



# **Getting Started with IBM Rational Licensing and PA**

**Plus...**

**Advanced Licensing Topics and Best Practices**

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## 1.0 Introduction

The purpose of this document is to introduce you to Rational's licensing system. We will introduce the various pieces of licensing and suggest some best practices for using Rational's license keys to your advantage. Some questions new customers commonly ask are:

- *How do I get started?*
- *Where do I get my Rational keys?*
- *How can I log into the licensing site?*
- *Is the licensing web site the same as Passport Advantage?*
- *What strategy should my company use when deciding how to roll out my license keys to my remote site?*
- *Can I have contractors using my Rational products?*
- *If I buy a bundle, can I deploy the different components to different teams?*
- *What version of the license server do I need?*
- *How can I report on the use of the keys once I have them?*
- *What is FLEXIm?*
- *What are redundant license servers?*
- *Will IBM give my company an extra set of license keys that we can use in our disaster recovery environment?*

In this document we will explore these questions and more. Our goal is to help you understand the basics of the systems so you can efficiently deploy your IBM Rational tools.

## 2.0 Getting Started

The three most fundamental things you need to know about getting your software and license keys are:

- a) Does my Rational product need a key or not?**  
The table in section 5.0 will help you determine if your product needs a key or not, or whether you have the option of using keys.
- b) Where do I download my software?**  
You download your software from the IBM Passport Advantage Online site. See section 2.2.

c) **Where do I get my license keys?**

You get your keys from the Rational License Key Center, not from Passport Advantage. See section 2.3.

But before you connect to Passport Advantage or the License Key Center, it is helpful to understand a few fundamentals of how your orders are structured within the IBM systems so that you can better navigate through the systems to get what you need. We recommend reading through sections 2.1 through 2.3 thoroughly.

## **2.1 Your site definition**

Each order is booked against a specific IBM site number that is assigned to your company. There are multiple contacts associated with each site number in the IBM systems. The contacts allow you to associate various business and technical people within your company to the proper function within IBM. For example your IBM site number probably has the name of someone in Finance as the renewal maintenance contact.

### **Three things you need to know about your site definition**

- There are two contacts that come into play with respect to Rational's licensing: the Primary Site Contact and the Site Technical Contact.
- These two contacts will be associated with your site in the Rational licensing system as well as in the Passport Advantage system.
- These two types of contacts are an attribute of the IBM Site ID.

## **2.2 IBM Passport Advantage (PA)**

Passport Advantage (PA) is an IBM on-line service for delivering downloads of IBM products to our customers. The PA program and back-end system services all five IBM software brands; not just Rational.

### **4 things you need to know about Passport Advantage (PA)**

- When you place an order with IBM for Rational software, your order information flows into the Passport Advantage system. Your order is associated with an IBM Site number. In its simplest form, you will log into the PA Online system (using the site number on your order as the account number) and download your product.
- The license keys for your Rational products are not delivered through Passport Advantage Online site. License keys are

delivered through the Rational License Key Center; a separate system. (See section 3.0)

- The person at your company who is designated as the Primary Site Contact associated with your IBM Site ID will be given access to your Passport Advantage account. That person can log into the PA Online site and download your IBM Rational software and add other members of your company to the PA account.
- Understand how to log into PA. To access your PA Online account, you will either need to have your site's Primary Site Contact add you as a member of the account or you can use the self nomination process outlined in section 4.1.

Refer to Section 4.0 for more information about Passport Advantage.

### **2.3 IBM Rational License Key Center**

The Rational License Key Center (LKC) is an on-line service for delivering Rational license keys to our customers. You will go to the Passport Advantage site to get your Rational download and go to the Rational License Key Center to get your license keys.

#### **Four things you need to know about the LKC**

- When you place an order with IBM for Rational software, your order information flows into the License Key Center (LKC) system as well as Passport Advantage system. The order is associated with an IBM Site ID.
- The IBM Site ID associated with your order will be your License Key Center account number.
- The two individuals at your company who were designated as the Site Technical Contact and the Primary Site Contact associated with your IBM Site ID will be added to your License Key Center account and will be sent a "Welcome" email from [rational-license-keys@subscribenet.com](mailto:rational-license-keys@subscribenet.com) with a password and instructions for logging into the License Key Center.
- Refer to section 3.0 for more License Key Center information.

The relationship between the contacts, the site ID, Passport Advantage, and the License Key Center can be illustrated as follows:

## IBM Site Definition

Company Name:	XYZ, Inc.
IBM Site ID:	0007
Site Technical Contact:	joe@xyz
Primary Site Contact:	ellen@xyz

When you place an order with IBM, the order is fed into two IBM systems in parallel:

### IBM Passport Advantage System (PA)

Order ID:	0050
IBM Site ID:	0007
Primary Site Contact:	ellen@xyz

Ellen will be set up as member of site 0007. She can go PA Online, log into site 0007 and download her software.

Ellen can also add other people to site 0007 so they can log in and download their copies as well.

### IBM Rational Key Center (LKC)

Order ID:	0050
IBM Site ID:	0007
Site Technical Contact:	joe@xyz
Primary Site Contact:	ellen@xyz

Joe and Ellen will be set up as members of the LKC account 0007. Both people will be emailed a "welcome" letter with their passwords for logging into account 0007 and generating license keys.

Joe and Ellen can also add other people to account 0007 so they can log in and generate their keys as well.

As the graphics above illustrate, your downloads in Passport Advantage and your license keys in the License Key Center are organized by your IBM Site ID.

The next section will tell you how to access the License Key Center.

## 3.0 The IBM Rational License Key Center

The Rational License Key Center is an online license key delivery and management service that provides you easy access to the keys associated with your IBM Rational products.

When you place an order with IBM for Rational software products, the IBM Site Number associated with your order will be used as your License Key Center account ID. The Site Technical Contact and Primary Site Contact associated with your IBM Site ID will be setup as default members of your account. Those contacts will be sent an email that welcomes them to the License Key Center and gives them a temporary password.

The License Key Center is offered in English, Japanese, and Korean languages and accepts double-byte data input.

### 3.1 Accessing the Rational License Key Center

You will need a password in order to log into the License Key Center. The next two sections will tell you how to access the system if you have a password and if you do not have a password.

#### If you have a License Key Center password

1. Connect to the Rational licensing support site at <http://www-306.ibm.com/software/rational/support/licensing>. Bookmark this page because you cannot point your browser directly at the LKC site itself.
2. In the middle of the page a section called “Connecting to the IBM Rational License Key Center”. Select the link that reads “IBM Rational License Key Center”.
3. Select “Continue”.
4. Log into the License Key Center using your email address as your password and the password from your Welcome email.

**Tip: if you cannot get your password to work, try typing it into the input field instead of copying/pasting the password from the Welcome email.**

5. The first time you log into the License Key Center, the system will ask you to change your password to a user-defined string.

#### If you DO NOT have a License Key Center password

It is common for users other than the Site Technical Contact and the Primary Site Contact to need access to the License Key Center. In this case there are two ways in which you can be added to your company’s account.

**Method 1** - Contact the person who placed your order and have that person add you as a member of your company’s account using the “Account members” feature. Once you are added, you will receive a welcome email from the License Key Center with your password and login instructions.

**Method 2** - You can add yourself to your company’s License Key Center account as an alternative to having your License Key Center administrator add you. For security purposes, you will need to know your company’s IBM Site ID and an IBM Sales Order number associated with that site in order for the License Key Center to add you to the account.

To add yourself to your company’s account:

1. Connect to the Rational licensing support site at <http://www-306.ibm.com/software/rational/support/licensing>. Bookmark

this page because you cannot point your browser directly at the LKC site itself.

2. In the middle of the page a section called “Connecting to the IBM Rational License Key Center”. Select the link that reads “IBM Rational License Key Center”.
3. Select “Continue”.
4. On the License Key Center main page select the “Don’t have a password?” link. This will take you to a form where you can add yourself to your company’s account.
5. Fill out the form. For the Site number, enter your company’s IBM Site ID in the form 0007XXXXX. For the Sales order number, enter the Sales Order number in the form 005XXXXXXXX.

**Tip: Your company’s IBM Site ID and Sales Order Number can be found on the “Proof of Entitlement Certificate” IBM emailed to your company’s Primary Site Contact at the time of purchase.**

6. Once you are added as a member, two things will happen. First, you will be sent a welcome email with your temporary password. Secondly, the License Key Center will show you a page that asks you to change your password to complete the login process. Use the temporary password in the email to change your License Key Center password.

### **Need help logging in?**

For help with using the License Key Center or for questions regarding your account, please contact IBM Rational Software Support:

Within North America, call 1-800-IBM-SERV

For support outside of North America, local phone numbers are at: <http://www.ibm.com/software/rational/support/contact.html>.

## **3.2 Multiple accounts**

In section 2, we learned that your license keys are located in License Key Center accounts whose ID’s align with your IBM site ID against which your order was placed. For example, if you placed an order for Rational ClearCase and your IBM Site ID was 000712345, the ClearCase license keys will be in License Key Center account 000712345.

It’s very common for IBM customers to purchase software from multiple sites, therefore having multiple IBM Site IDs, and hence multiple License Key Center accounts.



If you are a member of multiple License Key Center accounts, the License Key Center will show you all your accounts when you log in and ask you to select one to drill into. This is similar to your personal online banking web site where you log in and then can drill into your checking, savings, or other accounts. If you drill into one of your License Key Center accounts, you can use the “Switch Account” feature in the left hand menu to select another account.

### 3.3 What if my account doesn’t contain what I think it should?

Let’s face it, enterprise software procurement can be downright confusing with orders being placed from globally disbursed purchasing centers, product trade-ups, migrations and employee turnover.

The Rational support team is here to help you get up and running. If you have trouble finding the license keys you need, please contact us anytime:

Within North America, call 1-800-IBM-SERV

For support outside of North America, local phone numbers are at: <http://www.ibm.com/software/rational/support/contact.html>

### 3.4 ClearCase license keys

If you are a ClearCase customer, you’ll notice that the License key Center offers you two different kinds of ClearCase license keys. One type is called the “Classic ClearCase license manager” key, while the other is for the “FLEXIm license manager”. The image below shows how this is displayed to you in the License Key Center.



License keys
License key name
<a href="#">IBM Rational ClearCase Floating License Key (Classic ClearCase license manager)</a>
<a href="#">IBM Rational ClearCase Floating License Key (FLEXIm license manager for v7.0)</a>

Why do we do this?

Rational ClearCase has historically used it’s own license manager, developed specifically for ClearCase and ClearCase MultiSite. We refer to this as the “Classic ClearCase license manager”. In v7.0, ClearCase offers you the choice of using the classic license manager or use the “FLEXIm license manager”.

Therefore, the License Key Center offers both styles of ClearCase license keys simply to give you the flexibility to decide which type of key best suits your environment. The choice is yours.

### **How do I decide which license manager to use with ClearCase?**

The classic license manager is the default when you install ClearCase v7.0 but you have the choice of telling ClearCase v7.0 to use the FLEXlm license manager.

You should consider using the FLEXlm license manager if also use floating license keys for other Rational products like ClearQuest or Team Unifying Platform that also use the FLEXlm license manager. This allows you to have a single license manager for both products. Additionally, the FLEXlm-based license manager is more WAN and firewall friendly than the classic ClearCase license manager.

## **4.0 IBM Passport Advantage**

The IBM Passport Advantage Online system is an online service that allows you to view your IBM Rational entitlements and download and order CDs from IBM. The PA program and back-end system services all five IBM software brands; not just Rational.

### **4 things you need to know about Passport Advantage (PA)**

- When you place an order with IBM for Rational software, your order information flows into the Passport Advantage system. Your order is associated with an IBM Site number. In its simplest form, you will log into the PA Online system (using the site number on your order as the account number) and download your product.
- The license keys for your Rational products are not delivered through Passport Advantage Online site. License keys are delivered through the Rational License Key Center; a separate system. (See section 3.0)
- The person at your company who is designated as the Primary Site Contact associated with your IBM Site ID will be given access to your Passport Advantage account. That person can log into the PA Online site and download your IBM Rational software and add other members of your company to the PA account.

- Understand how to log into PA. To access your PA Online account, you will either need to have your site's Primary Site Contact add you as a member of the account or you can use the self nomination process outlined in section 4.1.

#### **4.1 Accessing your PA Online account**

Use the instructions below to access your Passport Advantage account.

1. Go to <https://www-112.ibm.com/software/howtobuy/softwareandservices>
2. If you have already established your IBM user ID and Password Select "Sign In" and proceed to step 4.
3. If you have not established an IBM user id and password select "Register Now" and complete your profile to establish your user ID and unique password.
4. Log in by entering your IBM user ID and Password.
5. If you have already self nominated yourself as a member of the account you will be routed directly into the account and can proceed to step 7.
6. If you have not yet self nominated yourself as a member of the account enter your site number and select "YES" only if you are sure you are the Primary Site Contact otherwise select "NO".
7. If you self nominated as the Primary Site Contact the self nomination will route to IBM EcustomerCare Team for Approval. Additional Members self nomination will route to the Primary Site Contact only after the Primary has activated the account.
8. Once your self nomination has been approved you will receive an email notification.
9. You will then be able to log in to your PA Online account <https://www-112.ibm.com/software/howtobuy/softwareandservices>
10. Select "Product Download and Media Access"
11. Proceed by following the download instructions.

## 5.0 License Keys and Activation Kits

In this section we will discuss the license keys and activation kits used by the various products. The keys and the kits determine if and how long the product will run. It is helpful to get a basic understanding of how the license keys and the activation kits work and where to get each of them.

### What products require license keys and activation kits?

The table below shows which Rational products need license keys, activation kits, or no keys or kits at all. The sections that follow describe how license keys and activation kits work and where you get them.

Category	Products
<b>Products that require license keys in order to use them</b>	IBM Rational Ada Developer IBM Rational AppScan IBM Rational Asset Manager IBM Rational Build Forge IBM Rational ClearCase IBM Rational ClearDDTS IBM Rational ClearCase LT IBM Rational ClearCase MultiSite IBM Rational ClearQuest IBM Rational ClearQuest MultiSite IBM Rational Performance Test Virtual Test Packs IBM Rational Performance Tester Extension for Citrix IBM Rational Performance Tester Extension for SAP IBM Rational Performance Tester Extension for Siebel IBM Rational Performance Tester Extension for SOA IBM Rational Policy Tester IBM Rational PurifyPlus IBM Rational RequisitePro IBM Rational Robot IBM Rational Rose IBM Rational SoDA IBM Rational Suite IBM Rational Team Unifying Platform IBM Rational Test RealTime IBM Rational TestManager
<b>Products that require either an activation kit or a floating license key in order to use them</b>	IBM Rational Application Developer IBM Rational Business Developer Extension IBM Rational Functional Tester IBM Rational Functional Tester Extensions IBM Rational Manual Tester IBM Rational Modeling Extension for Microsoft .NET IBM Rational Performance Tester (base product) IBM Rational Professional Bundle IBM Rational Software Architect IBM Rational Software Modeler

	IBM Rational Systems Developer IBM Rational Tester for SOA Quality
<b>Products that require an activation kit (no floating keys available)</b>	IBM Rational Data Architect IBM Rational Method Composer (as of v7.2)
<b>Products that have no license keys or activation kits</b>	IBM Rational Developer for System z IBM Rational Portfolio Manager IBM Rational Enterprise Tools and Compiler family

### Five things you need to know about license keys

- Most Rational products require a license key in order to use them. The table above which products require keys. You obtain your keys through the Rational License Key Center (see section 3.0).
- Some Rational products offer floating license keys that you can choose to use if you wish. If you opt not to use the floating keys for these products, you will need to download the product's "activation kit" to make the product run perpetually. Section 5.4 of this document will discuss this in more detail.
- If your company bought Floating licenses, Rational gives you floating license keys that require a license server to manage the use of the keys. Section 6.0 will discuss the license server.
- If you choose to use license keys for the Rational Software Development Platform, you will need to use v7.0.1 of the Rational License Server software (on Windows) or v7.0.0.1 of the Rational License Server software (on Unix). Section 5.5 will discuss the license server.
- If your company bought Authorized User licenses, Rational will either give you an authorized user license key or a product activation kit, depending on the product purchased. Both the key and the activation kit allow the product to run on your desktop. This section will cover authorized user keys and activation kits.

#### 5.1 Rational products that require license keys

Most Rational products require that you obtain a license key from IBM in order for you to use the product. IBM delivers Rational license keys through the Rational License Key Center, see section 3.0 of this document.

Below you will find a list of Rational products that require a license key.

- IBM Rational Ada Developer
- IBM Rational AppScan
- IBM Rational Asset Manager
- IBM Rational Build Forge
- IBM Rational ClearCase
- IBM Rational ClearDDTS
- IBM Rational ClearCase LT
- IBM Rational ClearCase MultiSite
- IBM Rational ClearQuest
- IBM Rational ClearQuest MultiSite
- IBM Rational Performance Test Virtual Test Packs
- IBM Rational Performance Tester Extension for Citrix
- IBM Rational Performance Tester Extension for SAP
- IBM Rational Performance Tester Extension for Siebel
- IBM Rational Performance Tester Extension for SOA
- IBM Rational Policy Tester
- IBM Rational PurifyPlus
- IBM Rational RequisitePro
- IBM Rational Robot
- IBM Rational Rose
- IBM Rational SoDA
- IBM Rational Suite
- IBM Rational Team Unifying Platform
- IBM Rational Test RealTime
- IBM Rational TestManager

The license keys for these products will either be “floating” or “authorized user” depending on how you purchase the product from IBM.

## 5.2 How do floating keys work?

Floating keys are managed by the Rational License Server, a small application that runs on most platforms. There are three basic steps for using the floating keys:

1. Install the Rational License Server software from CD or download it from your IBM Passport Advantage account.
2. Get your floating license keys from the Rational License Key Center and install the keys following the instructions provided with you generate your keys. The License Server will then start up and manage the use of the keys.
3. Configure your Rational product to look at the Rational License Server.

Once you have the License Server up and running and the Rational product configured to use the server, running the product

will result in the product talking to the Rational License Server to “check out” a key. The License Server considers the key to be in use while you’re running the product. Once you exit the product, the license key is returned to the server and another person can use the key.

### **5.3 How do authorized user keys work?**

Unlike floating keys, Authorized User keys are not managed by a license server. Instead, you will generate your Authorized User key for the machine on which you will use the product and then install the key as a file on that machine. There is no license server needed.

Get your Authorized User license keys from the Rational License Key Center and install the keys following the instructions provided with you generate your keys.

### **5.4 Rational products that give you the *option* of using license keys**

If you purchased floating licenses of certain Rational products, you have the option of using license keys to manage the use of those products.

In this section we will outline the products that fall into this category, we will discuss why you might want to use license keys, what you will need to do if you decide to you use them, and what you will need to do if you do not want to use the keys.

#### **License keys are optional with these products**

- IBM Rational Application Developer
- IBM Rational Business Developer Extension
- IBM Rational Functional Tester
- IBM Rational Manual Tester
- IBM Rational Modeling Extension for Microsoft .NET
- IBM Rational Performance Tester (base product)
- IBM Rational Professional Bundle
- IBM Rational Software Architect
- IBM Rational Software Modeler
- IBM Rational Systems Developer
- IBM Rational Tester for SOA Quality

All of the products listed above do not require a license key in order to run them. You can install the product and begin to use it immediately.

Note that IBM gives you the option of using license keys with these products only if you purchased the floating license variant of the product. You will not get this option if you purchased an Authorized User license.

Why is that?

A single floating license entitles you to share usage of the product among multiple people within your company at different times. For example, let's say your company purchases one floating license of Rational Application Developer (RAD). On any given day, user A can use RAD in the morning. When user A is done, user B can use RAD in the afternoon, and so on. The ability to share licenses between multiple users is the key value point of floating licenses.

But how will you ensure that only one user is running the software at any given time?

With this usage model in mind, they can configure the RAD product to use a license key. When you install RAD, the default behavior is for the product to not use a key. However, if you configure RAD to use a key, the License Server will control who can run the product at any given time. This level of control is a powerful compliance tool that many IBM Rational customers are choosing to employ.

### **When should I consider using floating keys?**

You should consider enabling the floating license keys in the situation where you feel you need a control system for ensuring the number of people using the Rational product does not exceed the number of software licenses your company purchased of that product. In general, the larger your development team is, the more control you will probably want over the floating licenses.

### **Do I need a certain version of the license server?**

To use the floating license keys for any of the products listed in this section (where license key usage is optional), you will need v7.0.1 or later of the Rational License Server on Windows or v7.0.0.1 or later of the Rational License Server on UNIX or Linux.

You can get download the latest version of the Rational License Server from your Passport Advantage account.

Version 7.0.1 (Windows) and version 7.0.0.1 (UNIX/Linux) of the License Server can manage floating license keys for all Rational products, not just the "optional" keys.



## What if I don't want to use floating keys?

If you bought a floating license of any of the products listed in this section and you do not want to use keys to manage the use of the product, you will need to install an “activation” kit that will allow you to run the product perpetually.

### 5.5 Activation Kits

Certain Rational products will let you run the product without a license key for a predefined time period. To use the product longer than the default period you will either need to use a license key or an “activation kit”.

#### Products that offer activation kits:

- IBM Rational Application Developer \*
- IBM Rational Business Developer Extension \*
- IBM Rational Data Architect \*\*
- IBM Rational Functional Tester \*
- IBM Rational Manual Tester \*
- IBM Rational Method Composer (as of v7.2) \*\*
- IBM Rational Modeling Extension for Microsoft .NET \*
- IBM Rational Performance Tester (base product) \*
- IBM Rational Professional Bundle \*
- IBM Rational Software Architect \*
- IBM Rational Software Modeler \*
- IBM Rational Systems Developer \*
- IBM Rational Tester for SOA Quality \*

\* Floating license keys and activation kits available for this product. See section 5.4.

\*\* Only activation kits are available for RDA and RMC. No floating keys. RMC versions prior to v7.2 do not use activation kits.

#### How activation kits work

When you install any of the products listed above (where license keys are optional), the product will run for 30 days by default (Rational Application Developer will run for 60 days). To use the product longer than the default period you will either need to use a license key or an “activation kit”. See section 5.4 for license key usage.

Each product listed above has a corresponding activation kit which will convert the “expiring” version of the product to a non-expiring production version. You can look at the activation kit as a patch that you install over the base product. Once you install the patch, the product will no longer be set to expire and runs forever.

Each product has a unique activation kit called "Activation Kit for *Product Name*" e.g. "Activation Kit for IBM Rational Software Architect". The activation kit only affects the product for which it was built. For example, if you bought Rational Application Developer (RAD), you need to use the RAD activation kit.

### **Where do I get the activation kit?**

If you ordered media, you can find the activation kit on a CD in your media shipment. You can also download the activation kit from your Passport Advantage or Passport Advantage Express account. The activation kit is listed as a component of the product you purchased and will be entitled "IBM Rational *ProductName* Activation Kit".

Once you download the activation kit, run the Rational Installation Manager application and import the kit.

## **5.6 Rational products do not use any license keys**

The following IBM Rational products do not use license keys:

- IBM Rational Portfolio Manager
- IBM Rational Developer for System z
- The Rational Enterprise Tools and Compilers family of products

## 6.0 The Rational License Server

The Rational License Server is a small application that runs on most platforms and manages the use of floating license keys.

There are three basic steps for using the floating keys:

1. Install the Rational License Server software from CD or download it from your IBM Passport Advantage account.
2. Get your floating license keys from the Rational License Key Center and install the keys following the instructions provided on the screen with you generate your keys. The License Server will then start up and manage the use of the keys.
3. Configure your Rational product to look at the Rational License Server.

Once you have the License Server up and running and the Rational product configured to use the server, running the product will result in the product talking to the Rational License Server to “check out” a key. The License Server considers the key to be in use while you’re running the product. Once you exit the product, the license key is returned to the server and another person can use the key.

### 6.1 Rational License Server platforms

The Rational License Server runs on the following platforms. (List updated October, 2007)

- Windows
- Sun Solaris SPARC 8, 9, 10
- Sun Solaris x64 10
- HP-UX B.11.00
- HP-UX B.11.11
- HP-UX B.11.23
- HP-UX B.11.31
- Red Hat Enterprise Linux release 3
- Red Hat Enterprise Linux, release 4
- Red Hat Enterprise Linux Server release 5
- SUSE LINUX Enterprise Server 9
- SUSE Linux Enterprise Server 10

### 6.2 Rational License Server version and platform compatibility

The compatibility between the Rational products and the version of the license servers is quite flexible and has one basic restriction.

General rules of thumb regarding compatibility:

- Platform independence – A Rational license server running on a Windows platform can serve keys to Rational products running on UNIX or Linux platforms and vice versa.
- Any version of the Rational License Server can serve keys to any version of the Rational products with the exception outlined in the next bullet.
- To use the floating license keys for any of the products listed in section 5.4 (where license key usage is optional), you will need v7.0.1 or later of the Rational License Server on Windows or v7.0.0.1 or later of the Rational License Server on UNIX or Linux. You can get download the latest version of the Rational License Server from your Passport Advantage account. Version 7.0.1 (Windows) and version 7.0.0.1 (UNIX/Linux) of the License Server can manage floating license keys for all Rational products, not just the “optional” keys.

### 6.3 Advanced topic - FLEXIm

The Rational licensing software is based on a third-party product called FLEXIm that is developed by Macrovision, Inc. Macrovision is now branding their FLEXIm product as FLEXnet Publisher.

FLEXIm is a toolkit that vendors like IBM Rational use to craft and customize their licensing mechanism.

Macrovision is the industry leader in licensing technology and has many other ISV customers using FLEXIm to manage their products.

#### What you need to know about FLEXIm

- Not much, really. FLEXIm is simply a component used in the Rational licensing code and is mostly transparent to you as the end user.
- Most of the licensing interfaces that you see is Rational code, not FLEXIm software. For example, the licensing error messages and the Rational License Key Administrator (the license key import tool) is nearly all Rational code, not FLEXIm. The Rational License Server is mostly Rational code but does include a few FLEXIm binaries. In other words, it is not a “FLEXIm server” but instead the Rational License Server that uses a few FLEXIm components in it.

## 6.4 Advanced topic – How does the license server actually work?

The Rational License Server is a self-contained piece of software, meaning you install it from its own CD (or from download) and it lives on your machine as a free-standing application.

There are three basic components to the license server:

- The lmgrd daemon
- The vendor daemons
- The license key file

When you install the License Server, the lmgrd and the vendor daemons (executables) get installed as part of the server and run as services on Windows or processes on Linux/UNIX and work together to manage the keys in the license key file.

### **lmgrd**

The lmgrd daemon is a FLEXlm executable that Macrovision develops and gives to Rational for inclusion in our license server software. Rational does not customize lmgrd.

Macrovision provides updates to the lmgrd executable on their website ([www.macrovision.com](http://www.macrovision.com)) and you may replace the lmgrd executable that Rational ships with the latest version, however, there is rarely a case where you need to do this.

When you start the Rational License Server, the lmgrd daemon controls the overall availability of the server and communicates with the vendor daemons.

### **Vendor daemons**

The second key components in the Rational License Server are the vendor daemons.

Rational customizes a FLEXlm component called the vendor daemon. This makes the FLEXlm code within the Rational products recognize the Rational license keys. Rational also customizes the vendor daemon to control certain licensing behaviors that are in line with Rational's policies.

When you start the Rational License Server, the vendor daemons read your license key files and control the “check out” or “check in” of the license keys.

Rational currently ships two different vendor daemons:

*rational.exe* – this daemon is included in all versions of the Rational license server and manages floating license keys for all the products that require keys. (see section 5.0).

*ibmratl.exe* – this daemon is included in the Rational License Server v7.0.1 and later on Windows and v7.0.0.1 and later on UNIX/Linux. This daemon manages the use of the license keys that are optional. (see section 5.0).

### **The license key file**

When you get your license keys from the IBM Rational License Key Center, they get installed in a file on the license server machine. When you start the License Server, the vendor daemons will read the contents of the file and the server will then manage the keys in the file.

### **Where are the license key files located?**

*Floating* - When you get license key files from the Rational License Key Center, the file you download has the extension of .upd. When you open this file on a Windows machine that has your License Server software installed on it, the Rational License Key Administrator tool will automatically launch. The tool will import the license keys and adds them to the following files:

Permanent keys

<drive>:\Program Files\Rational\Common\rational\_server\_perm.dat

Evaluation keys

<drive>:\Program Files\Rational\Common\rational\_server\_temp.dat

*Authorized User* - When you get license key files from the Rational License Key Center, the file you download has the extension of .upd. When you open this file on a Windows machine that has your Rational product installed on it, the Rational License Key Administrator tool will automatically launch. The tool will import the license keys and adds them to the following files:

Permanent keys

<drive>:\Program Files\Rational\Common\rational\_perm.dat

Evaluation keys

<drive>:\Program Files\Rational\Common\rational\_temp.dat

## 7.0 License Deployment Practices

This section attempts to answer a handful of frequently asked questions about licensing deployment and usage.

### 7.1 How do I handle license keys in my disaster recover environment?

IBM fully understands our customers' needs for supporting disaster recovery environments. It's common for Rational customers to ask for a duplicate set or sets of license keys for their DR environments. Rational is committed to helping our customers remain successful and will accommodate these requests. Please contact your IBM Sales Representative if you need duplicate sets of license keys for your site.

When the Rational team processes the request, we will issue a duplicate license key entitlement in the License Key Center with a label of "DUPLICATE". When you get your license keys from this entitlement, the keys will be stamped with "DUPLICATE" to help you manage which of your keys are for production and which keys are duplicates for disaster recovery purposes.

### 7.2 If I buy a bundle, can I deploy the various components to different teams?

No. Many Rational offerings include multiple components. For example, buying one license of the *IBM Rational ClearCase Change Management Solution* includes ClearCase and ClearQuest.

The intent of the bundled offerings are to give our customers a price break for purchasing multiple components for a single user; look at it as a "value meal" at a fast food restaurant. All Rational products contain the following language in the IBM License Agreement that the customer accepts when they install the software:

#### **MULTI-PROGRAM OFFERING**

*Programs may be licensed as part of a 'suite' or a multi-program offering. The separate Programs comprising the suite or multi-program offering may not be used simultaneously by different users, and may be used by only one user at a time. If third party software is included with any Program, the third party software may not be separated from, or used independently of, the Program.*

### **7.3 Can I have contractors use my IBM Rational products?**

IBM understands that it is common for our customers to contract out certain pieces of their software development to another party. Therefore, the IBM Program License Agreement (IPLA) allows you a wealth of flexibility when it comes to license usage within your environment.

The IPLA grants you the right to use the product at any site within your enterprise world-wide.

Yes, IBM customers may allow third parties to use their IBM software. However, the contractor must use the software within the customer's enterprise.

What exactly does this mean?

When you purchase an IBM product through Passport Advantage, you or your contractors can use it anywhere within your global enterprise so that you retain control of the installation and execution of the software. Here are some examples to help illustrate the IBM policy:

- You *can* have a contractor use the IBM product at any of your facilities if the software is installed on your hardware.
- You *cannot* allow the contractor to install the IBM product on hardware at the contractor's site. This is because the contractor's site is not part of your enterprise.

If you need IBM to make an exception in order to meet your business needs, please contact your IBM Sales Representative.

### **7.4 Can I have my client machines get floating keys from multiple license servers?**

Yes. One of the most important attributes of Rational's license key management system is the ability for you to point your Rational tools running on remote client machines at multiple license servers that manage your floating keys. For example, you can have one of your client machines configured to get floating license keys from server A, then automatically roll over to server B if A is unavailable or out of keys, and so on.

This feature allows you to have more flexibility in how you deploy your licenses world-wide.

Many Rational customers leverage this model by configuring their client machines to get keys from a license server at their local site and then get keys from a secondary site. This model allows for better optimization of the Rational products and gives failover security in the event that the local server goes down.



## 7.5 What are redundant license servers and should I use them?

The Rational License Servers have the ability to run in a configuration known as “redundant license servers”. In this setup three Rational License Servers run as a team and manage a single pool of floating license keys. The advantage of using redundant servers is if one of the three license servers has a hardware failure, the other two servers continue to manage the single pool of keys.

Let’s look at an example:

Suppose you bought 100 floating licenses of Rational ClearQuest. You have the flexibility to deploy your license keys in a variety of different ways:

- You can have a single license server with all 100 keys on the server. All your ClearQuest client machines would be configured to get keys from this server.
- You can split up your ClearQuest keys across multiple license servers e.g. put 40 keys on server A and 60 keys on server B. Your ClearQuest client machines can be configured to get keys from server A or server B... or both! (see the previous section)
- You can configure servers A, B, and C as redundant license servers. In this setup, all three servers would work together to manage the 100 license keys as a single pool. Your ClearQuest client machines would be configured to get keys from servers A, B and C.
- You can even configure multiple sets of redundant servers. For example you could configure redundant servers A, B and C to serve 45 keys and configure a second set of redundant servers X, Y, and Z to serve 55 keys. Your ClearQuest client machines would be configured to get keys from servers A, B and C and then from X, Y and Z, or vice versa.

### Redundant server tips

- You must have three license servers to use the redundant server configuration.
- Do NOT physically separate redundant server partners from one another. It is a misperception that hosting the servers in separate locations will give you better stability and coverage. This is not the case. Look at the three redundant servers as an entity. The three servers talk to one another during license key activities. If they have trouble communicating with one

another, they may very well stop managing the license keys altogether. The purpose of the redundant servers is to give you protection in case of a hardware failure with the servers. Separating the servers only introduces a networking weak link that makes the system less stable than if the servers were at the same site. If you need added protection for networking failures, you can configure multiple sets of redundant servers (one at each of your locations of interest).

- You can get redundant license keys from the License Key Center. During the license key generation process the License Key Center gives you the opportunity to enter three host IDs.

## 7.6 How can I report on license key usage?

This is a question that Rational customers frequently ask of IBM. You have three different options when it comes to license key reports:

### **License key generation report**

IBM can prepare a report for you that will show all the license keys your company has generated from our license key fulfillment systems. The report will show you your purchase order numbers and the license keys generated against them including who generated the key, when, for what host, for what quantity, etc. If you are interested in this type of report contact your IBM Rational Sales Representative.

### **Commercial license key usage reporting tool**

The Rational License Server uses FLEXIm (also known as FLEXnet Publisher) as its backbone. FLEXIm a commercial license management product developed by Macrovision, Inc. Macrovision develops a commercial license key usage reporting tool called FLEXnet Manager which allows you to create reports that show when your floating keys were used, by whom, on which machines, high-water marks plus other features.

FLEXnet Manager works with other FLEXIm-enabled products, not just Rational products and is sold exclusively through Macrovision. For more information go to:

[http://www.macrovision.com/products/licensing/flexnet\\_manager.htm](http://www.macrovision.com/products/licensing/flexnet_manager.htm).

### **No cost license key usage reporting script**

As an alternative to purchasing FLEXnet Manager, you can explore using scripts that have been developed by a variety of end

users. An example of one of these types of scripts is hosted on the IBM developerWorks site at:

[http://www.ibm.com/developerworks/rational/library/05/1115\\_diebolt/](http://www.ibm.com/developerworks/rational/library/05/1115_diebolt/)

You can also try performing a web search for Rational License Key usage scripts to find other tools.

## **7.7 Disconnected use**

IBM understands our floating license customers could have the need to use the Rational products while disconnected from their networks. For example, you might own Rational Rose floating licenses and have Rose installed on your laptop and the floating keys installed on your license server in your office. In this case, it is certainly conceivable that you may need to use Rose from home, coffee shop or on an airplane.

For these types of situations, the Rational products will allow you to run without connectivity to your Rational License Server in the case where you have run the product with a floating key within the past 3 days. In other words, if you run your product with a floating license key and disconnect from your network, you may restart the product anytime within the next three days. During this time period, the License Server does not decrement your product's use from the number of available keys.