

IBM Rational License Server TL
Licensing Guide
Release 2.0

Before using this information, be sure to read the general information under Appendix, “Notices” on page 63.

This edition applies to **VERSION 2.0, IBM Rational License Server TL** and to all subsequent releases and modifications until otherwise indicated in new editions.

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1

Introduction

This document contains generic and product specific licensing information for the IBM® Rational® Solutions for Enterprise Lifecycle Management set of products and integrations.

IBM® Rational License Server® TL uses FLEXnet® for licensing the IBM Rational Solutions for Enterprise Lifecycle Management products. FLEXnet is a third party licensing system marketed by Acresso™ Software. For more information about FLEXnet licensing, see the FLEXnet *License Administration Guide*, which is available from the support area of the Acresso website at <http://www.acresso.com>.

This document includes the following sections:

- [Whats new in licensing?](#)
- [License types supported by IBM Rational products](#)
- [Frequently Asked Questions](#)

Whats new in licensing?

The new features that are added as part of licensing:

- IBM Rational License Borrower tool

The IBM Rational License Borrower tool allow you to check out a license for a IBM Rational application for a specified period. A BORROW license can be borrowed from a license server system through a special checkout. The user can then run the IBM Rational application when the computer is no longer connected to the license server system.

- User-Based licenses

The user-based licensing scheme has replaced the per-user license solution. A user-based license uses the FLEXnet attribute USER_BASED to restrict licenses to specific users of a tool.

- The licensed applications now are using FLEXnet version 11.5. It means that the license server must have a version equal or higher than 11.5.

License types supported by IBM Rational products

The following tables list the types of licenses supported by IBM Rational products that use IBM Rational License Server TL:

FLEXnet license types supported by core products

Product name	Floating	Node-locked	Borrowable	Dongle
IBM® Rational® DOORS®	Yes	Yes	Yes	Yes
IBM® Rational® Synergy	Yes	No	No	No
IBM® Rational® Change	Yes	No	No	No
IBM® Rational® Tau	Yes	Yes	Yes	Yes
IBM® Rational® System Architect®	Yes	Yes	Yes	Yes
IBM® Rational® Focal Point™	Yes	No	No	No
IBM® Rational® Rhapsody®	Yes	Yes	Yes	Yes
IBM® Rational® Publishing Engine	Yes	Yes	No	Yes
IBM® Rational® Logiscope	Yes	Yes	No	Yes
IBM® Rational® Team Webtop™	Yes	No	No	No

Extended licensing options supported by core products

Product name	User-based	Token-based
IBM Rational DOORS	No	Yes
IBM Rational Synergy	Yes	Yes
IBM Rational Change	Yes	Yes
IBM Rational Tau	No	Yes
IBM Rational System Architect	No	Yes
IBM Rational Focal Point	Yes	Yes
IBM Rational Rhapsody	No	No
IBM Rational Publishing Engine	No	No
IBM Rational Logiscope	No	Yes

FLEXnet license types supported by product options

Product name	Floating	Node-locked	Borrowable	Dongle
IBM® Rational® System Architect®/XT	Yes	No	No	No

Extended licensing options supported by product options

Product name	User-based	Token-based
IBM® Rational® System Architect® XT	No	Yes

FLEXnet licenses types supported by product integrations

Product integration	Floating	Node-locked	Borrowable	Dongle
Tau-DOORS	Not licensed			
Tau-Synergy	Not licensed			
Tau-Gateway	Yes	No	No	No
Change-DOORS	Not licensed			
Rhapsody-Gateway	Yes	Yes	No	Yes
System Architect-DOORS	Not licensed			

Extended licensing options supported by product integrations

Product integration	User-based	Token-based
Tau-DOORS	Not licensed	
Tau-Synergy	Not licensed	
Tau-Gateway	No	Yes
Change-DOORS	Not licensed	
Rhapsody-Gateway	No	Yes
System Architect-DOORS	Not licensed	

Frequently Asked Questions

1. *Can I use my old licenses and IBM Rational products with the new license server?*
Yes, you can continue to use your existing licenses and the associated IBM Rational products as before.
2. *Can I use my new licenses and IBM Rational products (connecting to Rational License Server TL) with the previous license server?*
No, to utilize the new date versioned licenses and associated IBM Rational products you will need to deploy the new License server.
3. *Can I use my current licenses with the new versions of the IBM Rational products, connecting to Rational License Server TL?*

Yes, if your maintenance agreement is beyond the release date of the products. The FEATURES in your license file has a version string that reflects the expiry date of your maintenance agreement. If this version string is larger than 2008.0630 than you can run the new products using this license file.

4. *Can I use my new date-versioned licenses with the older versions of the IBM Rational products that connect to Rational License Server TL?*

Yes, the new date-versioned licenses can be used with the older versions of IBM Rational products.

5. *Can I mix older licenses and date-versioned licenses on the new License Server?*

Yes, the new License Server supports traditionally versioned and date-versioned licenses.

6. *How do I know what type of license I require?*

For products and integrations that are part of IBM Rational Solutions for Enterprise Lifecycle Management, please see the tables in Section [“License types supported by IBM Rational products” on page 2](#). For other IBM Rational products that connects to Rational License Server TL, please refer to the IBM Rational support site or your account manager.

7. *Are date-versioned licenses applicable to patches and service packs?*

Yes, service packs will be date-versioned. You can use, and continue to use, service packs that are released during your maintenance period. For patches please refer to the documentation accompanying the patch.

8. *Can I continue to use IBM Rational products connecting to Rational License Server TL after my maintenance has expired?*

This depends upon the terms of your agreement. The product releases or service pack releases after the maintenance expiration date cannot be used. Other older products can still be used.

9. *What happens when my maintenance contract expires?*

You will need to renew your maintenance contract and obtain a new license to use IBM Rational products and updates that are released after your maintenance period has expired.

10. *When do I need to obtain a new license?*

If your licensing requirements change (e.g. you require additional users) and when you renew your maintenance contract.

11. *What happens if I renew my maintenance contract for a fewer number of users?*

IBM Rational products that are released after you renew your maintenance can only be utilized by the number of users that are contained in your new license.

12. *Can I use my old per-user license with the current license server?*

Per-user license would work if an old license file is used on the new license server. But IBM Rational does not issue new such licenses.

13. *If I buy a borrowing license, do I need to make all license from the server borrowable?*

No, you can enable mixed licenses. For example, if you have 10 floating licenses, you can make 2 as borrowable and rest as non-borrowable.

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Understanding IBM Rational licensing

This chapter contains the following sections:

- [About FLEXnet](#)
- [FLEXnet licensing terminology](#)
- [Obtaining a license](#)
- [Locating your server license file](#)
- [Updating your license](#)
- [Changing the license server machine](#)
- [What is the TELELOGIC_LICENSE_FILE variable?](#)
- [Troubleshooting license problems](#)
- [Understanding the license log file](#)

About FLEXnet

FLEXnet is used for licensing IBM Rational Solutions for Enterprise Lifecycle Management products. FLEXnet is a third-party licensing system marketed by Acreoso. FLEXnet licenses are available as:

- Node-locked (standalone) licenses, which are tied to a specific machine.
- Floating (server) licenses, which are available anywhere on a network.
- Per-user licenses, which are allocated to the same user permanently.
- A user-based licenses, which are allocated to the specific users of a tool.
- Token-based licenses, which are available for some products.
- Date-based versioning, which are tied to the date you bought the license, or the date your maintenance period ends (whichever is later).

For Synergy and Focal point users the login name will be seen as the user of the taken license. This implies that the options file can now be used to configure the license usage.

DOORS licenses are now CRO based (they use the SIGN2 attribute).

It is recommended that you install the IBM Rational License Server TL before you install IBM Rational Solutions for Enterprise Lifecycle Management products.

Note The per-user license has been replaced by user-based licenses. For more information on user-based licenses, see [“User-based Licensing” on page 49.](#)

FLEXnet main components

The four main components of FLEXnet are:

- The License Manager Daemon, `lmgrd`
- The Vendor Daemon, `telelogic`
- The client application program, in this case any IBM Rational application
- The license file, `license.dat`

If you would like more information about FLEXnet or Acreso, see <http://www.acresso.com>.

FLEXnet licensing terminology

To perform the licensing operations, you should first understand the following FLEXnet licensing terms and concepts.

Term	Description
Daemon License Daemon	Background processes that run on the license server. They administer the check-in and check-out of licenses for each feature of each application that uses FLEXnet.
Demo license	A node-locked license that will work on any computer. A demo license is usually cut for a maximum of 30 days, for evaluation or diagnostic purposes.
Dongle	A hardware-id that connects to a parallel or USB port. The dongle is associated with a FLEXid. A license can be locked to a FLEXid instead of a specific hostID, which makes it possible to move a license between different machines. Each machine needs a copy of the license file.

Term	Description
Floating or Network license	<p>A floating license system allows users on a network to check out individual licenses from a commonly shared set. Floating license keys contain the hostname and hostID of the IBM Rational License Server TL.</p> <p>The license manager daemon and vendor daemon must be running on the license server whose hostname and hostID are specified in the license key.</p> <p>When a user quits an application, all licenses used during that session are returned to the pool of available licenses.</p>
hostID	<p>A number that uniquely identifies a machine. It is obtained from different sources within a machine, depending on the architecture. For example it may be the machine's ethernet address, or its disk serial number.</p>
hostname	<p>The name that has been assigned to the machine by the system administrator, and can contain characters and/or numbers. For example, Einstein or suns20.</p>
License borrowing	<p>License borrowing enables an end user check out a license from a license server. The user can then disconnect his/her computer, but retain the license for a specified borrowing period.</p> <p>For more details about license borrowing, contact your local sales representative.</p>
License file	<p>A text file called <code>license.dat</code>. It includes the following information:</p> <ul style="list-style-type: none"> • Server names and hostIDs • Vendor names and paths to vendor daemon executables • Feature and package information

Term	Description
License key	<p>Each FEATURE/ INCREMENT line in the license file is a license key for a feature or a package. A license key specifies the number of licenses that are available for that particular feature or package.</p> <p>The license key is based on data that is specific to IBM Rational.</p>
License manager daemon lmgrd	<p>Handles the initial contact with the client application program and passes the connection to the appropriate vendor daemon. It also starts and restarts the vendor daemons.</p>
License options file	<p>The license options file allows the license administrators to control various operating parameters of FLEXnet licensing. Users are identified by their username, host name, display, IP address or PROJECT (which is set with the LM_PROJECT environment variable)</p>
License server	<p>The computer on which the license manager daemon and the vendor daemon are running.</p> <p>Users with node-locked licenses do not require a license server.</p>
Node-locked license	<p>A node-locked license key is for use on one computer, and is tied to that computer. You do not need to run a license server if you are using a node-locked license.</p>
Per-user license	<p>A per-user license is allocated to the same user permanently, or until an administrator frees the license for that user. The per-user license has been replaced by user-based licenses.</p>

Term	Description
Token-based licensing	<p>The token-based license model means that you can buy a certain number of Token licenses. If you use a Rational tool that checks out a FEATURE that is token-based, the FEATURE line in the license file will specify the number of Tokens that are checked out.</p> <p>Token-based licenses can only be used with floating licenses. They cannot be used for node-locked licenses or licenses locked to a dongle.</p> <p>For more details about Token-based licensing, contact your local IBM sales representative.</p>
Vendor daemon telelogic	<p>A process that permits and keeps track of the number of licenses that are used. Each application that uses FLEXnet has its own vendor daemon. Rational License Server TL daemon is telelogic.</p> <p>The IBM Rational application and the Telelogic daemon communicate through TCP/IP. As the format of the traffic is independent of the machine, the license server and the computer running the IBM Rational application (connecting to Rational License Server TL) can be on different platforms and operating systems.</p>
User-based license	<p>A licensing scheme which uses the FLEXnet attribute USER_BASED to restrict licenses to specific users of a tool. A user-based license must be served by a license server.</p>

Term	Description
Date-based versioning	<p>Licenses for Rational products (connecting to Rational License Server TL) are tied to the date you bought the license, or the date your maintenance period ends (whichever is later).</p> <p>This means that you will not be able to use versions of Rational products that are released after your maintenance contract has expired. New licenses will be issued to you when your maintenance is renewed.</p> <p>For example, a FEATURE line for DOORS 8.2 will look similar to this: FEATURE DOORS telelogic 2008.1231.</p> <p>Where the license version 2008.1231 reflects the maintenance expiry date.</p>

Note The license key information you receive may not be identical to the information contained in the following examples.

Floating FLEXnet license file

An example of a floating license key is given below. The content of the file is explained in the table.

```
SERVER myserver DISK_SERIAL_NUM=12341234 19353
DAEMON telelogic "C:\Program Files\Telelogic\Tools\
Licensing_11\Server\telelogic.exe"
FEATURE DOORS telelogic 2008.1231 31-dec-2009 5
\1234567890ABCDEF1234 VENDOR_STRING-T99-12345
```

Line	Description
SERVER	<p>This line has four fields:</p> <ul style="list-style-type: none"> • The SERVER label. • The hostname of the license server. • The hostID of the license server. • A TCP/IP port number. This is the port number on which the license daemons communicate. <p>In the example license file, the hostname of the machine is MYSERVER, the hostID is 12341234, and the port number is 19353.</p>
DAEMON	<p>This line has three fields:</p> <ul style="list-style-type: none"> • The DAEMON label (or VENDOR Label). • The name of the vendor daemon. • The path to the vendor daemon executable. If this is missing or incorrect, the application placed in the same directory as the lmgrd will be used.

Line	Description
FEATURE	<p>This line specifies the permissions for each component of the IBM Rational application that is licensed.</p> <ul style="list-style-type: none"> • The <code>FEATURE</code> keyword. • The name of the licensed component. • The name of the vendor daemon responsible for handling the feature. For all IBM Rational products (connecting to Rational License Server TL), this is <code>telelogic</code>. • The date-based license version. • The date that the license for the feature expires. This date is inclusive. • The number of licenses available for the feature. • A 20-character (hex) encryption code for the <code>FEATURE</code> line. This is determined by the exact character-by-character makeup of the <code>FEATURE</code> line, and by the <code>hostID</code> of the license server, specified on the <code>SERVER</code> line. • The <code>VENDOR_STRING</code> containing a customer specific ID. For a per-user license, the word <code>USER</code> is appended to the <code>VENDOR_STRING</code>. • A checksum.

How do FLEXnet floating licenses work?

This is what happens when you start up a IBM Rational product (connecting to the Rational License Server TL) if you are using floating licenses.

- The program uses the `TELELOGIC_LICENSE_FILE` system variable to find out the name of the computer that's running the FLEXnet license server and the port that it's using.
- The program contacts the license manager on the FLEXnet license server, using the specified port.
- It requests a floating license and makes the request for the Telelogic vendor daemon.
- On the FLEXnet license server, the license manager sends the request to the Telelogic vendor daemon.
- The Telelogic vendor daemon checks to see if any licenses are available.

- If there are free licenses, the Telelogic vendor daemon grants a license and the program runs.
- If there aren't any licenses available, the Telelogic vendor daemon refuses the request, and the program fails to start and displays a message saying that it couldn't obtain a license.

How FLEXnet licenses work on Synergy

Most IBM Rational products control licensing by the client. However, Synergy products control licensing through the server.

When you start Rational Synergy, it looks for your license, based on information you provided during the installation process. As it is recommended that you install the IBM Rational License Server TL before installing the product, this example assumes you have done the installations in the recommended order.

- On Windows, when you run the Install Shield program, you are prompted for the host name and port number. If you are installing Rational Synergy on the machine where the license manager has been installed, this information should be provided as the default setting.
- On UNIX, when you run `ccm_install`, you are prompted for the hostname and port of the machine where the license server has been installed. This information is recorded in `$CCM_HOME/etc/license_data.txt` file.
- When the Windows Services start the router service, this service looks in the `license_data.txt` for license information.
- When you start Rational Synergy, the information is passed from the router to the engine. The engine also looks in the `TELELOGIC_LICENSE_FILE` system variable on Windows or environment variable on UNIX.
- The Rational Synergy program contacts the license manager on the FLEXnet license server, using the specified host and port.
- It requests a server license and makes the request for the Telelogic vendor daemon.
- On the FLEXnet license server, the license manager sends the request to the Telelogic vendor daemon.
- The Telelogic vendor daemon checks to see if any licenses are available.
- If there are free licenses, the Telelogic vendor daemon grants a license and the program runs.

- If there aren't any licenses available, the Telelogic vendor daemon refuses the request, and the program (that uses Rational License Server TL) fails to start and displays a message saying that it couldn't obtain a license.

Node-locked FLEXnet license file

A node-locked license file contains a list of `FEATURE` lines that describe the products or features for which the local computer is licensed. A node-locked license can contain feature lines for all of the Rational products (that connects to Rational License Server TL), or for a selection of them.

To make sure that you cannot use the license file on any other computer, the `FEATURE` line includes a `HostID` value that uniquely identifies the computer. It contains an encryption of the ethernet address of its network interface card or the disk serial number of the local disk on which the operating system is installed.

Note If you change the computer's network card, the license file won't work, because the new network card has a different ethernet address. If you reformat that disk, your existing license file won't work, because formatting a disk changes its serial number. Contact IBM Rational support to request a new license file.

An example of a node-locked license key is given below.

```
FEATURE DOORS telelogic 2008.1231 31-dec-2009 uncounted \  
1234567890ABCDEF1234 VENDOR_STRING=T99-12345  
HOSTID=DISK_SERIAL_NUM=12341234
```

What is the TELELOGIC_LICENSE_FILE variable?

On Windows, IBM Rational products (connecting to Rational License Server TL) store the location of the license file in the `TELELOGIC_LICENSE_FILE` system environment variable.

On UNIX, IBM Rational products (connecting to Rational License Server TL) store the location of the license file in the `LM_LICENSE_FILE` system environment variable.

On Synergy, the location of the file is also stored in `license_data.txt` file on the same router machine.

The value of TELELOGIC_LICENSE_FILE depends on whether your computer is using either floating licenses, or node-locked licenses.

License	Value	Description
Floating	port@license-server-name	The FLEXnet license server from which your computer is requesting server licenses and the port number the server is using.
Node-locked	license-file-name	The full path to the license file on your computer.

If your computer is using several node-locked and/or floating licenses, the values in TELELOGIC_LICENSE_FILE are separated by semicolons (;) on Windows and colons (:) on UNIX. The list can consist of the following components:

- The full path to a license file
- A directory containing one or more license files with a .lic extension
- A *port@host* setting, where *port* and *host* are the TCP/IP port number and host name from the SERVER line in the license file. Alternatively, use the shortcut specification @host if the license file SERVER line uses a default TCP/IP port, or specifies a port in the default port range (27000-27009).
- A comma separated list of three *port@host* specifiers denoting a three-server redundant configuration. For example, port1@host1, port2@host2, port3@host3 specifies the three-server redundant configuration composed of host1, host2, and host3.

Rational applications that use FLEXnet rely on the environment settings that FLEXnet uses to find licenses. The applications search for license servers and license files in the following order:

1. The environment variable TELELOGIC_LICENSE_FILE
2. On Windows, the registry entry for TELELOGIC_LICENSE_FILE.
On UNIX, the registry /.flexlmrc for TELELOGIC_LICENSE_FILE.
3. The environment variable LM_LICENSE_FILE
4. On Windows, the registry entry for LM_LICENSE_FILE.
On UNIX, the registry /.flexlmrc for LM_LICENSE_FILE.
5. For Synergy, the location specified by the contents of \$CCM_HOME/etc/license_data.txt.

6. Any `.lic` file located in the same directory as the application.
7. The backup location `/usr/local/flexlm/licenses/license.dat` or `c:\flexlm\license.dat`. Using the backup location is not recommended by Acresso.

On Windows, the registry key value is

```
HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

On Windows Vista, the registry key value is

```
HKEY_CURRENT_USER\Software\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

On UNIX, the equivalent information is stored in `$HOME/.flexlmrc`. In this file, the syntax is `variable=value`.

The registry value `.flexlmrc` file is automatically updated with the license file or license server for which a successful checkout was made.

To avoid performance degradation due to licensing, make sure you use valid license files and license servers. If it takes an exceptionally long time to start up a licensed application, the following points can be useful.

- On Windows, remove the registry key value:

```
HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

- On Windows Vista, the registry key value:

```
HKEY_CURRENT_USER\Software\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

Removing this value removes all cached values, and a new search is initiated to find licenses.

- On UNIX, remove the file `$HOME/.flexlmrc`
- Examine the environment variables `TELELOGIC_LICENSE_FILE` and `LM_LICENSE_FILE`. If set, make sure that they list valid license servers and/or license files. When setting up the environment for FLEXnet products it is better to use a vendor specific variable, like `TELELOGIC_LICENSE_FILE`, instead of `LM_LICENSE_FILE`. For example, if the user has different servers for different vendors, the Telelogic application will only check the `TELELOGIC_LICENSE_FILE` value and not the `OTHERVENDOR_LICENSE_FILE` value. If `LM_LICENSE_FILE` is configured to point to both servers, it takes more time as both servers are checked for licenses.

Obtaining a license

This section describes how to obtain a license key.

- If you have not used Rational products before, contact your local sales office. If you are not sure how to do this, you can find the nearest sales office on <http://www.ibm.com/software/rational/support>.
- If you are an existing user of Rational products connecting to the Rational License Server TL, contact your local sales office. If you are not sure how to do this, you can find the nearest sales office on <http://www.ibm.com/software/rational/support>. Please have a copy of your current `license.dat` file available.

Locating your server license file

Windows users

If you are using a node-locked license, locate your license file by inspecting the `TELELOGIC_LICENSE_FILE` environment variable, or view the `$CCM_HOME\etc\license_data.txt` file.

If you are the administrator for the license server, you can find the license file by inspecting the `TELELOGIC_LICENSE_FILE` environment variable.

For Synergy, view the `$CCM_HOME\etc\license_data.txt` file.

UNIX users

Locate your license file using `LM_LICENSE_FILE` variable.

Updating your license

If you already have some IBM Rational products (connecting to Rational License Server TL), and you then buy additional products, IBM will send you a new license file, which contains all your previous license features and the new license features. You need to replace your existing license file with your new license.

In order to replace the file, you must be running on the machine where the Rational License Server TL was installed.

Windows users

1. Locate your license file. See [“Locating your server license file” on page 20](#) for details.
2. Replace your existing license file with the new file supplied by IBM Rational.
3. To enable the new license feature, you have to reread your license file:
 - a. Run `lmtools.exe` by clicking on the **Start > Program files > All Programs > IBM Rational > IBM Rational License Server > LMTTOOLS**.

- b. Select the **Start/Stop/Reread** tab.
- c. Click **Stop Server** then **Start Server** to restart the license server. Due to a problem with FLEXnet, the **ReRead License File** button does not work correctly.

UNIX users

1. Locate your license file. See [“Locating your server license file” on page 20](#) for details.
2. To reread the license file avoid using `lmutil lmreread` as the result might not be correct. Instead, restart the license server using the following commands:

```
lmutil lmdown -c <license_file_path>
lmgrd -c <license_file_path> -l <license_log_path> -local
```

Changing the license server machine

The FLEXnet license server is the computer where the license daemons are running. If you change the FLEXnet server after you have received your license key information from IBM Rational Support, the license will not work. You will need to request a new license from IBM Rational Support and provide them with the hostname and hostID of the new license server machine.

For Synergy, once you have installed the license server and license file on the new machine, edit the `license_data.txt` file to show the new host and port number.

Setting up your server license

If you want to set up a floating license, see [“Setting up your server license” on page 25](#).

If you want to set up a client license, see [“Setting up your license on a client machine” on page 31](#).

Troubleshooting license problems

When you install a new FLEXnet license key, you should be aware of the following points.

- FLEXnet license keys are text files, and are often sent to customers via email. If the file contains long lines, they may wrap during the transmission of the mail and this text wrapping can affect the validity of the license.

Before you install your new license, you should make sure that the license file is proper. To do this, open the `license.dat` file and check if each `FEATURE/INCREMENT/PACKAGE` line begins with the keyword `FEATURE/INCREMENT/PACKAGE` and the continuation character ``` (backslash) is used to have a `FEATURE` line spread over several text lines.

- If your license is for Windows, the `DAEMON` line in your license contains the default path to the telelogic DAEMON. This is:

```
DAEMON telelogic "C:\Program Files\IBM\Rational\  
IBM Rational License Server\telelogic.exe"
```

If your license is for UNIX, the `DAEMON` line in your license does not include a path to the telelogic DAEMON.

If you did not install the IBM Rational License Server TL to the default directory on Windows, or if your license server is on UNIX, you have to edit your license file to include the full path to the telelogic DAEMON. To do this, open your license file, find the line that starts `DAEMON telelogic`, type the correct path to your telelogic DAEMON (`telelogic.exe`), then save and close the file.

- If you move the telelogic DAEMON, or if you use a pre-existing FLEXnet license server, you should specify the complete path to it.
- An infrequent problem is a TCP/IP port conflict with another application. If there is a conflict, an error message is logged in the `license.log` file. You can change the port number in your license file without invalidating the key. Finding a port number that is not in use is a matter of trial and error, but most applications use numbers below 5000, so numbers between 5000 and 20000 are generally not in use. The default port in most of Telelogic's license keys is 19353.
- By default, the telelogic DAEMON uses random ports. If you want to limit communication through a firewall, you can specify a port number for the telelogic DAEMON to use. To do this, open your license file, and type `PORT=<portnumber>` at the end of the `DAEMON telelogic` line. For example,

```
DAEMON telelogic "C:\Program Files\IBM\Rational\  
IBM Rational License Server\telelogic.exe" PORT=7194
```

You must allow access through the firewall for the port specified on the `DAEMON` line and the port on the `SERVER` line.

- If the FLEXnet manager cannot find your dongle ID, check that the sentinel drivers are installed by locating **HASP Device Driver** in **Add/Remove Programs** in the **Windows Control Panel**.

Understanding the license log file

The license log file may contain lines that you do not understand. Some of these lines are explained in the following table.

Log File	Description
13:51:01 (telelogic) TCP_NODELAY NOT enabled	<p>When a FLEXnet licensing session is established, TCP/IP sends data between the server and client using packets. By default, the TCP/IP processing kernel delays small packet transmissions in the hope of gaining an efficiency advantage by using a buffer to coalesce a large number of small packets prior to sending them across the network. These delays can result in artificially high latency times for the small packets that are related to most FLEXnet licensing operations.</p> <p>The TCP_NODELAY system setting (as a FLEXnet license server environment variable) can be set to overcome this behavior, and reduce the licensing wait period. Use of the setting causes data packets to be sent through the network more frequently, so there will be less delay in the licensing process due to TCP/IP operations. However, network traffic can increase as a result of smaller and more frequent licensing-related packet transmissions.</p>

Log File	Description
<p>Where token-based licenses are used:</p> <pre>14:46:39 (telelogic) DENIED: "DOORS" indkach@indkach [telelogic] (Licensed number of users already reached. (-4,342:10054 "")) 14:46:39 (telelogic) DENIED: "DOORS" indkach@indkach [telelogic] (Licensed number of users already reached. (-4,342:10054 "")) 14:46:39 (telelogic) OUT: "TLOG-token" indkach@indkach [DOORS] (3 licenses)</pre>	<p>For a token-based DOORS license the normal log is:</p> <pre>14:46:39 (telelogic) OUT: "DOORS" indkach@indkach [telelogic] 14:46:39 (telelogic) IN: "DOORS" indkach@indkach [telelogic] 14:46:39 (telelogic) OUT: "TLOG-token" indkach@indkach [DOORS] (3 licenses)</pre> <p>If the DOORS license is already checked out, the DENIED lines will appear. However, the tokens are still checked out so the license will be granted. This can happen when two different users try to check out the license at the same time, or if the license is kept by an older version of DOORS, which did not support token-based licenses. It can also happen for FEATUREs that have a lingering time.</p>
<pre>14:16:17 (telelogic) Multiple dup- groupings in effect for DOORS: 14:16:17 (telelogic) NONE vs. USER HOST DISPLAY 14:16:17 (telelogic) No further warnings about this</pre>	<p>This message is an informational message from FLEXnet. It is the normal behavior for IBM Rational applications connecting to Rational License Server TL.</p>
<pre>0:00:30 (telelogic) Non-activation-capable daemon activation invoked with non-client- request event type</pre>	<p>This message appears once a day. It is a known problem by Acreso. The Acreso support has given the following information:</p> <p>"Per your enquiry, there is no implications of this error message in that it does not impact your license server usage, performance and the error can be ignorable. The application should not have any effect as it should be seamless."</p>

3

Setting up your server license

This chapter contains the following sections:

- [About Rational license server TL](#)
- [Installing the Rational License Server TL on Windows](#)
- [Check the license service to ensure it has started running](#)
- [Changing the location of your floating license on Windows](#)
- [Setting up the Rational License Server TL on UNIX](#)
- [Deploying the common vendor daemon with I-Logix daemons](#)

About Rational license server TL

If you want to use floating licenses for your IBM Rational software (connecting to Rational License Server TL), you need to install the Rational License Server TL. If you have not received your floating license from IBM, you can still install the IBM Rational License Server TL.

You only need to set up the Rational License Server TL once. The same license server can be used for all your IBM Rational products that connects to this license server.

Installing the Rational License Server TL on Windows

1. If you have a floating license, copy it to a folder on the license server machine and take note of its location. If you don't have a license, you can still install the IBM Rational License Server TL and set up the license later.
2. You can find the Windows installer for the IBM Rational License Server TL:
 - The **Licensing** section on the *IBM Rational Solutions for Enterprise Lifecycle Management* DVD.
 - The **IBM Rational Solutions for Enterprise Lifecycle Management** product download section of the support site <http://www.ibm.com/software/rational/support/>.
3. Double-click **setup.exe**. The **Welcome** screen is displayed.
4. Click **Next**.

The **Choose Destination Location** screen is displayed. Enter the path to the folder you want to use for your Rational License Server TL installation, or leave the default.

If you want to change the directory:

- a. Click **Browse**.
- b. Browse to the directory you want to install to.
- c. Click **OK**.

5. Click **Next**. The **License File Locations** screen is displayed.

If you have your floating license file, type the path to the file, including the file name in the **License File** box. If you don't have your license file yet, leave the default path.

The Rational License Server TL also creates a log file that records all the actions concerning the license server. If you want the log file to be created in a different location, type the new location in the **License Log** box.

6. Click **Next**.

Note If the installer can't find the license file you specified, a message is displayed stating that the license file could not be found. This happens if you don't have your license yet, or if you have your license but typed the path incorrectly. Click **OK** in the message.

7. The **Start Copying Files** screen is displayed. Click **Next** if you are happy with the settings.
8. The Rational License Server TL is configured, and the **Finish** screen is displayed.

Leave the check box selected that asks to register the **Telelogic License Manager**. A service called **Telelogic License Manager** is created. To start it, you must either reboot your machine, or start the service manually.

9. Click **Finish**.

Check the license service to ensure it has started running

To check that the license service is running

1. Run `lmttools.exe` by clicking on the **Start > All Programs > IBM Rational > IBM Rational License Server > LMTTOOLS**.
2. Select **Server Status**.

3. Click **Perform Status Enquiry** to check the license server status.

If the startup has failed, check the `license.dat` file for errors and omissions. Double-check your file with the original, sent from IBM. There is also a `license.log` file in the installation directory, where all actions concerning the IBM Rational License Server are logged. This file is created in the location you specified when you installed the license server.

For more information about this file, see [“Understanding the license log file” on page 23](#).

Note The log file will grow over time. You must delete the head of the file from time to time to save disk space.

Changing the location of your floating license on Windows

If you installed the Rational License Server TL before you received your floating license, or if you move your floating license to a different folder, you have to modify the license manager using the LMTOOLS utility.

1. Copy your floating license file to a folder on the license server machine and take a note of its location.
2. On the task bar, click **Start > All Programs > IBM Rational > IBM Rational License Server > LMTOOLS**.
3. The **LMTOOLS by Macrovision** window is displayed.
4. Click the **Config Services** tab.
5. Click the **Browse** button next to the **Path to the license file** box, and browse to the folder containing your license file.
6. Select the file and click **Open**.
7. Click the **Start/Stop/Reread** tab, saving the changes when prompted.
8. Click **Start Server**.

The IBM Rational License Server TL is started.

Setting up the Rational License Server TL on UNIX

1. You can find the installer for Rational License Server TL from:
 - The `licensing` folder on the IBM Rational Lifecycle Solutions for Enterprise Lifecycle Management DVD.

- The IBM Rational Lifecycle Solutions for Enterprise Lifecycle Management product download section of the support site <http://www.ibm.com/software/rational/support/>.

The FLEXnet license management software does not require root privileges to operate. The FLEXnet license management daemon should be run from a non-privileged user account.

If the license management daemon is currently executing with root, or some other system account permission, modify it. For example, create a non-privileged user account, `flexnet`, for running the FLEXnet license management daemon.

2. Unpack the **flex.tar** file from `../license_server/<arch>` to a directory of your choice, for example `/flex/<arch>`, where `<arch>` is the architecture of your system.

Note Any directory can be used to store the unpacked files, as long as the license server can access the files. However, it is recommended that you don't unpack the files to the same directory as the installation (or to a subdirectory of IBM). Having the FLEXnet files stored on a directory separate from the IBM directory will simplify administration tasks when upgrading to future versions, and will also make it easier to co-exist with other products that use FLEXnet.

3. Save or copy the FLEXnet license file you received from IBM into a text file called `license.dat`.

Make sure that the information in the `license.dat` file is correct according to your server and installation.

- The `SERVER` line in the license file must contain the correct hostname and `hostID`.
 - The FLEXnet license server uses the port number specified on the `SERVER` line of the `license.dat` file. By default, this is 19353. If this clashes with a port already defined on your system, edit `license.dat` to specify the port number you want to use.
 - The `DAEMON` line contains the correct path to the telelogic daemon in the `/flex/<arch>`, where `<arch>` is the architecture of your server.
4. Start the FLEXnet license server on UNIX.
 - Make sure no license servers for Rational tools are currently running. Search for the license daemons `lmgrd` and `telelogic` in the current process list, for instance by using the command:

```
ps -ae | egrep '(lmgrd|telelog)'
```

If you have any license daemons running, terminate them using the `lmutil lmdown` command.

5. Change to your installation directory:

```
cd /flex/<arch>
```

6. Start the license server:

```
lmgrd -local -c license.dat -l license.log
```

7. Check that the license server has been started correctly with the following command:

```
lmutil lmstat -c license.dat
```

The license server statistics are displayed containing the server, the vendor daemon `telelogic` and the features available in your `license.dat` file.

If the startup has failed, check the `license.dat` file for errors and omissions. Double-check your file with the original sent from Rational.

There is also a `license.log` file in the installation directory, where all actions concerning the license server are logged. The log file can grow rapidly. You must switch logs and/or delete the head of the file on a regular basis.

Deploying the common vendor daemon with I-Logix daemons

The license server supplied has a common vendor daemon named `telelogic` that besides serving `telelogic` licenses can now serve licenses for the old I-Logix daemons `iload_d` and `stmm` (Rhapsody and Statemate). Following are the measures that you need to consider while installing and using the common vendor daemon; `iload_d` and `stmm` are then the secondary vendor daemons.

You deploy the common vendor daemon and associated FLEXnet Licensing toolkit components according to your established procedures with the following considerations:

- Your end user must use a version 11.5 or later `lmgrd` (License manager daemon).
- All constituent secondary vendor daemons must be disabled. The common vendor executes in their place.

In license files, the `VENDOR` line corresponding to the common vendor daemon must be located before any `FEATURE` lines. `VENDOR` lines corresponding to secondary vendor daemons must be removed from license files.

The end user may maintain separate options files, one for each secondary vendor daemon. However, if there are any conflicts, such as debug log file path name specification, the last options file read takes the precedence. Alternatively, all options files may be combined.

The common vendor daemon generates report logs for the primary vendor name. The usage for both primary and secondary feature names are logged. The common vendor daemon generates debug logs for the primary vendor name. The information for both primary and secondary feature names are logged.

4 **Setting up your license on a client machine**

The instructions in this chapter are valid for the following client applications: DOORS, Logiscope, Rhapsody, System Architect, and Tau.

This chapter contains the following sections:

- [Before you start](#)
- [Setting up your client license on UNIX](#)

Before you start

Before you run the license setup, make sure a valid license is available. The license types are explained in the following table:

License type	Description
Floating	A floating license is obtained from a FLEXnet license server. Ask your administrator for the FLEXnet license server details, for example <code>19353@licenseserver</code> .
Node-locked	A node-locked license key can only be used by the computer for which it was created. Copy your <code>license.dat</code> file to a directory on your machine, and take a note of the location of the file.
FLEXid Dongle	A hardware-id that connects to a parallel or USB port. The dongle is associated with a FLEXid. The <code>license.dat</code> file references the FLEXid associated with your dongle. Copy the <code>license.dat</code> file to a directory on your machine, and take a note of the location of the file. Dongles are only available for Windows machines.

For more information see [“Understanding IBM Rational licensing” on page 7](#).

Setting up your client license on UNIX

On UNIX machines you have to set the license variable manually:

If you have a...	Enter...
Bourne or K shell	<code>setenv LM_LICENSE_FILE=portnumber@servername</code>
C shell	<code>setenv LM_LICENSE_FILE portnumber@servername</code>

Note On Windows, the license information is setup during the installation of individual products.

5

Setting up license borrowing

This chapter contains the following sections:

- [Understanding license borrowing](#)
- [Obtaining and setting up a borrow-enabled license](#)
- [Borrowing a license on Windows](#)
- [Borrowing a license on UNIX](#)
- [Completing the borrowing process](#)
- [Further information for Tau users](#)

Understanding license borrowing

License borrowing lets an end user check out a license for a IBM Rational application connecting to Rational License Server TL. The user can then disconnect their computer, and retain the license for a specified borrowing period.

If a license is to be used on a computer that is intermittently connected to a license server system, that license can be issued as a floating license with the BORROW keyword. A BORROW license can be borrowed from a license server system through a special checkout. It can then be used later to run the IBM Rational application when the computer is no longer connected to the license server system. For example, you can run the application on a laptop while on business travel.

For information about the product that support license borrowing, see [“License types supported by IBM Rational products” on page 2](#).

Note IBM Rational License Server TL does not support the early return of borrowed licenses. The default borrow period is 90 days although you can set this to be shorter if required.

Obtaining and setting up a borrow-enabled license

In order to enable license borrowing you need to speak to your Rational Account Manager to acquire a borrow enabled license. A borrow enabled license will show BORROW= on the feature line(s) associated with the IBM Rational application.

When you receive your new license you must replace your old one. For information on how to do this, see [“Updating your license” on page 20](#).

You can use the license options file to customize the use of borrowing. For example, you can customize the options file to include the following:

- If you have 10 borrowable licenses, you can restrict the maximum number allowed to borrow.
- You can also specify the people or groups who are allowed to borrow licenses.
- You can set restricted permissions on the options file to allow only an administrator to access it.

For more information on license borrowing command line options, see *FLEXnet License Administration Guide*, which can be found at http://www.globes.com/support/fnp_utilities_download.htm.

Borrowing a license on Windows

You can borrow a license using the **IBM Rational Borrower Tool** or **LMTOOLS**.

Borrowing a license with IBM Rational Borrower tool

Borrowing licenses with the **IBM Rational Borrower tool** are supported for the following products: DOORS, Rhapsody, System Architect, and Tau.

To enable license borrowing, you need to run the **Borrow License.exe**.

You can get this file on the **Start** menu, under **Start > All Programs > IBM > Rational > IBM Rational License Server > Borrow License**

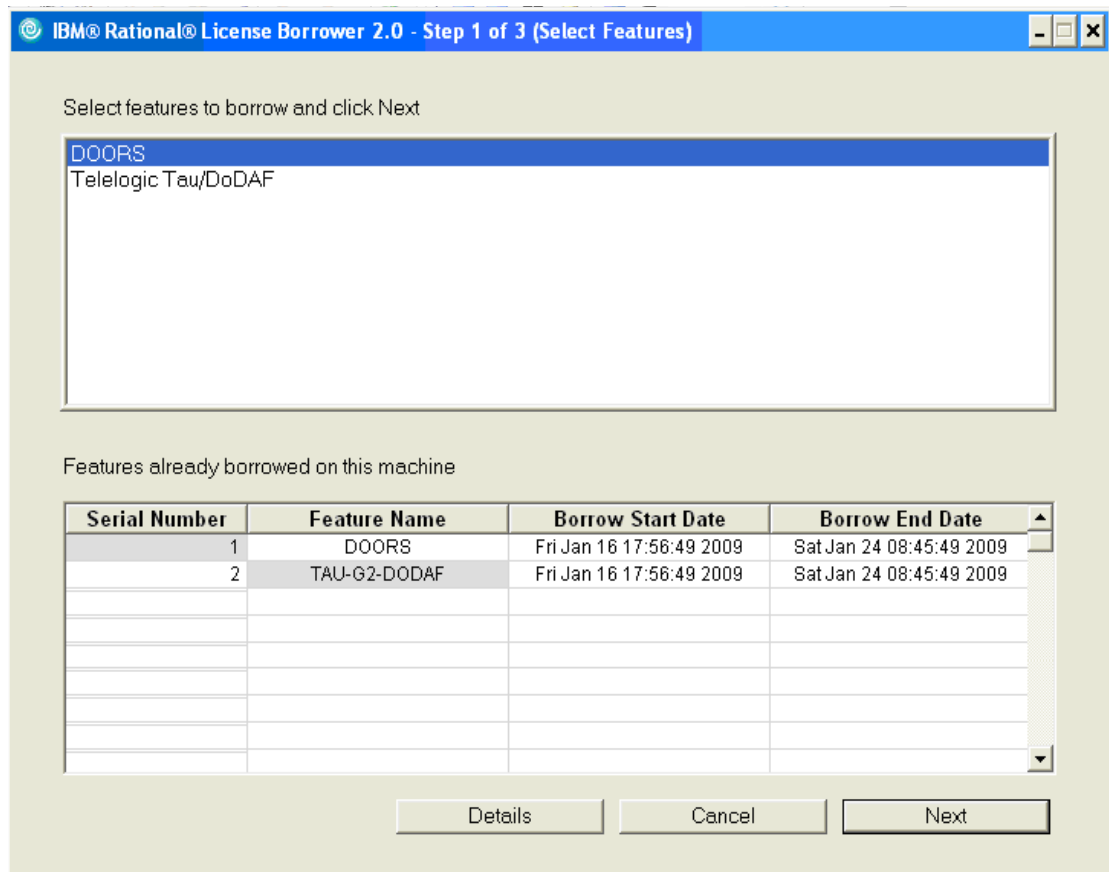
Once you have located the **Borrow License**:

1. Run **Borrow License** tool.

In the **IBM Rational License Borrower Wizard**, the list of available features that can be borrowed are displayed in the first box.

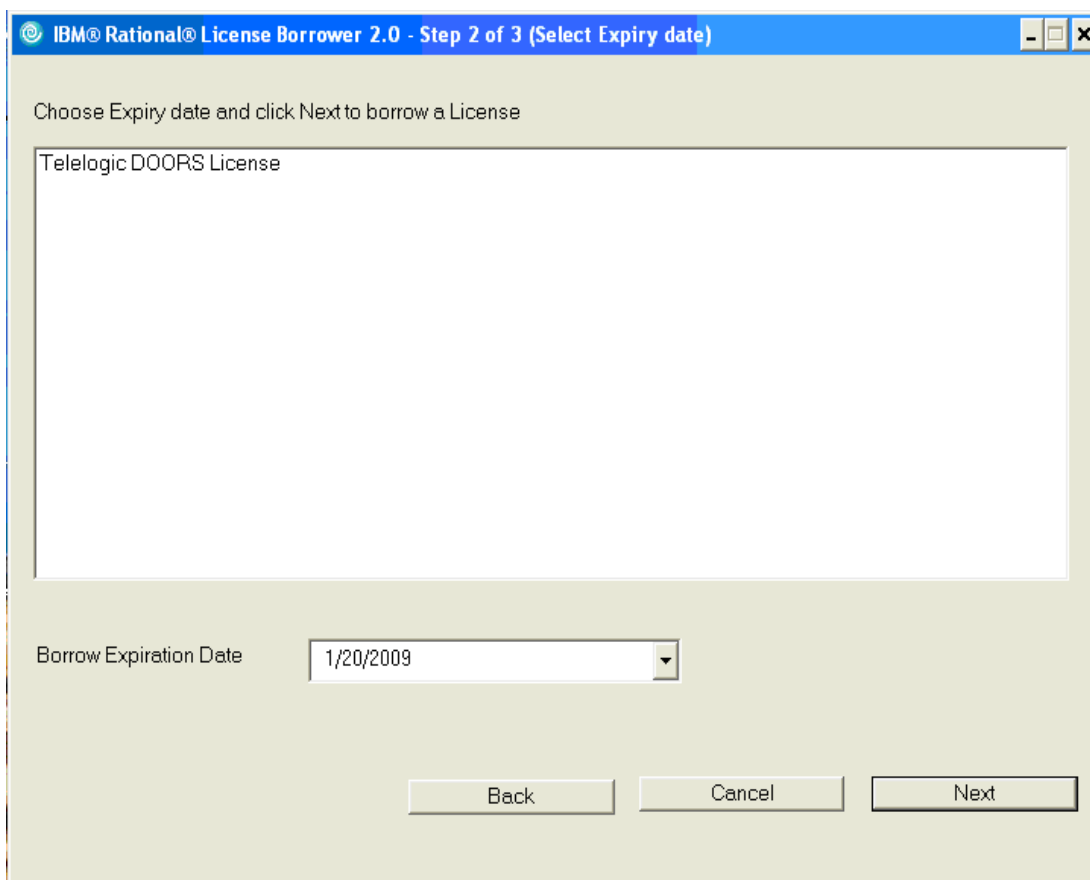
2. Select the features from the list.

A dialog box showing the license details associated with the selected feature is displayed. Click **OK**.



3. Click Next.

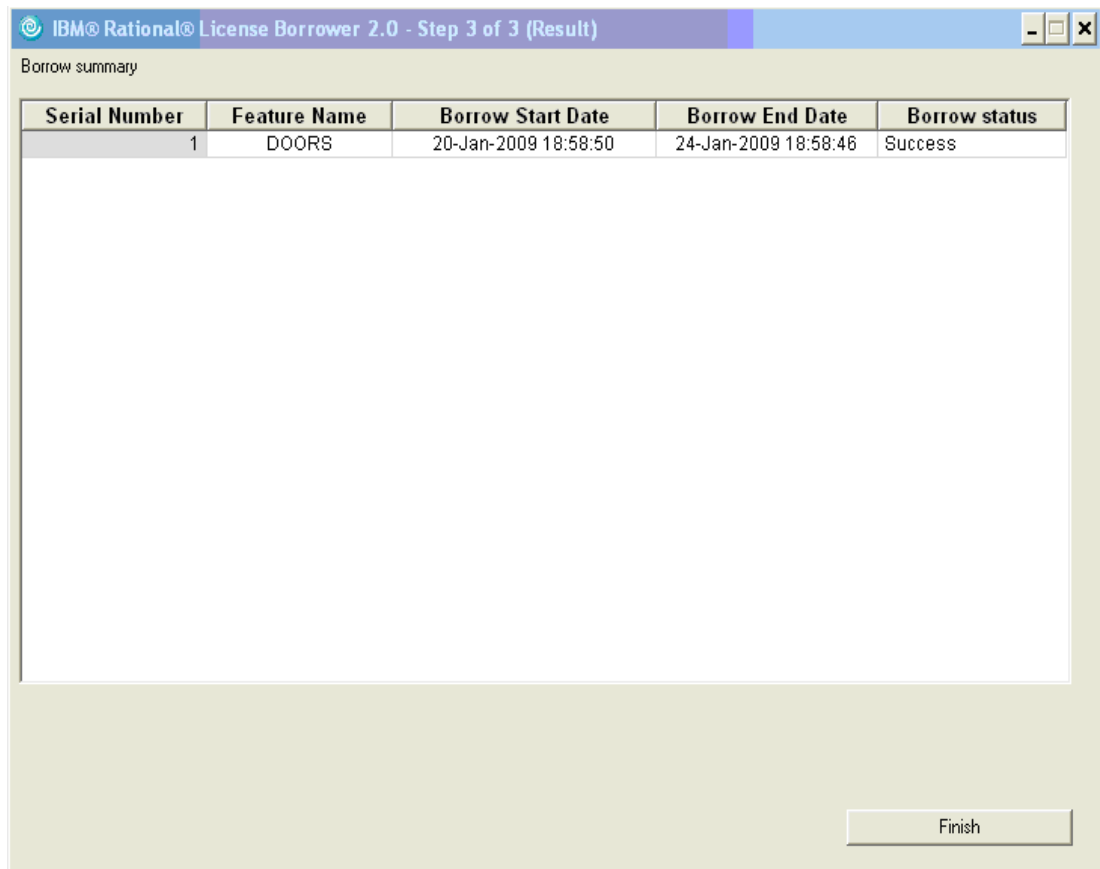
4. In the **Borrow Expiration Date** box, select the date that you plan to return the borrowed license.



5. Click **Next**.

The summary of list of features borrowed appears in the **Borrow Summary** area.

Note If the license is borrowed successfully, the **Borrowed status** column shows the status as **Success**. In the event of a failure, an appropriate error message is displayed.



6. Click **Finish**.

Note The maximum borrow period for each feature is set in the license file, although you can set this to be shorter if required.

If you are buying more than 82 borrowed licenses on a machine with 256 MB RAM, you are advised to borrow licenses in chunks of 50, or use the system which has at least 512 of RAM. The current borrowing tool would

crash if more than 82 features were borrowed at once on a machine with 256 MB of RAM.

Borrowing a license with LMTOOLS

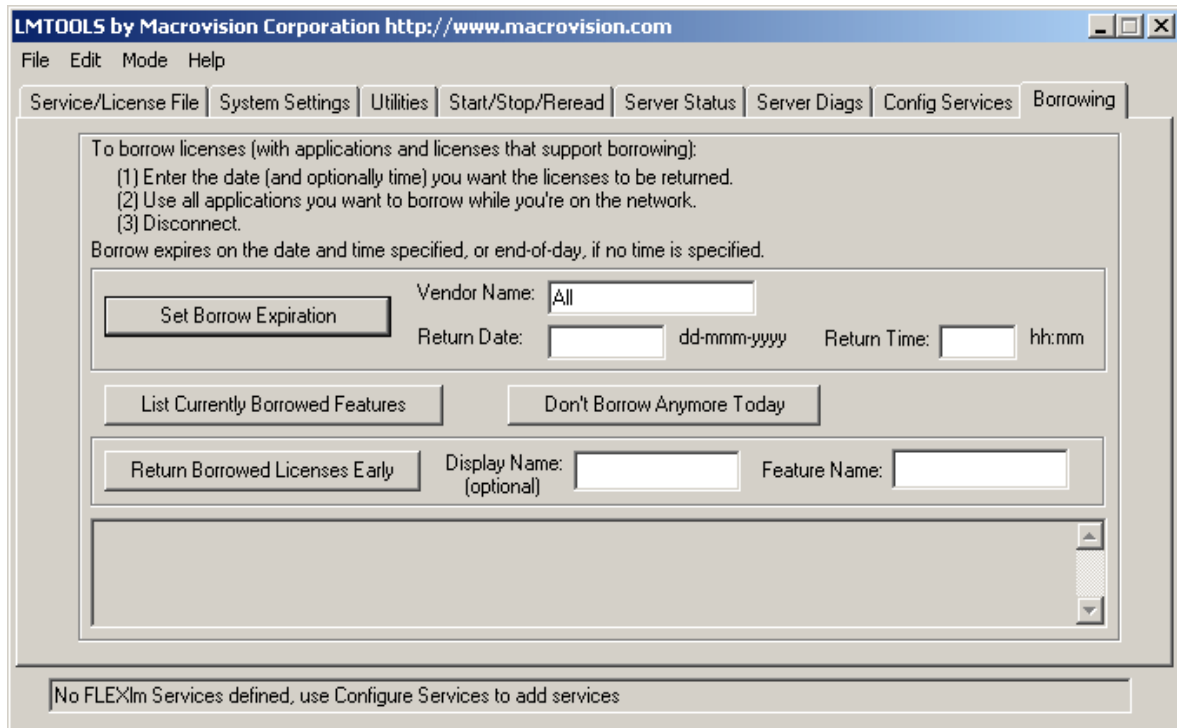
As an alternative to enable license borrowing, you can run **LMTOOLS.exe**. You can get this file from:

- Your System Administrator.
- The `licensing` folder on the IBM Rational Solutions for Enterprise Lifecycle Management DVD.
- From a IBM Rational License Server installation, on a standard Windows XP system by default at: "C:\Program Files\IBM\Rational\IBM Rational License Server\lmtools.exe"
- On the **Start** menu, under **Start >All Programs > IBM Rational >IBM Rational License Server >LMTOOLS**.
- Download from: http://www.globes.com/support/fnp_utilities_download.htm

Once you have located **LMTOOLS**:

1. Run the **LMTOOLS.exe**.

2. Type **telelogic** in the **Vendor Name** box.



3. Type the date that you plan to return the borrowed license in the **Return Date** box. If the license expires before the return date, then the borrowed license is not valid after the expiry date.
4. Type a time in the **Return Time** box. By default the return time is 12:00 am.
5. Click **Set Borrow Expiration**.
6. Close **LMTOOLS.exe**.
7. You must now complete the borrowing process by running the IBM Rational application as described in the section [“Completing the borrowing process” on page 40](#).

Borrowing a license on UNIX

To initiate license borrowing, you need to run the **lmborrow** utility. This is one of the `lmutil/LMTOOLS` utilities, which are installed as part of the Rational License Server TL installation.

Run **lmborrow** from the command line or through LMTOOLS, for example type:

```
lmborrow telelogic 20-jun-2008 13:00
```

Where *telelogic* is the vendor daemon, *20-jun-2008* is the return date and *13:00* is the return time.

Note You need to complete the borrowing process as described in the section [“Completing the borrowing process” on page 40](#).

Completing the borrowing process

To complete the borrowing process and obtain the licenses, it is necessary to run the application to enable these licenses to be checked out.

Note A license can only be borrowed, if the application is run on the same day that borrowing is initiated.

When you check out a license, It is recommended that you run and exit the application as quickly as possible. In the time between you starting and exiting the application, no other IBM Rational tools (connecting to Rational License Server) should request a license from the same machine.

You can borrow a license for DOORS by running DOORS and clicking cancel on the login dialog box. If DOORS is set up so that you don't have to log in, you should exit immediately after the DOORS explorer displays.

To complete the borrowing process:

1. Run the application.
2. For Tau, exercise each component you want to borrow a license for. For more information about license borrowing for Tau, see [“Further information for Tau users” on page 41](#).
3. Exit the application.

A license is borrowed and stored locally on your computer. Next time you run the IBM Rational application on this computer, the licensing information is taken from the local borrowed license.

You do not need to do anything to return the borrowed license. When the borrow period expires, the borrowed license will no longer be available.

Note To see which licenses you have borrowed, run **LMTOOLS**, click **Borrowing** tab and click **List Currently Borrowed Features**.

When you have obtained all of the licenses you need to work remotely:

1. Run **LMTOOLS** and click the **Borrowing** tab.
2. Click **Don't Borrow Anymore Today**.
3. Close **LMTOOLS.exe**.

Further information for Tau users

If you are borrowing licenses for Tau, it is important to remember that TAU is constructed using several different executables and dynamic libraries to provide various functions like diagram editing, C++ code generation, WSDL import and export, etc. Access to each major function in the tool is controlled by a FlexNet FEATURE string, which is an encrypted key that unlocks that particular function. For example, the key below licenses a group of TAU features into a PACKAGE listed after the keyword COMPONENTS to create the base TAU product:

```
PACKAGE TAU-G2-MODEL-AUTHOR telelogic COMPONENTS="TAU-G2-WSDL \  
TAU-G2-ADE TAU-G2-SCDE TAU-G2-UCDE TAU-G2-TDE \  
TAU-G2-UML-CMPMRG TAU-G2-ACDE TAU-G2-CPP-IMP TAU-G2-SYNERGY \  
TAU-G2-DOORS TAU-G2-CDE " OPTIONS=SUITE SIGN="1893 3021 EBDB \  
8BBC 2A31 9205 57A6 DFC5 7EC9 51E5 82A5 BC03 D7C8 D09D D696 \  
1771 2767 99E1 7DBB 6649 61A0 5E4E CF8E A293 2D26 C0F2 1CD3 \  
9421 040A EB21" SIGN2="1F70 3454 A830 F8E3 E036 7BAF 5AB4 A9AB \  
5DCB 4D44 37D6 A8B7 2458 6538 0AEE 01AA A085 AF7F 938A 46A6 \  
FD76 26E2 1551 FD8C 6882 3ED6 20AA F06D C4B0 239D"
```

The PACKAGE is controlled by a FEATURE line that is the actual license. To enable the base Tau product, a license file must contain a minimum of the following twokeys:

```
FEATURE TAU-G2-MODEL-AUTHOR telelogic 2007.0515 15-may-2007 5 \  
VENDOR_STRING=T10-086432 BORROW=2160 SIGN2="0662 5838 AA16 \  
4084 369E 1604 0F0B D59A 20FB 34BE F6CD E474 9601 673E FBD3 \  
0EEE 447F 6522 8E42 096A 7937 810D E189 525D C63E 48C5 7841 \  
E1B4 B8C2 4F26"
```

Note The keyword BORROW in the license feature string. A license cannot be borrowed, if this keyword is not present. Borrowable licenses for Rational applications (using Rational License Server TL) are special-order and have a surcharge added to the price of a basic license.

When you complete the borrowing process for Tau, licenses are only borrowed for the components that you exercise, so you must exercise each component that you want to borrow a license for during your session. For example, you must open a Class Diagram and an Activity Diagram sometime during your session to borrow their licenses.

The following table shows how **Tau** features map to strings in your license file:

Tau feature	FLEXnet feature name	Included in package
UML model access T	TAU-G2-UML-BASE	AU-G2-UML-SQDE
Sequence diagrams	TAU-G2-SQDE	TAU-G2-UML-SQDE
Architecture diagrams	TAU-G2-ADE	TAU-G2-MODEL-AUTHOR
Studio links 1	TAU-G2-LINKS	TAU-G2-UML-SQDE
Text diagram editor	TAU-G2-TDE	TAU-G2-MODEL-AUTHOR
Class diagrams	TAU-G2-CDE	TAU-G2-MODEL-AUTHOR
Statechart diagrams	TAU-G2-SCDE	TAU-G2-MODEL-AUTHOR
Use case diagrams	TAU-G2-UCDE	TAU-G2-MODEL-AUTHOR
Activity diagrams	TAU-G2-ACDE	TAU-G2-MODEL-AUTHOR
C/C++ importer	TAU-G2-CPP-IMP	TAU-G2-MODEL-AUTHOR
Tau-DOORS integration2	TAU-G2-DOORS	TAU-G2-MODEL-AUTHOR
Tau-Synergy integration	TAU-G2-SYNERGY	TAU-G2-MODEL-AUTHOR
Model Verifier	TAU-G2-MV	
SysML addin	TAU-G2-SYSML	
C code generation	TAU-G2-C-GEN	TAU-G2-DEVELOPER AGILEC
Agile C code generation	TAU-G2-AGILEC-GEN	TAU-G2-DEVELOPER AGILEC

Tau feature	FLEXnet feature name	Included in package
C++ code generation	TAU-G2-CPP-GEN	TAU-G2-DEVELOPER-CPP
C++ Round trip	TAU-G2-CPP-RTRIP	TAU-G2-DEVELOPER-CPP
Java code generation	TAU-G2-JAVA-GEN	TAU-G2-DEVELOPER-JAVA
CORBA IDL Generator	TAU-G2-CORBA-IDL	TAU-G2-DEVELOPER CORBA-IDL
UML compare and merge	TAU-G2-UML-CMPMRG	TAU-G2-MODEL-AUTHOR
DoDAF addin	TAU-G2-DODAF	
C# Code Generation and Roundtrip	TAU-G2-CSHARP	TAU-G2-DEVELOPER- CSHARP
XMI2 3	TAU-G2- UML21XMIImportExport	
Tau/Gateway 4	TRG TRG_TAU TRG_DOORS TRG_CALIBERRM TRG_REQPRO TRG_SLATE TRG_TAGGER	
WSDL/XSD Import and Export	TAU-G2-WSDL	TAU-G2-MODEL-AUTHOR
Compare/Merge Tool	TAU-G2-UML-CMPMRG	TAU-G2-MODEL-AUTHOR
SDL import	TAU-G2-SAN-ACCESS	

6

FLEXnet licensing conflicts

This section describes different strategies for resolving licensing conflicts between the IBM Rational Solutions for Enterprise Lifecycle Management suite of products that use FLEXnet licenses:

- [Merging license files](#)
- [Using separate license files on the same license server](#)
- [Using the default FLEXnet folder](#)
- [Running multiple IBM Rational license servers](#)

Merging license files

If you have two or more products whose FLEXnet license servers run on the same computer, you may be able to merge their licenses into a single license file.

Different vendors use different algorithms to generate the HostID, which uniquely identifies the computer. They can use a custom algorithm, or they can generate the HostID from either:

- The ethernet address of the network interface card
- The disk serial number of the boot drive
- The computer's Internet address

You cannot merge two license files if they use different algorithms, for example if one uses the Internet address and the other uses the disk serial number.

If the license files use different algorithms, you can ask IBM Rational to create a new license file that uses the other vendor's algorithm.

To merge two license files:

1. Contact the other vendor's customer support team to check if there are any known issues with merging their licenses.
2. Using a text editor such as Notepad, copy the SERVER, DAEMON and FEATURE lines from the Rational license file and paste them into the other vendor's license file. Save the merged file as `license.dat`.
3. If it's a server license, make sure that the new file only has one SERVER line, and that it's the first line in the file.
4. If it's a server license, restart your FLEXnet license server.

On Windows:

- a. Click **Start >All Programs > IBM Rational >IBM Rational License Server >LMTOOLS**.
- b. Select the **Start/Stop/Reread** tab.
- c. Click the **Stop Server** and **Start Server** buttons to restart the license server. Due to a problem with FLEXnet the **ReRead License File** button does not work correctly.

On UNIX:

To reread the license file, avoid using `lmutil lmreread` as the result might not be correct. Instead, restart the license server using the following commands:

```
lmutil lmdown -c <license_file_path>
lmgrd -c <license_file_path> -l <license_log_path> -local
```

Using separate license files on the same license server

On Windows, the FLEXnet license server runs as a service. The default name of the service is Telelogic License Manager.

To avoid conflicts with software from other vendors, you can install a service with a different name. Each FLEXnet service can use its own license file. For information on how to do this, contact IBM Rational customer support.

If the two products use different versions of FLEXnet license server, make sure you use the newest version. New versions of the FLEXnet license server are backward compatible with earlier versions.

On UNIX, you must run a separate copy of `lmgrd` for each license file. When you run multiple copies of `lmgrd`, remember:

- The port number on the SERVER line of each license file must be unique. If necessary, you can use a standard text editor to change the port number in a license file.
- You must be using a compatible version of `lmgrd` when you start it up for a particular license file. To do this, use an explicit path to `lmgrd`.

Using the default FLEXnet folder

This method can be used for Windows systems only.

Place a copy of your license file in the `c:\flexlm` folder. By default, FLEXnet reads any license file in that folder.

Running multiple IBM Rational license servers

If you experience problems such as your new license server not being found, clearing the license cache could resolve the problem.

To reset the cached location of the license server:

- On Windows, remove the registry key value:

```
HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

- On Windows Vista, remove the registry key value:

```
HKEY_CURRENT_USER\Software\FLEXlm License  
Manager\TELELOGIC_LICENSE_FILE
```

Removing this value removes all cached values, and a new search is initiated to find licenses.

- On UNIX, remove the file `$HOME/.flexlmrc`

7

User-based Licensing

This chapter provides a generic and product specific licensing information for using user-based licenses for the IBM Rational Solutions for Enterprise Lifecycle Management set of products and integrations.

The user-based licensing scheme replaces the current per-user licensing scheme.

The administration of the allowed users for user-based licenses is maintained by an options file used by the license server. This document is of interest for the administrators of Rational License Server TL and/or administrators of products like Rational Synergy, Rational Change and Rational Focal Point.

The chapter contains the following sections:

- [Recognizing a user-based license](#)
- [General example for user-based licenses](#)
- [Changing the users](#)
- [Mixing user-based and floating licenses](#)
- [Product Specific User-based Licensing](#)
- [More Information on license options file](#)

Recognizing a user-based license

A user-based license is tied to one specific user. This is compared to a floating license which anyone can use. A license FEATURE for a user-based license is recognized by the attribute `USER_BASED` on the `FEATURE/INCREMENT` line. The users who can obtain a user-based license are specified in the FlexNet options file for the license server.

General example for user-based licenses

In the following example, there are 12 user-based licenses available for the FEATURE name F1. The licenses are in 2 groups with different maintenance expiration dates, there are 10 licenses with maintenance expiration date May 30th 2008 and 2 licenses with maintenance expiration date end of October 2008.

The delivered license file, except for possible edits for the SERVER and VENDOR lines are as follows:

```
SERVER mlgn3 ANY 19353
VENDOR telelogic "telelogic.exe" "telelogic_user_based.opt"
FEATURE F1 telelogic 2008.0530 31-Dec-2008 10 USER_BASED
SIGN2=...
INCREMENT F1 telelogic 2008.1031 31-Dec-2008 2 USER_BASED
SIGN2=...
```

Assuming that the named users user1, user2, user11, user12, etc. are dedicated to use these licenses, an options file must be setup with the following content:

```
GROUP ALLOWED2 user1 user2
GROUP ALLOWED10 user11 user12 ... user20
INCLUDE F1:VERSION=2008.0530 GROUP ALLOWED10
INCLUDE F1:VERSION=2008.1031 GROUP ALLOWED2
```

For details on the syntax used in the license file and the options file see [“More Information on license options file” on page 53](#). The path to the options file must be specified on the VENDOR line in the license file, alternatively if a file called telelogic.opt is placed in the same directory as the license file, this is used. In the options file the INCLUDE statement is used to specify the list of users allowed to checkout the licenses. The number of users must be the same (or less) as the number of licenses available. The simplest INCLUDE statement is:

```
INCLUDE F1 USER user1
```

However, with the license file above, when there are several FEATURE/INCREMENT lines for the same FEATURE, the INCLUDE statement must be more detailed to specify exactly for which FEATURE/INCREMENT line it is valid. This is done by using a FEATURE specifier which adds the VERSION string to make the FEATURE specification unique.

For example:

```
INCLUDE F1:VERSION=2008.1031 USER user1
```

Also to avoid having one line for each user it is possible to use the GROUP statement to specify a group of users on one line.

For example:

```
GROUP ALLOWED2 user1 user2
```

The INCLUDE statement will then be

```
INCLUDE F1:VERSION=2008.1031 GROUP ALLOWED2
```

Note If there are spaces in the username the username must be surrounded by double quotes.

Changing the users

When a user is no longer associated with a user-based license the options file should be updated such that the license can be used by another user. The name of the user should be removed from the GROUP statement and, if needed, another name can be added. The total number of INCLUDED names must be less than or equal to the number of available licenses.

After editing the options file the license file can be reread by the license server. For details on the **Reread** command, see [page 20, step 3](#). There will be a delay for 12 hours before the change of names will take effect.

Mixing user-based and floating licenses

It is possible to have a mix of user-based and floating licenses. This section describes the details of how such a mix will work. A delivered license file for this configuration should work without any changes needed by license administrator but it is important to understand the rules that FLEXnet applies when checking out licenses. To use this combination in the best way the user-based licenses should be tested for a possible checkout before any floating license is checked.

The default order of precedence, sort order, when a license is checked out for FEATURE/INCREMENT lines is as follows:

- FEATURE before INCREMENT.
- Version, lower version before higher versions.
- Issued date, in reverse order, newest first. The date is taken from ISSUED= or START=.

The default sort order can be turned off by adding the optional attribute `sort=nnn` to the FEATURE/INCREMENT line, where `nnn` specifies the relative sort order. The sort attributes are not part of the authentication and thus can be changed without affecting the number of available licenses.

Where no attribute is present the default sort order value is 100. Therefore, lines with a sort order attribute of less than 100 are sorted before all lines without this attribute and lines with a sort order value greater than 100 after unmarked lines. All lines with the same sort attribute are sorted as they appear in the file.

When the default sort order is turned off it is important that the licenses on the FEATURE line are among the sorting group with the lowest sort value, otherwise they will be ignored by the license server.

The following is an example license file, where there are 12 user-based licenses and 3 additional floating licenses:

```
SERVER mlgn3 ANY 19353
VENDOR telelogic "telelogic.exe" "telelogic_user_based.opt"
FEATURE F1 telelogic 2008.0530 31-Dec-2008 10 USER_BASED
SIGN2=...
INCREMENT F1 telelogic 2008.0831 31-Dec-2008 3 sort=150
SIGN2=...
INCREMENT F1 telelogic 2008.1031 31-Dec-2008 2 USER_BASED
SIGN2=...
```

The `sort=150` attribute has been placed on the floating license to make sure that they are checked out after all the user-based licenses.

As there are no changes on the number of user-based licenses the options file in this example should be the same as described above without any floating licenses.

Product Specific User-based Licensing

The following are the list of products that include specific licensing information:

- Rational Synergy/Rational Change
- Rational Focal Point

IBM Rational Synergy/TIBM Rational Change

When configuring the options file for Rational Synergy/Rational Change it is not necessary to put the default administrative users (`"ccm_root"`, `"ChangeAdmin"` and `"csuser"`) in the INCLUDE list. In the license file there are additional floating licenses added for these users. Do not assign these licenses to other users as the administration of IBM Rational Synergy/IBM Rational Change might fail.

The commands available in Rational Synergy for per-user licenses are not valid for user-based licenses. To find the allowed users of a user-based license the options file must be inspected. To release a user or add new users the options file must be updated as described in the previous section.

IBM Rational Focal Point

When configuring the options file for Rational Focal Point it is not necessary to put the default administrative users (*admin*) in the INCLUDE list. In the license file there is an additional floating license added for this user. Do not assign this license to other users because the administration of Focal Point might fail.

More Information on license options file

This section provides more information on the use of the **VENDOR** line in the license file and also the detailed syntax of the needed keywords in the license options file for user-based licenses.

Note For the complete information about user-based licensing and how to use the options file or general knowledge of FLEXnet licensing, see the FLEXnet *License Administration Guide*, which is available from the support area of the Acresso website at <http://www.acresso.com>.

The **VENDOR** line in the license file

The **VENDOR** line specifies the daemon name and path. The `lmgrd` uses this line to start the vendor daemon, and the vendor daemon reads it to find its options file. The format of the **VENDOR** line is shown below.

```
VENDOR vendor [vendor_daemon_path] \  
      [[OPTIONS=]options_file_path] [[PORT=]port]
```

The following table describes each of these attributes:

Term	Description
vendor	Name of the vendor daemon used to serve some FEATURES in the file. This name cannot be changed by the administrator.
vendor_daemon_path	Optional path to the executable for this daemon. Generally the license administrator is free to install the daemon in any directory. (It is recommended, however, that it be installed in a local directory on the license server machine.) If omitted, <code>lmgrd</code> looks for the vendor daemon binary in: <ul style="list-style-type: none">• the current directory• the path specified in <code>lmgrd</code>'s <code>\$PATH</code> environment variable• in the directory where <code>lmgrd</code> is located If <code>vendor_daemon_path</code> is blank, then any options or TCP/IP port number specifications require the <code>OPTIONS=</code> and <code>PORT=</code> strings.

Term	Description
options_file_path	Full path to the end-user options file for this daemon. FLEXnet Licensing does not require an options file. If omitted, the vendor daemon, by default, looks for a file called vendor.opt (where vendor is the vendor daemon name) located in the same directory as the license file.
port	Vendor daemon TCP/IP port number. The default, if port is not specified, is chosen by the operating system at run-time. Sites with Internet firewalls need to specify the TCP/IP port number the daemon uses. If a TCP/IP port number is specified on the VENDOR line, there may be a delay restarting the vendor daemon.

The **INCLUDE** statement in the options file

This option applies to floating licenses held in license files.

```
INCLUDE feature[:keyword=value] type {name | group_name}
```

Includes a user or predefined group of users in the list of who is allowed to use licenses for this feature. Anyone not in an INCLUDE statement is not allowed to use that feature. EXCLUDE supersedes INCLUDE; conflicts between the EXCLUDE list and the INCLUDE list are resolved by the EXCLUDE taking precedence. For details on the EXCLUDE keyword usage in the options file, see the FLEXnet *License Administration Guide*

Term	Description
feature	Name of the feature or package being affected.
keyword=value	Feature name modifier to denote a group of licenses.
type	One of USER, HOST, DISPLAY, INTERNET, PROJECT, GROUP, or HOST_GROUP.
name	Name of an item of type for which license usage is included.
group_name	Name of the group for which license usage is included.

To include user *bob* in the list of users able to use feature f1:

```
INCLUDE f1 USER bob
```

Note INCLUDE is required for USER_BASED features. The system administrator specifies which users are allowed to use the product, via INCLUDE, and the license limits the number of users that are INCLUDED.

The GROUP statement in the options file

```
GROUP group_name user_list
```

Defines a group of users for use in INCLUDE, INCLUDEALL, INCLUDE_ENTITLEMENT, EXCLUDE, EXCLUDEALL, EXCLUDE_ENTITLEMENT, and RESERVE option lines. For details on these options file keywords, see the FLEXnet *License Administration* Guide.

Term	Description
group_name	Name of the group being defined. Group names are case sensitive.
user_list	List of user names in that group. Names are case sensitive. Set the GROUPCASEINSENSITIVE options file keyword to turn on case insensitivity.

Multiple GROUP lines for the same group name add all the specified users into the group. To define the group Hackers consisting of bob, howard, and james:

```
GROUP Hackers bob howard james
```

Note USER_GROUP is an alias for GROUP.

Example of IBM Rational Synergy/IBM Rational Change user-based licenses

The following license file shows an example of the resulting license file for a customer that is using 5 user-based licenses for the IBM Rational Synergy Suite with maintenance expiration at 2007-12-31 and 10 additional Telelogic Synergy Suite Distributed user-based licenses with maintenance expiration date 2008-12-31.

```
SERVER any any 19353
DAEMON telelogic "C:\Program Files\Telelogic\Tools\Licensing_11\Server\telelogic.exe" \
    telelogic.opt
FEATURE Telelogic Support telelogic 1.000 31-dec-2008 1000 \
    3030E0D0EAEF0D001BED VENDOR_STRING=T10-183495 SIGN2="034A ..."
FEATURE SYNERGY-ActiveCM telelogic 2007.1231 permanent 5 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="182E ..."
INCREMENT SYNERGY-ActiveCM telelogic 2008.1231 permanent 10 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="1F25 ..."
INCREMENT SYNERGY-ActiveCM telelogic 2008.1232 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="1F25 ..."
FEATURE SYNERGY-ChangeBase telelogic 2007.1231 permanent 5 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=1800 ISSUED=19-Jun-2007 SIGN2="0029 ..."
INCREMENT SYNERGY-ChangeBase telelogic 2008.1231 permanent 10 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=1800 ISSUED=19-Jun-2007 SIGN2="00D4 ..."
INCREMENT SYNERGY-ChangeBase telelogic 2008.1232 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=1800 ISSUED=19-Jun-2007 SIGN2="00D4 ..."
FEATURE SYNERGY-CMBase telelogic 2007.1231 permanent 5 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="1867 ..."
INCREMENT SYNERGY-CMBase telelogic 2008.1231 permanent 10 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="1AB7 ..."
INCREMENT SYNERGY-CMBase telelogic 2008.1232 permanent 2 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="1AB7 ..."
FEATURE SYNERGY-DistributedChangeBase telelogic 2008.1231 permanent \
    10 VENDOR_STRING=T10-183495 USER_BASED LINGER=1800 ISSUED=19-Jun-2007 SIGN2="0DF5 ..."
FEATURE SYNERGY-DistributedChangeBase telelogic 2008.1232 permanent \
    1 VENDOR_STRING=T10-183495 LINGER=1800 ISSUED=19-Jun-2007 SIGN2="0DF5 ..."
FEATURE SYNERGY-DistributedCMBase telelogic 2008.1231 permanent 10 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="1031 ..."
FEATURE SYNERGY-DistributedCMBase telelogic 2008.1232 permanent 2 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="1031 ..."
FEATURE SYNERGY-DistributedSupport telelogic 2008.1231 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="137B ..."
FEATURE SYNERGY-GroupSecurity telelogic 2008.1231 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="104B ..."
FEATURE SYNERGY-InformixSupport telelogic 2008.1231 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="1C5F ..."
FEATURE SYNERGY-ObjectMake telelogic 2007.1231 permanent 5 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="1775 ..."
INCREMENT SYNERGY-ObjectMake telelogic 2008.1231 permanent 10 \
    VENDOR_STRING=T10-183495 USER_BASED LINGER=0 ISSUED=19-Jun-2007 SIGN2="0CAD ..."
INCREMENT SYNERGY-ObjectMake telelogic 2008.1232 permanent 1 \
    VENDOR_STRING=T10-183495 LINGER=0 ISSUED=19-Jun-2007 SIGN2="0CAD ..."
```


A possible setup of the options file `telelogic.opt` is as follows:

```
# define the users for the distributed licenses
GROUP DIST_USERS user_a user_b user_c user_d user_e user_f user_g user_h user_i user_j
# define the users for original 5 licenses
GROUP REGULAR_USERS user_1 user_2 user_3 user_4 user_5
INCLUDE SYNERGY-ActiveCM:VERSION=2007.1231 GROUP REGULAR_USERS
INCLUDE SYNERGY-ActiveCM:VERSION=2008.1231 GROUP DIST_USERS
INCLUDE SYNERGY-ChangeBase:VERSION=2007.1231 GROUP REGULAR_USERS
INCLUDE SYNERGY-ChangeBase:VERSION=2008.1231 GROUP DIST_USERS
INCLUDE SYNERGY-CMBase:VERSION=2007.1231 GROUP REGULAR_USERS
INCLUDE SYNERGY-CMBase:VERSION=2008.1231 GROUP DIST_USERS
INCLUDE SYNERGY-DistributedChangeBase:VERSION=2008.1231 GROUP DIST_USERS
INCLUDE SYNERGY-DistributedCMBase:VERSION=2008.1231 GROUP DIST_USERS
INCLUDE SYNERGY-ObjectMake:VERSION=2007.1231 GROUP REGULAR_USERS
INCLUDE SYNERGY-ObjectMake:VERSION=2008.1231 GROUP DIST_USERS
```


8

Contacting customer support

This chapter contains the following sections:

- [Contacting IBM Rational Software Support](#)

Contacting IBM Rational Software Support

If the self-help resources have not provided a resolution to your problem, you can contact IBM® Rational® Software Support for assistance in resolving product issues.

Note If you are a heritage Telelogic customer, a single reference site for all support resources is located at <http://www.ibm.com/software/rational/support/telelogic/>

Prerequisites

To submit your problem to IBM Rational Software Support, you must have an active Passport Advantage® software maintenance agreement. Passport Advantage is the IBM comprehensive software licensing and software maintenance (product upgrades and technical support) offering. You can enroll online in Passport Advantage from <http://www.ibm.com/software/lotus/passportadvantage/howtoenroll.html>

- To learn more about Passport Advantage, visit the Passport Advantage FAQs at http://www.ibm.com/software/lotus/passportadvantage/brochures_faqs_quickguides.html.
- For further assistance, contact your IBM representative.

To submit your problem online (from the IBM Web site) to IBM Rational Software Support, you must additionally:

- Be a registered user on the IBM Rational Software Support Web site. For details about registering, go to <http://www.ibm.com/software/support/>.
- Be listed as an authorized caller in the service request tool.

Submitting problems

To submit your problem to IBM Rational Software Support:

1. Determine the business impact of your problem. When you report a problem to IBM, you are asked to supply a severity level. Therefore, you

need to understand and assess the business impact of the problem that you are reporting.

Use the following table to determine the severity level.

Severity	Description
1	The problem has a <i>critical</i> business impact: You are unable to use the program, resulting in a critical impact on operations. This condition requires an immediate solution.
2	This problem has a <i>significant</i> business impact: The program is usable, but it is severely limited.
3	The problem has <i>some</i> business impact: The program is usable, but less significant features (not critical to operations) are unavailable.
4	The problem has <i>minimal</i> business impact: The problem causes little impact on operations or a reasonable circumvention to the problem was implemented.

2. Describe your problem and gather background information, When describing a problem to IBM, be as specific as possible. Include all relevant background information so that IBM Rational Software Support specialists can help you solve the problem efficiently. To save time, know the answers to these questions:
 - What software versions were you running when the problem occurred?
To determine the exact product name and version, use the option applicable to you:
 - Start the IBM Installation Manager and select **File > View Installed Packages**. Expand a package group and select a package to see the package name and version number.
 - Start your product, and click **Help > About** to see the offering name and version number.
 - What is your operating system and version number (including any service packs or patches)?
 - Do you have logs, traces, and messages that are related to the problem symptoms?
 - Can you recreate the problem? If so, what steps do you perform to recreate the problem?

- Did you make any changes to the system? For example, did you make changes to the hardware, operating system, networking software, or other system components?
 - Are you currently using a workaround for the problem? If so, be prepared to describe the workaround when you report the problem.
3. Submit your problem to IBM Rational Software Support. You can submit your problem to IBM Rational Software Support in the following ways:
- **Online:** Go to the IBM Rational Software Support Web site at <https://www.ibm.com/software/rational/support/> and in the Rational support task navigator, click **Open Service Request**. Select the electronic problem reporting tool, and open a Problem Management Record (PMR), describing the problem accurately in your own words.

For more information about opening a service request, go to <http://www.ibm.com/software/support/help.html>

You can also open an online service request using the IBM Support Assistant. For more information, go to <http://www.ibm.com/software/support/isa/faq.html>.
 - **By phone:** For the phone number to call in your country or region, go to the IBM directory of worldwide contacts at <http://www.ibm.com/planetwide/> and click the name of your country or geographic region.
 - **Through your IBM Representative:** If you cannot access IBM Rational Software Support online or by phone, contact your IBM Representative. If necessary, your IBM Representative can open a service request for you. You can find complete contact information for each country at <http://www.ibm.com/planetwide/>.

Appendix: Notices

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