on page 92.

If the third party product also installs FLEXlm License Manager (`flexlm.cpl`) for management of their license server, then use the following steps:

- 1 Set up third party vendor licensing by following the instructions provided by that vendor.

- 2** Install Globetrotter's FLEXlm License Server. At this point, if the other vendor provided you with a version of Globetrotter's FLEXlm License Manager (the file `flexlm.cpl` found in the system directory), it will be replaced by the version provided by Rational.
- 3** Open the FLEXlm License Manager found in the Control Panel.
- 4** Under the Setup tab, check that the entries for Service Name, `lmgrd`, and License File are appropriate for the third party product that had been previously installed.
- 5** Replace the name of the third party FLEXlm service in the "Service Name" edit box with a name for the Rational FLEXlm service. You have now created a new FLEXlm service.
- 6** Enter the path to `lmgrd.exe`. The default path is `C:\Program Files\Rational\common\lmgrd.exe`. Do not use the same `lmgrd` executable provided by the third party vendor because it may be older than the one provided by Rational.
- 7** Enter the path to your Rational floating license file. The default path is `<Install Path>\common\rational_server_perm.dat` or `rational_server_temp.dat` depending on whether you have a temporary or permanent key installed.
- 8** Optionally, enter a path to a log file to store FLEXlm server output.
- 9** Go to the Licenses tab (before you leave the Setup tab, you will be asked to save your settings, make sure to say "yes"). Click on "Show License File" and confirm that the license file that appears in fact contains the Rational tokens you intend to serve with this license server.

You have now set up a separate license service for Rational products. You can manage this service through the FLEXlm License Manager or the Services applet, if you have defined this license service as an NT service. To shift the FLEXlm License Manager between the different license services, select the appropriate service in the Service Name pull down list on the Setup tab.

Support Information

Refer to “Licensing Support” on page xiv.

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Glossary of Licensing Terms

ANY-HOST

A license key issued for ANY-HOST will run on any system, and is not tied to the customer's system ID.

Back Office

An automated system that manages the supply of license keys and supplies them in response to license key requests.

Emergency Key

A temporary key that lets a customer use Rational software for a fixed period of time if they cannot use their own license for some reason. The duration of the Emergency Key is 5 days.

Emergency Keys can be node-locked or floating. Emergency Keys are distributed by the Licensing Support Group and will run on any host.

Evaluation Key

A temporary key that lets a customer use and evaluate Rational software for a fixed period of time. Rational Software determines the duration of the Evaluation Key. Evaluation Keys can be node-locked or floating. Evaluation Keys are distributed by the Sales team and will run on any host.

Floating License

A license type that links products to a License Server system. Client systems obtain licenses from the License Server system when they need to run a copy of Rational software. Multiple clients can share the pool of floating licenses; one license is granted per client per product. Floating licenses on License Servers are typically administered by System Administrators.

GLOBEtrotter FLEXlm Server

Software license manager for Windows 95/98/2000, Windows NT, UNIX, Java, and VMS.

Key Type

Node-locked and floating licenses can be enforced by different types of license keys. The types of license keys are Startup and Permanent. Evaluation and Emergency keys are variations of Startup keys, and Term License Agreements (TLAs) are a variation of Permanent keys. Each type of key has different business rules and policies.

License

A legal right to use a product. A customer receives a license when they purchase the product. However, they need a License Key to actually associate the product and the system on which it is running with a license.

License Key

Generic term used in this document to describe keys that enable licenses on a customer system. The types of License Keys are: permanent, temporary, evaluation, emergency, and Term License Agreement (TLA).

License Key Administrator

A program written by Rational Software which provides a customer interface to Rational's Licensing system. The License Key Administrator is installed whenever a Rational software product is installed on a Windows system. For hosting floating licenses, the License Key Administrator is installed when the Globetrotter FLEXlm server is installed on a License Server system.

License Key Code

An encrypted code used to enforce a license agreement.

License Type

The valid types of licenses are node-locked licenses and floating licenses. See also ***Key Type***.

LKAD

Stands for License Key Administrator.

Node-Locked License

A type of license that links a product to a system. Typically, one node-locked license is issued per software copy.

Permanent Key

A license issued to a customer for running Rational products. Permanent Keys have expiration dates that vary by product, but generally cover two product cycles. Permanent Keys can be node-locked or floating. Node-locked Permanent Keys are installed on a client system. Floating Permanent Keys are installed on a License Server system. Obtain Permanent Keys from the Rational Back Office.

Permanent Key Code

The FLEXIm encrypted code that lets a customer run a particular Rational product using a Permanent Key.

Temporary Key

A short-term license key that lets a customer run Rational software products. Temporary licenses are not keyed to a specific system. Temporary Keys can be node-locked or floating. Node-locked Temporary Keys are installed on a client system. Floating Temporary Keys are installed on a License Server system. Temporary Keys are issued by the Rational BackOffice and run on any host until the specified expiration date.

Temporary Key Code

The FLEXIm encrypted code that lets a customer run a particular Rational product using a Temporary Key.

Temporary License Key Certificate

A piece of paper or an electronic file that contains information a customer needs to begin using Rational software with a license. The Temporary License Key Certificate is shipped to the customer with the software installation media.

Term License Agreements (TLAs)

Variation of a Permanent Key. TLAs are issued to a site to let their employees use Rational software for a negotiated period of time. TLAs are issued by Rational Sales and have an expiration date.

Vendor

A software supplier using the GLOBEtrotter FLEXIm license server. For example, Rational Software is a license server vendor.

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