

Oracle Insurance

**Insbridge Rating and
Underwriting
Operating &
Environments Guide**

Release 3.13

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Oracle Insurance Insbridge Rating and Underwriting Operating and Environments Guide

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Primary Authors: Mary Elizabeth Wiger

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STATEMENT OF PURPOSE

This document describes the preferred operating environments and hardware setup for the Oracle Insurance Insbridge Rating and Underwriting (IBRU) system version 3.13. This is inclusive of Oracle Insurance Insbridge Rating and Underwriting Framework Administrator (IBFA), Oracle Insurance Insbridge Rating and Underwriting RateManager (RateManager), Oracle Insurance Insbridge Rating and Underwriting SoftRater (SoftRater), and the associated database(s).

Some of the main considerations to keep in mind when selecting a setup are:

- Performance
- Resources
- Environments

PERFORMANCE

If the ability to return rates quickly with minimal lag time is the main consideration, the requirements should depend upon usage:

- **Minimum** – a minimum configuration may work best in an environment with a low number of users where RateManager and IBFA/SoftRater for Windows are on one machine and a SQL Server database is on a separate machine.
- **Standard** – a standard configuration may be required when the number of users goes beyond 10. RateManager, SoftRater and the databases may reside on separate machines. A Java version of SoftRater may be used and another database in addition to SQL Server may also be utilized.
- **Optimal** – an optimal configuration may suit a larger company or a company that handles commercial lines. Commercial lines may require more processor time and have larger data files than non-commercial lines and may benefit from having an optimal system configuration. RateManager, SoftRater and the databases would reside on separate machines. A Java version of SoftRater may be used and another database in addition to SQL Server may also be utilized.

When selecting a system, the requirements should be based on transactional rating and/or batch needs as well as the physical requirements to be made on the machines. A low number of users that processes large files may benefit from a more powerful hardware environment. Likewise, a low number of users with smaller rating/batch needs may be able to use the minimum.

NOTE: *It is possible to have RateManager, IBFA/SoftRater for Windows and the SQL Server database all reside on the same machine. This configuration is not recommended due to security issues. However, if this configuration is the only option, an optimal configuration would be recommended because of the load placed on the machine.*

RESOURCES

If resources are the main consideration, the configuration you choose will depend upon the setup you currently running, the available space you have, the existing equipment that you own, and the usage that you anticipate.

RateManager is not a processor heavy application and the database is not transaction heavy. This means that existing hardware equipment may be used. Depending upon the condition of the machines, the current demands the machine is under and the available space on the machine.

For the setup options:

- **Database** – RateManager and IBFA require a SQL Server database. SoftRater can use a SQL Server, Oracle or DB2 database or a combination of databases. SQL Server may be the only database system used. No other database system is required; however another database system can be used in the IBRU setup if desired, for example an Oracle database can be utilized.

If you chose to use an Oracle or IBM DB2 database, please follow the hardware/software requirements recommended by the manufacturer.

- **Operating Systems** – RateManager and IBFA must run on a Windows Server machine. No other operating environment will be required. SoftRater can be run on a non-Windows machine if a compatible application server platform such as WebLogic, WebSphere, or JBoss is running as well. If a non-Windows machine is used for SoftRater, a Java version of SoftRater will be required. The Java version of SoftRater will need to be loaded onto the machine with the compatible application server platform. Existing equipment can be used and space requirements would not be excessive.

ENVIRONMENTS

Another factor to consider when selecting a hardware/software configuration is the number of physical environments that you want. A physical environment generally refers to a physical machine where a specific activity is performed. For example, a physical environment called development could be created where users only build ratings. Another physical environment called QA could be created where users only test ratings. There is no limit to the number of physical environments you can have.

It is recommended that three physical environments be setup; one for development, one for testing and one for production. Each physical environment will have space and hardware requirements.

There are a few possible combinations of RateManager, IBFA/SoftRater for Windows, IBSS/SoftRater for Java, MS SQL Server along with other database platforms, such as IBM DB2, that can be implemented. These configurations may require more equipment, may require more space and/or have additional hardware costs.

Additional Information

For further assistance, please contact an Oracle Insurance Insbridge Rating and Underwriting sales representative.

CLIENT CONFIGURATION SIZING QUESTIONS

The following questions may help you define the usage and demands that will be placed on the Insbridge system. This may also help to get a clearer understanding of all the areas where the Insbridge system may be utilized. Overall, it is very beneficial to get an idea of the anticipated environments, and identify the peak and average activities around rate loading, testing, pricing analytics, and rating before selecting a hardware/software configuration.

RateManager

1. How many concurrent users will be accessing the RateManager design-time tool?
2. Will an N-Tier environment be utilized with a separate database and application server for RateManager?
3. What kind of actuarial activities will Insbridge be used with? How big of a book of business will be used for testing? When will these pricing activities be done?

SoftRater Engine

1. What is the peak and average production rating engine traffic?
2. Will there be a nightly batch cycle (for renewals, endorsements, etc.)? If so, what size will the batch cycles be? Is there a time window involved?
3. What database will be used in that environment? I.e. will a J2EE version of the rating engine be used in production?
4. Will an N-Tier environment be utilized with a separate database and application server for RateManager?

General

1. Is the hardware designated for the Insbridge product exclusive to Insbridge, or will it be shared with other products?
2. What will the change control environment architecture look like? I.e. will there be DEV, QA, UAT, PROD environments?

NOTE: *Requirements may change without notice. The requirements listed in this document are current as of the publication date found on the first and last pages of this document.*

QUICK VIEW

The table below shows at a glance, what operating systems, application server platforms, and databases can be utilized with the IBRU system.

IBRU System Component	Operating System	Application Server	Database
RateManager	Microsoft Windows Server 2003	IIS 6.0	SQL Server 2005
IBFA/SoftRater for Windows	Microsoft Windows Server 2003	IIS 6.0	SQL Server 2005
IBSS/SoftRater for Java	IBM AIX*	Oracle WebLogic 10.3.1 IBM WebSphere 6.0.x, 6.1.x	Oracle 9, 10 DB2 8.0, 8.1 SQL Server 2005
	HP-UX*	Oracle WebLogic 10.3.1 IBM WebSphere 6.0.x, 6.1.x JBoss by Red Hat 4.2.3 GA	Oracle 9, 10 DB2 8.0, 8.1 SQL Server 2005
	Red Hat Linux*	Oracle WebLogic 10.3.1 IBM WebSphere 6.0.x, 6.1.x JBoss by Red Hat 4.2.3 GA	Oracle 9, 10 DB2 8.0, 8.1 SQL Server 2005
	Sun Solaris*	Oracle WebLogic 10.3.1 IBM WebSphere 6.0.x, 6.1.x JBoss by Red Hat 4.2.3 GA	Oracle 9, 10 DB2 8.0, 8.1 SQL Server 2005
	Microsoft Windows Server*	Oracle WebLogic 10.3.1 IBM WebSphere 6.0.x, 6.1.x JBoss by Red Hat 4.2.3 GA	Oracle 9, 10 DB2 8.0, 8.1 SQL Server 2005

* For exact the version number that each application server platform is combatable with, please see:

- OPERATING ENVIRONMENT – ORACLE WEBLOGIC
- OPERATING ENVIRONMENT – IBM WEBSHERE
- OPERATING ENVIRONMENT – JBOSS

HARDWARE / SOFTWARE REQUIREMENTS

The primary focus of the following hardware recommendations is performance. The hardware requirements for Windows based machines are divided according to the usage that has the least effect on performance:

- **Minimum** – a minimum configuration may work best in an environment with a low number of users where RateManager and IBFA/SoftRater for Windows are on one machine and the SQL Server database is on a separate machine. This is a straight Microsoft Windows environment with no other database included.
- **Standard** – a standard configuration may be required when the number of users goes beyond 10. RateManager and IBFA/SoftRater for Windows would be on one machine and the SQL Server database would be on a separate machine. A standard setup also allows for another database type and a Java version of SoftRater to be included in the setup.
- **Optimal** – an optimal configuration may suit a larger company or a company that handles commercial lines. Commercial lines may require more processor time and have larger data files than non-commercial lines and may benefit from having an optimal system configuration.

Minimum

Below is a listing of the minimum operating environment recommended for the IBRU system. These are general guidelines with the assumption of a maximum of 10 RateManager users where RateManager and IBFA/SoftRater for Windows are on one machine and the SQL Server database is on a separate machine. This is a straight Microsoft Windows environment with no other database included.

HARDWARE – Minimum	
For low usage environments, the following hardware configuration is recommended.	
Processor:	Dual processor 1.0 GHz or greater
Memory:	2 GB ECC RAM or greater
Hard Drive:	100 GB SCSI Hardware RAID or greater
Graphics:	1280 x 1024
Network:	100b T NIC or greater

Standard

Below is a listing of the standard operating environment recommended for the IBRU system. These are general guidelines with the assumption of a more than 10 RateManager users where RateManager and IBFA/SoftRater for Windows would be on one machine and the SQL Server database would be on a separate machine. This setup also allows for another database type and a Java version of SoftRater to be included.

HARDWARE – Standard

For standard usage environments, the following hardware configuration is recommended.

Processor:	2x Quad Core 2.0 GHz
Memory:	4 GB ECC RAM
Hard Drive:	1.5 TB SAS 15,000 RMP Hardware RAID 0+1
Graphics:	1280 x 1024
Network:	1000b T NIC

Optimal

Below is a listing of the optimal operating environment for the IBRU system. These are general guidelines with the assumption of more than 10 RateManager users, or a high volume of data is being processed, where RateManager and IBFA/SoftRater for Windows would be on one machine and the SQL Server database would be on a separate machine. This setup also allows for another database type and a Java version of SoftRater to be included.

HARDWARE – Optimal

For optimal performance, or high data volume, the following hardware configuration is recommended.

Processor:	4x Quad Core 2.93 GHz
Memory:	16 GB EEC RAM
Hard Drive:	1.5 TB SAS 15,000 RMP Hardware RAID 0+1
Graphics:	1280 x 1024
Network:	1000b T NIC

Server Software

The software requirements are standard for any IBRU configuration, regardless of whether you are running a minimum configuration or an optimal configuration.

SOFTWARE – IBRU

The following software to be installed and running prior to installation.

Microsoft	MSXML 4 or above
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Windows:	Microsoft IIS 6.0
	Microsoft .NET Framework 2.0 and 3.5
	MDAC Version 2.8 or above
	MSMQ as included with Windows 2003 Server

Database

RateManager and IBFA require a SQL Server database. SoftRater can use a SQL Server, Oracle or DB2 database or a combination of databases. If a non-Windows machine is used for a SoftRater node, a Java version of SoftRater will be required.

Depending on the load expected on the web server, the database can be placed on a separate server that can either be independent or shared. It is recommended that the database be separate for performance and security reasons.

MS SQL Server should not be installed on the same machine where the Insbridge web applications reside. If the MS SQL Server resides on a separate host from the IBRU web front end, a properly configured network connection from the web server front end to MS SQL Server must exist.

If you chose to use an Oracle or IBM DB2 database, please follow the hardware/software requirements recommended by the distributor.

HARDWARE – Database	
All settings are relevant on a MS SQL Server 2005 SP/2 instance.	
Processor:	1.0 GHz or greater
Memory:	2 GB RAM
Hard Drive:	100 GB SCSI Hardware RAID or greater (This may be smaller or larger, depending upon the total volume expected to be used)
Graphics:	1280 x 1024
Network:	1000b T NIC
SOFTWARE – Database	
The following settings to be in place prior to installation.	
Microsoft Windows:	Mixed Mode Authentication
	Default SQL Server collation and sort order plus case sensitivity using Latin1_General_BIN as the server collation.
	NT Fibers must not be enabled
	SQL Server Client

Client

Below is a listing of the minimum operating environment recommended for RateManager clients. These are general guidelines with the assumption that the client machine is under normal working conditions and not performing multiple high use tasks. Client machines with greater demands will require increased computing power.

HARDWARE – Client	
The following hardware configuration is recommended for average client usage.	
Processor:	Pentium 1 GHz or greater
Memory:	1 GB RAM or greater
Hard Drive:	10 GB open hard drive space or more
Graphics:	1024x768 minimum resolution or higher
Network:	100b T or 1000b T NIC or greater
SOFTWARE – Client	
The following software is recommended for clients.	
Microsoft:	Microsoft Windows XP (Home, Office or Pro)
	Internet Explorer 6.0, 7.0 or higher
Adobe:	Adobe Acrobat Reader v7.0 or higher

NOTE: Netscape® and Mac® OS browsers are unable to fully support IBRU.

OPERATING ENVIRONMENTS & APPLICATION SERVER PLATFORMS

Insbridge Framework Administrator and RateManager

RateManager and IBFA/SoftRater for Windows must be installed in a Windows environment.

OPERATING ENVIRONMENTS – IBRU	
IBRU, including RateManager and Insbridge Framework Administrator (IBFA) will function on any of the listed Microsoft 2003 Server operating systems.	
Microsoft Windows:	Microsoft Windows Server 2003, Data Center
	Microsoft Windows Server 2003, Enterprise
	Microsoft Windows Server 2003, Standard

SoftRater

The Java version of SoftRater operating environment will depend upon the application server platform you use. The Java version of SoftRater works with the application server platform and not with the supporting operating environment. Any operating environment that works with the application server platform will be sufficient for SoftRater. This means that if you have a WebLogic instance on a Linux box, SoftRater will work with WebLogic and not with Linux.

APPLICATION SERVER PLATFORMS – SOFTRATER	
SoftRater supports multiple database platforms.	
Microsoft Windows:	Microsoft Windows Server 2003, Data Center
	Microsoft Windows Server 2003, Enterprise
	Microsoft Windows Server 2003, Standard
Oracle WebLogic:	Version 10.3.1
Red Hat by JBoss:	Application Server Version 4.2.3GA
IBM WebSphere:	Version 6.0.x
	Version 6.1.x

DATABASE SYSTEMS

Insbridge Framework Administrator and RateManager

SQL Server is the required database platform for RateManager and Insbridge Framework Administrator.

It is recommended that you have the SQL Server database on a separate machine for performance and security reasons.

DATABASE SYSTEMS – SOFTRATER	
SQL Server is the required database platform for RateManager.	
Microsoft SQL Server:	2005 with service pack 2

SoftRater

IBFA acts as a SoftRater in a Windows environment. When used in a Windows environment, SQL Server is the only database that can be used. If another database type is needed, a Java version of SoftRater is required.

DATABASE SYSTEMS – SOFTRATER	
SoftRater supports multiple database platforms.	
Microsoft SQL Server:	2005 with service pack 2
Oracle:	Version 9
	Version 10
IBM DB2:	Version 8.0

NOTE: *SQL Server, Oracle and DB2 are the databases that were certified and tested by Oracle Insurance. Any ANSI compliant database may be able to function with a Java version of SoftRater. Please contact an Oracle Insurance sales representative for further information.*

SOFRATER JAVA CONFIGURATIONS

The following are the operating system, software and hardware requirements for each of the SoftRater for Java components.

OPERATING ENVIRONMENT – JBOSS by RED HAT

Below is a listing of the operating environments recommended for SoftRater for JBoss Application Server by Red Hat Version 4.2.3 GA.

Version: 4.2.3.GA (build: SVNTag=JBoss_4_2_3_GA date=200807181418)

Version Name: Trinity

Built on: July 18 2008

OPERATING SYSTEM	SOFTWARE	HARDWARE
HP-UX	HP-UX i2 JDK 1.5	RISC, ia64. Minimum 2 GB free disk space for installation. Minimum memory of 1 GB, 2 GB recommended.
Linux	Red Hat Enterprise Linux v5 (Latest Update) Red Hat Enterprise Linux v4 (latest update) JDK 1.5	x86, x86_64, IBM System z s390x (64-bit) x86, x86_64, IBM System z s390x (64-bit), s390 (31-bit) Minimum of 2 GB available disk space. Minimum memory of 1 GB, 2 GB recommended.
Sun Solaris	Sun Solaris operating environment, Version 9 or 10 JDK 1.5	SPARC, x86 SPARC Minimum of 2 GB available disk space for installation. Minimum memory of 1 GB, 2 GB recommended.
Microsoft Windows 2003	Microsoft Windows Server 2003 JDK 1.5	x86, x86_64 Minimum of 2 GB available disk space for installation. Minimum memory of 1 GB, 2 GB recommended.

OPERATING ENVIRONMENT – ORACLE WEBLOGIC

The following minimum operating system and hardware requirements must be met on the server to support the basic installation and use of Oracle WebLogic Server Version 10.3.1.

Operating System	Software	Hardware
Windows 2003	Windows Server 2003 SP1+, Windows Server 2008 SP1+. IIS 6.0 .NET Framework 3.5 JRockit 6.0 or later, Sun Java 2JDK 6.0 Update or later.	Intel Pentium® processor at 1.3 GHz or faster, minimum of 2 GB available disk space for installation. Minimum memory of 1 GB, 2 GB recommended.
AIX	IBM AIX 5.3 – TL7+, AIX 6.1 Gold. IBM Java 6 32-bit JDK (Service Refresh 2 or greater) Java version 1.6.0, Java 2 Runtime Environment, Standard Edition, IBM J9 VM. Azul Virtual Machine 2.5.2 and later patches.	POWER4 (1.5 GHz) or higher. Minimum of 2 GB available disk space for installation. Minimum memory of 1 GB, 2 GB recommended.
HP-UX	HP-UX 11i V1, 11i V2, 11i V3 with HP-UX patches for Java. HP-UX JDK for the Java 2 Standard Edition platform version 6.0.02 HP PA-RISC 2 with Java HotSpot Server VM and all later JDK 6.0 service packs.	PA-RISC at 440 MHz or faster. Minimum 2 GB free disk space for installation (includes SDK). Minimum memory of 1 GB, 2 GB recommended. 11i V3 – HP- Itanium 1.5 GHz.
Linux	Linux 4.0 5.0 AS, ES, WS Kernel 2.6.9-11 ELsmp #1 SMP x86_32 GNU_Linux with glibc 2.3.4-2.9 and later updates and errata levels. JRockit 6.0 JDK and all later 6.0 releases. Azul Virtual Machine 2.5.2 and later patches.	Intel Pentium® processor at 1.3 GHz or faster or AMD64 and 64-bit Xeon with 32-bit JDK, minimum of 2 GB available disk space for installation. Minimum memory of 1 GB, 2 GB recommended.
Solaris	Sun Solaris Version 9, 10 Sun Java JDK 6.0 Update 05 with Java HotSpot Client and Server VMs (32-bit) and all later service packs of 6.0. Sun Solaris Version 9 or 10 Sun Java 2JDK 6.0 Update 05 with Java HotSpot Client and Server VMx (32-bit or 64-bit) and all later service packs. Azul Virtual Machine 2.5.2 and later patches.	Ultra SPARC 168MHz or faster, minimum of 2 GB available disk space for installation (includes SDK). Minimum memory of 1 GB, 2 GB recommended.

For additional information, please see:

http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html

OPERATING ENVIRONMENT – IBM WEBSPHERE

Below is a listing of the operating environments recommended for SoftRater for IBM WebSphere Versions 6.0.x and 6.1.x.

OPERATING SYSTEM	SOFTWARE	HARDWARE
IBM AIX	IBM AIX 5.3 – ML3 and higher	POWER4 (1.5 GHz) or faster. Minimum of 2 GB available disk space for installation (includes SDK). Minimum memory of 1 GB, 2 GB recommended.
HP-UX	HP-UX 11i, 11i V2, 11i V3 with HP-UX patches for Java.	PA-RISC at 440 MHz or faster. Minimum 2 GB free disk space for installation (includes SDK). Minimum memory of 1 GB, 2 GB recommended.
Linux	RedHat Advanced Server for Intel (x86) 2.1 SuSE Linux SLES for Intel (x86) V8.0 Service Pack 2A TurboLinux Enterprise Server for Intel V8.0 Service Pack 2A UnitedLinux for Intel V1.0 Service Pack 2A Conectiva Linux Enterprise Edition for Intel V1.0	Intel® Pentium processor at 1.3 GHz or faster, or equivalent. Minimum of 2 GB available disk space (includes IBM SDK). Minimum memory of 1 GB, 2 GB recommended.
Sun Solaris	Sun Solaris operating environment, Version 8 or 9 with the Patch Cluster of November 2003	Solaris SPARC workstation at 440MHz or faster, minimum of 2 GB available disk space for installation (includes SDK), minimum memory of 1 GB, 2 GB recommended.

IBM iSeries	Consult: WebSphere Application Server for iSeries Information Center http://www-306.ibm.com/software/info1/websphere/index.jsp	
Microsoft Windows 2000 Microsoft Windows 2003	Microsoft Windows 2003 Microsoft® Windows 2000 Server with Service Pack 4 or above Microsoft Windows 2000® Advanced Server with Service Pack 4 or above Microsoft Windows Server 2003, Data Center Microsoft Windows Server 2003, Enterprise Microsoft Windows Server 2003, Standard	Intel Pentium® processor at 1.3 GHz or faster, minimum of 2 GB available disk space for installation (includes IBM SDK). Minimum memory of 1 GB, 2 GB recommended.