Sun Role Manager 4.1 Application Support Guide

Sun microsystems

Preface

The Sun Role Manager 4.1 Application Support Guide provides detailed information to troubleshoot and support the Sun™ Role Manager software (formerly Vaau's RBACx product) set up on all supported platforms

Role Manager Overview

Role Manager is a comprehensive Identity Management and Compliance solution that enables companies to proactively enforce internal security control policies and automate critical identity management processes.

Role Manager is J2EE-based, utilizing a 3-tiered model. Requirements of the 3-tier architecture are a web server, an application server, and a database server. The Role Manager application comes bundled with Apache Tomcat 5.5.16 which serves as both – a web server and an application server. Other Java™ based application servers such as Sun Java System Application Server, WebSphere, JBoss, WebLogic etc. are also supported by Role Manager. Supported database servers include MySQL,Microsoft SQL Server, Oracle®, IBM DB2. Role Manager can be easily integrated on Windows, UNIX or UNIX – like platforms. Refer to the Sun Role Manager 4.1 Compatibility Matrix for information of supported applications.

This guide is designed to provide system administrators and technical staff with comprehensive information to troubleshoot and support Role Manager instance running on various supported platforms. For information on installing the product, please refer to Role Manager 4.1 Installation Guide.

Who Should Use This Guide

This guide is designed for system administrators who are responsible for installing/maintaining the Sun Role Manager software (Role Manager) on the target systems.

Document Conventions

The following conventions are used in this guide –

Information in …	Indicates …
<Italics>	A variable whose value is name of the directory
BOLD TEXT	Information that you must type exactly as shown
TEXT	File name

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Role Manager Troubleshooting

This section describes troubleshooting the Role Manager application. The information is organized as follows

- Verification of Role Manager
- Starting / Stopping Role Manager
- Troubleshooting Common Errors

Verification of Role Manager

Standard verification of Role Manager can be accomplished in the following 2 ways –

- Log file – Successful launch of the Role Manager application is recorded in the application log file, usually named as rbacx.log. The entry listed in the log file includes the Role Manager version apart from the timestamp of application launch. An example of the log entry is listed below

```
"17:27:11,218 INFO  [ContextLifecycleListener] Sun Role Manager (build:
4.1.0.20080903_406_3061) Started"
```

- Application URL – The Role Manager application launch can be verified by utilizing a web-browser and executing the Role Manager URL, for example –

```
"http://localhost:9080/rbacx"
```

It's assumed that Role Manager is deployed on TCP Port 9080, and the verification is conducted on application-server host machine. The Role Manager URL is of the following format -

```
"http://<application server hostname>:<port>/rbacx"
```

Starting / Stopping Role Manager

Role Manager utilizes a 3-tier architecture i.e. a web server (presentation tier), application server (application tier) and a database (data tier). As the application tier controls the Role Manager's functionality, as a result, Role Manager can be started / stopped using the Application Control Panel of the application server, for example – Administrative Console of Sun Java System Application Server.

Troubleshooting Common Errors

- Role Manager Installer Cannot Connect To Database – The Role Manager installer cannot create connectivity with the database installer if drivers supporting the JDBC™ API (JDBC drivers) are not set in CLASSPATH variable

Resolution

Set CLASSPATH environment variable as described below and relaunch the installer

For the Windows environment (assuming connectivity is to be established with MS SQL Server, the JDBC driver is located in C:\RBACx_Drivers and Role Manager Installer is located in C:\SRM_4.0)

```
set CLASSPATH=.;C:\RBACx_Drivers\jtds-1.2.jar
cd C:\SRM_4.1
install.bat
```

For the UNIX environment (assuming connectivity is to be established with DB2 Server, the JDBC driver is located in usr/local/RBACx_Drivers/ and the Role Manager installer is located in usr/local/SRM_4.1/)

```
export CLASSPATH=.:/usr/local/RBACx_Drivers/db2jcc.jar:
/usr/local/RBACx_Drivers/ db2jcc_license_cu.jar
```

cd /usr/local/SRM_4.1

install.sh

Note – No line breaks should exist during CLASSPATH setup

- JDBC Connection Error – The error is generated when Role Manager is unable to connect to the database and is logged in rbacx.log file. The error would consist of

```
"Failed to obtain DB connection from data source
'springNonTxDataSource.QuartzScheduler': java.sql.SQLException: Connections
could not be acquired from the underlying database! [See nested exception:
java.sql.SQLException: Connections could not be acquired from the underlying
database!]"
```

Resolution

- Check jdbc.properties configuration file in $RBACX_HOME/conf folder

- Check conf-context.xml file in /WEB-INF/ folder
- Ensure that JDBC drivers corresponding to the database type is present in /WEB-INF/lib
- Verify the database server connectivity can be established from the application server

● Error Loading Workflow – The following error is generated when 'workflows.xml' file is not properly configured in /WEB-INF/classes folder

```
"Error loading workflow Role Membership Workflow
com.opensymphony.workflow.FactoryException: Error in workflow descriptor:
file:/<WORKFLOWS_FILE_PATH>role-user-membership-workflow.xml: root cause: <
$RBACX_HOME>\conf\workflows\role-user-membership-workflow.xml (The device is
not ready)"
```

Resolution

- Verify if $RBACX_HOME variable in 'workflows.xml' in /WEB-INF/classes is correctly setup

● Role Mining Error – While executing the role mining process, a pop-up displays the following error

```
"weka/filters/Filter"
```

This error is generated due the unavailability of weka.jar in the Role Manager library.

Resolution

- Copy weka.jar into /WEB-INF/lib folder, and restart the application server

● Provisioning Server Not Listed Under Administration > Configurations > Provisioning Servers Tab – The 'Provisioning Servers' tab displays 'file' and 'sun' as the available options. To display other supported provisioning servers, edit 'iam-context.xml' in /WEB-INF folder

Resolution

- To setup IBM Tivoli Identity Manager, uncomment the following lines from 'iam-context.xml'

```
<!--entry key="ibm">
<ref local="tim"/>
</entry-->


<!--bean id="tim" class="com.vaau.rbacx.iam.ibm.TIMIAMSolution"
parent="abstractIAMSolution"/-->
```

- To setup CA eTrust Identity Access Management, uncomment the following lines in 'iam-context.xml'

```
<!--entry key="ca">
<ref local="eTrust"/>
</entry-->


<!--bean id="eTrust" class="com.vaau.rbacx.iam.ca.ETrustIAMSolution"
```

```
parent="abstractIAMSolution">
<property name="extensions">
<value>${com.ca.iam.extensions}</value>
</property>



                <property name="userSearchFilter">
                        <value>*</value>
                </property>
</bean-->
```

- To setup Oracle Identity Manager, uncomment the following lines listed in 'iam-context.xml'

```
<!--entry key="oracle">
<ref local="oim"/>
</entry-->

<!--bean id="oim" class="com.vaau.rbacx.iam.oracle.OIMIAMSolution"
parent="abstractIAMSolution">
// Sample application to namespace mapping
<property name = "namespaceMap">
            <map>
                <entry key = "HealthMaster">
                    <value>RACF Account</value>
                </entry>
                <entry key = "HealthMaster1">
                    <value>RACF Account</value>
                </entry>
            </map>
        </property>
        //Sample namespace attribute mapping->
        <property name = "nsAttributeMap">
            <map>
                <entry key = "HealthMaster">
                    <map>
                        <entry key = "transactions">
                            <value>UD_RACFTR_P_TRANSACTION</value>
                        </entry>
                    </map>
                </entry>
                <entry key = "HealthMaster1">
                    <map>
                        <entry key = "transactions">
```

```
                              <value>UD_RACFTR_P_TRANSACTION</value>
                        </entry>
                    </map>
                </entry>
            </map>
        </property>
        <property name="loginConfig">
            <value>${com.vaau.rbacx.iam.oracle.loginConfig}</value>
            </property>
        <property name="oimHome">
            <value>${com.vaau.rbacx.iam.oracle.oimHome}</value>
         </property>
        <property name = "provider">
            <value>jnp://</value>
        </property>


<property name = "namingContextFactory">
            <value>org.jnp.interfaces.NamingContextFactory</value>
        </property>
        <property name = 'roleDao'>
            <ref bean="roleDao"/>
        </property>
        <property name = "policyManager">
            <ref bean = "policyManager"/>
        </property>
        <property name="userProperties">
            <map>
                <entry key = "userName">
                    <value>Users.User ID</value>
                </entry>
                <entry key = "firstName">
                    <value>Users.First Name</value>
                </entry>
                <entry key = "lastName">
                    <value>Users.Last Name</value>
                </entry>
                <entry key = "middleName">
                    <value>Users.Middle Name</value>
                </entry>
                <entry key = "manager">
                    <value>Users.Manager Login</value>
                </entry>
```

```
                            <entry key = "primaryEmail">
                                <value>Users.Email</value>
                        </entry>
                        <entry key = "employeeType">
                                <value>Users.Role</value>
                        </entry>
                        <entry key = "startDate">
                                <value>Users.Start Date</value>
                        </entry>
                        <entry key = "endDate">
                                <value>Users.End Date</value>
                        </entry>
                        <entry key = "createDate">
                                <value>Users.Provisioned Date</value>
                        </entry>
                </map>
        </property>
            <property name = "customProperties">
                <list>
                        <value>Users.Email</value>
                        <value>Organizations.Organization Name</value>
                        <value>USR_UDF_LOCATION</value>
                        <value>Users.Deprovisioning Date</value>
                        <value>Users.Xellerate Type</value>
                        <value>Users.Identity</value>
                        <value>Users.Lock User</value>
                        <value>Users.Disable User</value>



 <value>Users.Role</value>
                </list>
            </property>
        </bean-->
```

- Error Rendering Report – The following error is generated when Role Manager reports cannot be rendered by the system

```
20:44:43,498 ERROR [JasperPrintRenderer] Error rendering report:
java.io.FileNotFoundException:<$FILE_PATH>\<$FILE_NAME>.jasper
```

Resolution

- Validate the file path listed in 'reporting-context.xml'
- Verify the report being rendered(<$FILE_NAME>.jasper) exists in 'reports' folder

- Role Manager Configuration Error – Any inaccuracies in the Role Manager configuration would generate errors and cause Role Manager launch failure. 'conf-context.xml' and 'reporting-context.xml' are 2 common files where configuration errors can cause failure. Some of the common errors are listed below -

Common errors related to conf-context.xml file

- java.io.FileNotFoundException: C:\Vaau\rbacx-4.1\conf\jdbc.properties (The system cannot find the path specified)

- java.io.FileNotFoundException: C:\Vaau\rbacx-4.1\conf\mail.properties (The system cannot find the path specified)

- java.io.FileNotFoundException: C:\Vaau\rbacx-4.1\conf\ldap.properties (The system cannot find the path specified)

- java.io.FileNotFoundException: C:\Vaau\rbacx-4.1\conf\iam.properties (The system cannot find the path specified)

Resolution

- Verify the $RBACX_HOME path outlined in 'conf-context.xml' and 'reporting-context.xml' is accurate

- Java Heap Out of Memory Error – 'java.lang.OutOfMemoryError' exception in the log is caused by Java heap fragmentation. This fragmentation occurs when no contiguous chunk of free Java heap space is available from which to allocate Java objects.

Resolution

- Increasing the size of JVM memory pool and clearing out Java cache solves the exception stated above. The recommended setting for min. / max. value is 512 MB / 1024 MB respectively

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Role Manager Logs

Role Manager has various logs which are available for the user can use during trouble-shooting. The two major types of logs are the

- Role Manager Audit / Import Logs
- Role Manager System Logs

Role Manager Audit / Import Logs

Every operation done on the Role Manager user is recorded and reported in the Audit Event view in Role Manager. The current audit events include –

- Role Manager User Password Update
- Addition of Role Manager User
- Modification of Role Manager User
- Deletion of Role Manager User

The details captured by the Audit events are –

Function	Description
Timestamp	Denotes the time when the audit event was captured
UserId	Denotes the user id of the account which initiates the change
UserName	Denotes the name of the user account which initiates the change
Action	One of the following action are shown in this column ADD, MODIFY, DELETE, LOGIN, LOGOUT
Description	The description of the audit event is provided here
Remote IP Address	IP Address of the machine which initiates the change
Remote Host Name	Host Name of the machine which initiates the change

In addition to the audit events the import logs for the various feed imports are recorded in Role Manager. The Import logs are divided into three categories –

- User Import
- Account Import
- Glossary Import

The details captured by the Import logs are described on the following page –

Function	Description
Imported By	This outlines the method used to import the feed files. In this case this will be represented as BATCH.
Source	Denotes the source of import. For this version all imports will be FILE_IMPORT
Import Type	Denoted as Accounts, Glossary, Users depending on type
Total number of records	Total number of records in the feed file
Records Imported	Total number of records imported by Role Manager
Number of Errors	Denotes the number of errors encountered during the Feed import
Start time	Start Time of Import
End Time	End Time of Import
Read Time	NA
Description	The file name is specified in the description

▼ Review Role Manager Audit Logs

Follow the steps below to analyze events in the Role Manager audit logs –

1. **Log in to Role Manager**

2. **Click the System tab**

3. **Select the required Action. Content can be filtered using Username / Fullname**

4. **Select the time period from To and From calendars as required**

5. **Click Filter**

6. **The filtered event logs would be displayed**

7. **Click the Close icon to return to the filtered Audit Event Logs list**

▼ Review Role Manager Import Logs

Role Manager import logs can be accessed and analyzed by following steps outlined below –

1. **Log in to Role Manager**

2. **Click the System tab**

3. **Click on Import Logs under the System tab**

4. **Select the type of Import Logs (Accounts, User, Roles, Policies, Glossary) as needed**

5. **Review details of the log**

6. **Click the Close icon to return to Import Logs page**

Role Manager System Logs

Role Manager utilizes log4j framework which is one of several Java Logging Frameworks. The log file is named and created as per the definition in log4j.properties file located in $RBACX_HOME/WEB-INF folder. log4j.properties is the logging configuration file and can be utilized to alter different logging levels of Role Manager . The log captures various details such as the import /export information, ETL processing and also any exceptions which arise while running the application.

The contents of log4j.properties with the ideal logging levels are specified below –

```
log4j.rootLogger=INFO, file

# Console Appender
log4j.appender.console=org.apache.log4j.ConsoleAppender
log4j.appender.console.layout=org.apache.log4j.PatternLayout
log4j.appender.console.layout.ConversionPattern=%d{ABSOLUTE} %-5p [%c{1}] %m%n

# File Appender
log4j.appender.file=org.apache.log4j.DailyRollingFileAppender
log4j.appender.file.file=logs/rbacx.log
log4j.appender.file.layout=org.apache.log4j.PatternLayout
log4j.appender.file.layout.ConversionPattern=%d{ABSOLUTE} %-5p [%c{1}] %m%n
log4j.appender.file.ImmediateFlush=true
log4j.appender.file.DatePattern='.'yyyy-MM-dd

# Tomcat logging
log4j.logger.org.apache.catalina=WARN
```

```
# DON'T EDIT FOLLOWING
log4j.logger.com.vaau.commons.springframework.context.ContextLifecycleListener
=INFO

#VAAU commons logging
log4j.logger.com.vaau.commons=WARN

#RBACx Core logging
log4j.logger.com.vaau.rbacx= WARN
log4j.logger.com.vaau.rbacx.core= WARN
log4j.logger.com.vaau.rbacx.service= WARN
log4j.logger.com.vaau.rbacx.manager= WARN

# RBACx Security logging
log4j.logger.com.vaau.rbacx.security=WARN

#RBACx Scheduling logging
log4j.logger.com.vaau.rbacx.scheduling=DEBUG

# RBACx ETL
log4j.logger.com.vaau.rbacx.etl.manager=WARN

#RBACx IAM logging
log4j.logger.com.vaau.rbacx.iam= DEBUG

#RBACx Reporting logging
log4j.logger.com.vaau.rbacx.reporting=WARN

#RBACx Audit logging
log4j.logger.com.vaau.rbacx.audit=WARN

# RBACx Role-Mining logging
log4j.logger.com.vaau.rbacx.rolemining=WARN
log4j.logger.com.vaau.commons.datamining=WARN
log4j.logger.com.vaau.commons.ml=WARN
log4j.logger.com.vaau.odm=WARN

# RBACx IDC logging
log4j.logger.com.vaau.rbacx.idc=WARN

# SYTEM
log4j.logger.com.vaau.rbacx.system=DEBUG

# Sandbox
log4j.logger.com.vaau.rbacx.sandbox.ida=WARN
```

```
log4j.logger.com.vaau.rbacx.sandbox.rme=WARN


# Workflow
log4j.logger.com.vaau.rbacx.workflow=WARN
log4j.logger.com.opensymphony.workflow.AbstractWorkflow=ERROR


# SqlMap logging configuration. Change WARN to DEBUG if want to see all sql
statements
log4j.logger.com.ibatis=WARN
log4j.logger.com.ibatis.common.jdbc.SimpleDataSource=WARN
log4j.logger.com.ibatis.common.jdbc.ScriptRunner=WARN
log4j.logger.com.ibatis.sqlmap.engine.impl.SqlMapClientDelegate=WARN
log4j.logger.org.springframework.jdbc.datasource.DataSourceTransactionManager=
WARN
log4j.logger.java.sql.Connection=WARN
log4j.logger.java.sql.Statement=WARN
log4j.logger.java.sql.PreparedStatement=WARN


#Spring Framework
log4j.logger.org.springframework=WARN
log4j.logger.org.springframework.rules.values=WARN
log4j.logger.org.springframework.context.support=WARN
log4j.logger.org.springframework.transaction=WARN
log4j.logger.org.springframework.aop.interceptor=WARN
log4j.logger.org.springframework.security=WARN
log4j.logger.org.springframework.security.event.authentication.LoggerListener=
FATAL


# For Trace Logging change them TRACE
log4j.logger.org.springframework.aop.interceptor.PerformanceMonitorInterceptor
=WARN
log4j.logger.org.springframework.aop.interceptor.CustomizableTraceInterceptor=
WARN


##JIAM log
log4j.category.com.ca=WARN
#log4j.category.com.ca.commons.jndi=DEBUG


#Quartz scheduler
log4j.logger.org.quartz=WARN


#DWR
log4j.logger.uk.ltd.getahead.dwr=FATAL
log4j.logger.org.directwebremoting=FATAL


#ehcache
```

```
log4j.logger.net.sf.ehcache=ERROR

#CloverETL
log4j.logger.org.jetel=ERROR

#C3p0
log4j.logger.com.mchange=ERROR

# JasperReports

log4j.logger.net.sf.jasperreports=ERROR

log4j.logger.com.vaau.rbacx.search=WARN

log4j.logger.com.vaau.commons.search=WARN
```

The highlighted log items are the required in the current release of Role Manager. A few more parameters to keep in mind are the Security and the IAM logging.

◆ ◆ ◆   **C H A P T E R   3**

Role Manager Scheduler

Role Manager provides a scheduler which enables the user to specify specific times for the various imports , exports and other schedules tasks. The current scheduler is based in the configuration files and is specific to every Application Server. The scheduler is packaged between two files in the Role Manager and these are found under the $RBACX_HOME/WEB-INF folders. The two files which enable the scheduling service are

- scheduling-context.xml
- jobs.xml

The scheduling-context.xml file enables the user to enable the imports in Role Manager (User import, Account import, Glossary import, Roles Import and Policies Import) as well as other scheduled tasks and the actual schedule for each import, export or scheduled job is specified in the jobs.xml. The schedule for every job is specified using a Cron Expression. A "Cron-Expression" is a string comprised of 6 or 7 fields separated by white space which specifies the schedule for every job. A few sample Cron Expressions are listed below –

Cron Expression	Definition
0 0 12 * * ?	Fire at 12pm (noon) every day
0 15 10 ? *	Fire at 10:15am every day
0 15 10 * * ?	Fire at 10:15am every day
0 15 10 * * ? *	Fire at 10:15am every day
0 15 10 * * ? 2007	Fire at 10:15am every day during the year 2007
0 * 14 * * ?	Fire every minute starting at 2pm and ending at 2:59pm, every day

0 0/5 14 * * ?	Fire every 5 minutes starting at 2pm and ending at 2:55pm, every day
0 0/5 14,18 * * ?	Fire every 5 minutes starting at 2pm and ending at 2:55pm, AND fire every 5 minutes starting at 6pm and ending at 6:55pm, every day
0 0-5 14 * * ?	Fire every minute starting at 2pm and ending at 2:05pm, every day
0 10,44 14 ? 3 WED	
0 15 10 ? * MON-FRI	Fire at 2:10pm and at 2:44pm every Wednesday in the month of March.
0 15 10 15 * ?	Fire at 10:15am every Monday, Tuesday, Wednesday, Thursday and Friday
0 15 10 L * ?	Fire at 10:15am on the 15th day of every month
0 0 12 * * ?	Fire at 10:15am on the last day of every month

Cron Expression	Definition
0 15 10 ? * 6L	Fire at 10:15am on the last Friday of every month
0 15 10 ? * 6L 2002-2005	Fire at 10:15am on every last friday of every month during the years 2002, 2003, 2004 and 2005
0 15 10 ? * 6#	Fire at 10:15am on the third Friday of every month
0 0/30 8-9 5,20 * ?	Fires every half hour between the hours of 8 am and 10 am on the 5th and 20th of every month. Note that the trigger will NOT fire at 10:00 am, just at 8:00, 8:30, 9:00 and 9:30
0 30 23-19 ? * *	Fires at 10:30, 11:30,12:30 and 13:30 on every Wednesday and Friday
10 0/5 * * * ?	Fire every 5minutes and 10 seconds
0 0/5 * * * ?	Fire every 5 minutes
0 15 10 ? * 6L	Fire at 10:15am on the last Friday of every month
0 15 10 ? * 6L 2002-2005	Fire at 10:15am on every last friday of every month during the years 2002, 2003, 2004 and 2005
0 15 10 ? * 6#	Fire at 10:15am on the third Friday of every month
0 0/30 8-9 5,20 * ?	Fires every half hour between the hours of 8 am and 10 am on the 5th and 20th of every month. Note that the trigger will NOT fire at 10:00 am, just at 8:00, 8:30, 9:00 and 9:30
0 30 23-19 ? * *	Fires at 10:30, 11:30,12:30 and 13:30 on every Wednesday and Friday

10 0/5 * * * ?	Fire every 5minutes and 10 seconds
0 0/5 * * * ?	Fire every 5 minutes

Edit Cron Expression for the required scheduled action in scheduling-context.xml file to setup a timed import.

For instance to trigger the 5 import jobs (User, Account, Roles, Policies, Glossary), follow the steps below

1. **Browse to $RBACX_HOME/WEB-INF/ folder**

2. **Edit the required lines to enable imports**

   a. **To enable User import uncomment the User Import tags listed under property named jobDetails and triggers**

   b. **To enable Account import uncomment the Account Import tags listed under property named jobDetails and triggers**

   c. **To enable Roles import uncomment the Roles Import tags listed under property named jobDetails and triggers**

   d. **To enable Policies import uncomment the Policies Import tags listed under property named jobDetails and triggers**

   e. **To enable Glossary import uncomment the Glossary Import tags listed under property named jobDetails and triggers**

A snippet of jobs.xml that contains the lines to be edited, has been included below –

```xml
<property name="jobDetails">
            <list>
                <!-- Uncomment the line before to use this account
import job.
            Mulitple jobs can be added,
            1. Define a job in jobs.xml
            2. Add a reference to job below  -->

                    <!--ref bean="usersImportJob"/-->
                    <!--ref bean="accountsImportJob"/-->
                    <!--ref bean="rolesImportJob"/-->
                    <!--ref bean="glossaryImportJob"/-->
                    <!--ref bean="policiesImportJob"/-->
                    <!--ref bean="certificationReminderJob"/-->
                    <!--ref bean="reportReminderJob"/-->
                    <!--ref bean="stableFolderCleanUpJob"/-->
                    <!--ref bean="accountsMaintenanceJob"/-->
                    <!--ref bean="roleMembershipRuleJob"/-->
                    <ref bean="fullTextIndexMaintenancedJob"/>
                    <ref bean="workflowStepSLAJob"/>
                    <ref bean="roleMembershipJob"/>
                </list>
            </property>

            <property name="triggers">
                <list>
                    <!-- Uncomment the line before to use this account
import job.
                Mulitple triggers can be added,
                1. Define a triger in jobs.xml
                2. Add a reference below  -->

                    <!--ref bean="usersImportTrigger"/-->
                    <!--ref bean="accountsImportTrigger"/-->
                    <!--ref bean="accountsImportTrigger_2"/--> <!--
Aditional triggers for account imports to be used in clusters -->
                    <!--ref bean="accountsImportTrigger_3"/--> <!--
Aditional triggers for account imports to be used in clusters -->
                    <!--ref bean="rolesImportTrigger"/-->
                    <!--ref bean="glossaryImportTrigger"/-->
                    <!--ref bean="policiesImportTrigger"/-->
                    <!--ref bean="certificationReminderTrigger"/-->
                    <!--ref bean="reportReminderTrigger"/-->
```

```
            <!--ref bean="stableFolderCleanUpTrigger"/-->
            <!--ref bean="accountsMaintenanceTrigger"/-->
            <!--ref bean="roleMembershipRuleTrigger"/-->
            <ref bean="fullTextIndexMaintenanceTrigger"/>
            <ref bean="workflowStepSLATrigger"/>
            <ref bean="roleMembershipJobTrigger"/>
        </list>
    </property>
```

◆ ◆ ◆ **C H A P T E R 4**

Role Manager Architecture

The Role Manager Architecture accommodates multiple Application Servers which point to a single Database or a database cluster. Clustering of the Application Servers ensures High availability and Load Balancing of the Application. A typical architecture is shown below

Figure 4-1: Architecture Overview
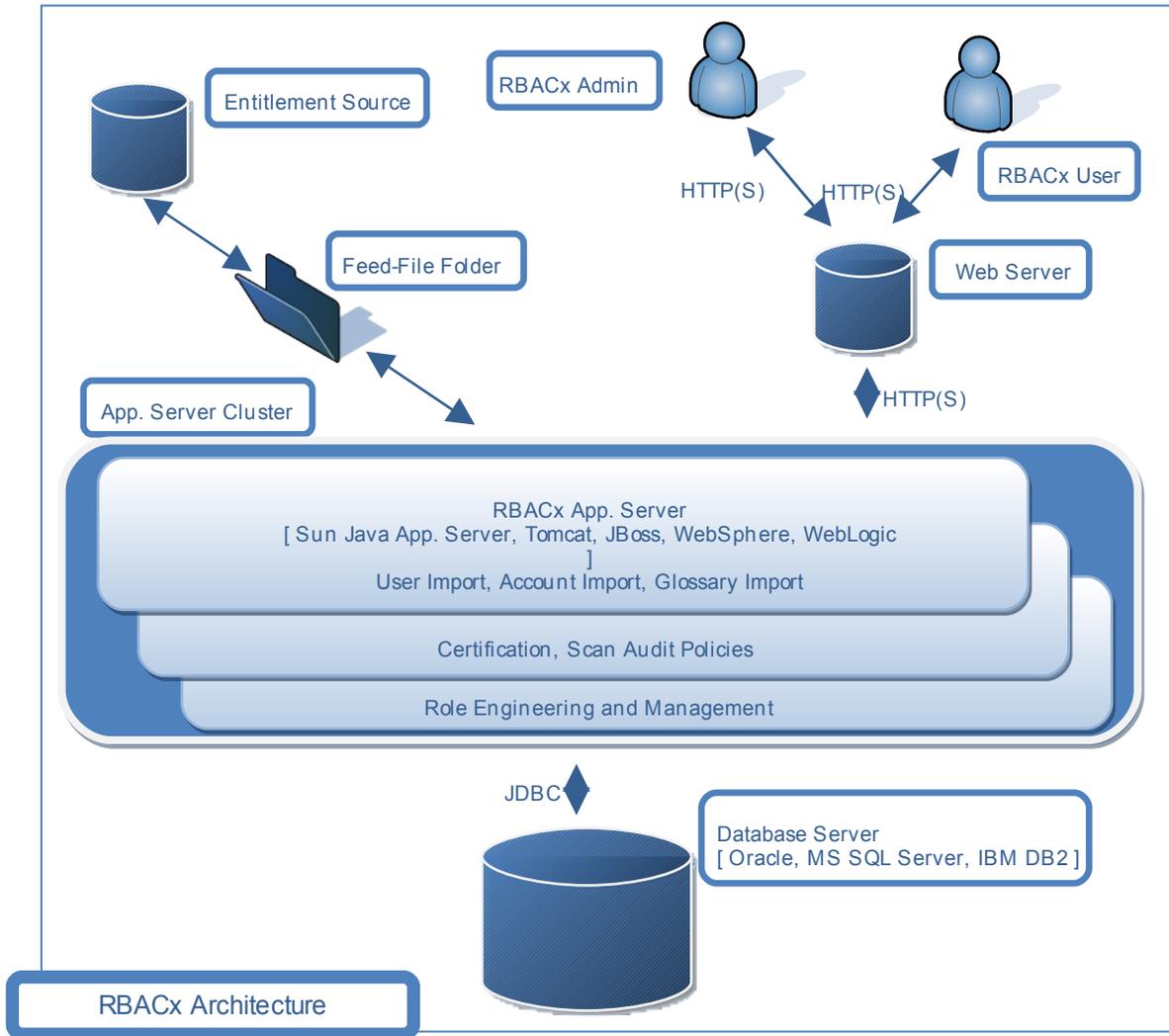
5
C H A P T E R   5

Role Manager Revision History

Version :   Sun Role Manager 4.1

New Features Added

1. Enhanced Identity Certification Features

Advanced user population selection strategy, ability to delegate a certification to any user in the Identity Warehouse, additional certification options for accurately identifying users, roles and entitlements, ability to export in progress certifications as reports to certify them offline, ability to configure event-based certifications (incremental certifications, certifications based on job transfers), ability to track revocations of completed certifications, advanced configuration & workflow options unique to each certification, and the ability to end date certifications

2. Enhanced UI for User Access Certifications

Richer, more intuitive user access certification experience with emphasis on usability and interaction design. A

completely re-designed user interface following a simple two-step process to certify user roles and entitlements, advanced drill-down, search and filtering capabilities, display/collapse navigation panels and the ability to generate in-progress certification reports for offline sign-off.

3. Enhanced Role Engineering and Administration

Robust Role Engineering & Administration capabilities which include the ability to schedule role mining using a robust job scheduler, display entitlement glossary during role mining, ability to generate reports from role mining reports, revised Role History module, enhanced Rule Engineering capabilities such as Rule Based Role Removal, provisioning policy workflow, mass modification role workflow, advanced role search and role copy features

4. Improved Identity Warehouse and Custom Reporting

Role Manager 4.1 includes an improved Identity Warehouse where Account information is supplemented with an Accounts Type field, a sophisticated search engine allows creation of complicated search conditions and searching on any of the commonly populated user fields and the correlation mechanism is augmented by the Manual Correlation capability that allows correlation of orphan accounts and changing associations of correlated accounts from the UI.

Role Manager 4.1 supports custom reporting which allows inclusion of server side custom reports to be available for view and export through the Role Manager interface.

5.Improved Integration with SUN Identity Manager

Any roles and surrounding metadata designed in Sun Role Manager can be easily exported to Sun Identity Manager, also leveraging the new business roles/IT roles feature in Sun Identity Manager 8.0, thus leading to better consumption of roles in Identity Manager

Role Manager 4.1 provides enhanced performance and efficiency when integrated with Sun Identity Manager with the ability to import only new or modified user accounts from Sun Identity Manager to Role manager via an enhanced SPML configuration.

6. Enhanced API Support

Role Manager 4.1 provides extensive API support by means of Web services where several important tasks are supported by Web services such as

- Assigning and Removing User to a given Role with Auto Approval, Evaluating Audit Policy

- Checking SOD Exception for the Roles

- Create and Update User with Rule Based Role Assignment

- Fetch the Business Units associated with a given User

- Remove all the roles from a Given User

7. MySQL Support

Role Manager 4.1 now adds support for MySQL deployed in both Windows and UNIX® environments, a major addition to its existing support of MS SQL ,Oracle and DB2.

Role Manager is able to fully exploit the potential of automating table and index reorganization in MySQL, eliminating fragmented data to improve data access performance.

Enhancements

[RBX-2009] RME : Enhanced Role Version

[RBX-2011] RME : Enhanced Role History

[RBX-1969] RME : Workflow step timeline

[RBX-1908] IDC : User Selection

[RBX-1910] IDC : Delegation

[RBX-1911] IDC : Certification Options

[**RBX-1912]** IDC : In Progress Reports

[RBX-1914] IDC : Track Revocations

[RBX-1915] IDC : Certification complete emails

[RBX-1916] IDC : Multiple Email Templates

[RBX-1917] IDC : End Date Certification

[RBX-1918] IDC : Certification Remediation Process

[RBX-1998] REPORTS : Failed Correlation Reports

[RBX-2025] Administration : Scheduler UI

[RBX-2536] Integration : SRM - OIM Integration Upgrade

Bugs Fixed

[BUG-394] IDW : Endpoint : Data Management: Data owner : While selecting any user it should select only one for Data Owner from user list

[BUG-469] IDA : Policies : New Policy : Re mediator shows duplicate user list

[BUG-480] IDW : Endpoint : Data Management :Unable to set Data Owner value to Null for a given attribute value

[BUG-534] REPORTS : When we click on a [View Report] of a report with page size (say 100), the report is displayed. However, we view the bottom of the report (normally Blank screen) rather t han top(the report details)

[BUG-545] IDA : New Scheduled Scan Job fields are highlighted when the values are populated

[BUG-558] IDA : Identity Audit - Scheduled scan job need filter option

[BUG-559] IDA : Identity Audit - Policy Violation details need filter option

[BUG-648] System : User Column is not available in Import / Export Logs tab

[BUG-652] System : Audit Event Logs/Import&Export Logs no clear tab present for filter

[BUG-653] System - After Filter the data if data is not found that time shows the Message
"Record not found"

[BUG-1685] Role Management: Role Consolidation by entitlements throws null error

[BUG-1866] General : Device Dependant Scripts Issue for Section 508

[BUG-1867] Forms: INPUT requires explicit LABEL

[BUG-1868] Images: Alt attribute required

[BUG-1871] Role Management : Clicking Role Management Tab throws exception

[BUG-1948] Role Engineering : Role Discovery : Select all/Select By page option added

[BUG-1951] IDW: Policy View : Unable to add or delete entitlements to a policy in IE

[BUG-1952] IDA: Issue Creating rules in IE

[BUG-1959] First time user attempts to sign on, an exception is thrown

[BUG-1961] System should have a setting in security configuration files to disable pre -
authentication access

[BUG-1997] IDW : Removing a role from policy with no attributes gives an error

[BUG-2043] Security : Button to remove RBX System Role to RBX User needs to be changed

[BUG-2044] Session timeout settings in UI is not in sync with web application settings

[BUG-2051] Role Management / Role Consolidation UI shows wrong set of common and distinct attributes

[BUG-2053] Cannot assign roles to rbacx user

[BUG-2056] Threshold to ignore attribute/values if value count is smaller than threshold

[BUG-2062] Configuration : NO CSV import fail emails go out

[BUG-2068] Role Engineering : Role Mining result, role details does not show the number of users in Role

[BUG-2069] Role Engineering : Role Mining result doesn't show classification rules in classification tab

[BUG-2072] Configuration : Object Error while creating an attribute

[BUG-2074] Role Engineering : Running Role mining in Safari (Mac OSX Leopard 10.5.3) with large number of users (> 6000), The result does not reach the browser,

[BUG-2079] Role Engineering : Loading role mining details when number of users is large is very slow

[BUG-2091] Role Engineering : Number of Users Selected Displayed Incorrectly During Role-Mining By BU

[BUG-2092] Role Engineering : Role Mining Preview : Export To CSV Failure

[BUG-2094] IDA : Rule Cannot Be Saved in MySQL

[BUG-2095] IDC : User Access : Unable to view user entitlement attributes

[BUG-2115] Workflow : Approver information shown incorrectly for role workflow chart

[BUG-2116] IDW : Policy details pop up doesn't show endpoints

[BUG-2216] My Requests: Viewing request details for completed request throws script error

[BUG-2235] Attribute property changes are not getting reflected when we change the page size

[BUG-2244] Role Management : Unable to select role in role management tab

[BUG-2257] Role Engineering : Rule Discovery on Business Units throwing "Null" Error

[BUG-2367] Security : "Access to Security tab in Thin Client" doesn't work

Role view in **[BUG-2371]** Role Engineering: Role Entitlement Discovery : New role version created due to Entitlement Discovery performed on a role leads it to load indefinitely when clicked under Roles IDW

[BUG-2373] IDW : Role View : Unable to add a user to a Role under IDW

[BUG-2408] Script : MySQL5 : Specified key was too long; max key length is 767 bytes

[BUG-2445] Role Engineering : Role Entitlement Discovery : Save Policies Button is disabled

[BUG-2526] Role Engineering : Column headers are not aligned properly during csv Export

[BUG-2586] IDW: User View : Custom properties not getting saved

[BUG-2322] IDC : Issue with the certification created of type Role Entitlement

[BUG-2263] IDC: Complete Certification tab - Inconsistent functionality

[BUG-2358] i18n : Report Names are hard coded on New Report Job screen

[BUG-2345] i18n : "Completed Jobs" menu item is hard coded

[BUG-2346] i18n : Schedule Jobs contains hard coded strings

Version :   Sun Role Manager 4.0.2

Bugs Fixed

[BUG-2389] IDA: Policy Scan

[BUG-2371] Role Engineering: New role version created due to Role Entitlement Discovery performed on a role leads it to load indefinitely when clicked under Roles view in IDW

[BUG-2372] Role Engineering : Add Select All and Select by Page functionality through out Role Engineering

[BUG-2235] Attribute property changes are not getting reflected when we change the page size

[BUG-2097] Security Tab - New RBACx User wizard displays the ALT text instead of left arrow

[BUG-2395] Interactive role mining result is not display in IE when result is large

[BUG-2257] Role Engineering : Rule Discovery on Business Units throwing "Null" Error

[BUG-2094] IDA Rule Cannot Be Saved - MySQL DB

Version :   Sun Role Manager 4.0.1

Enhancements

[RBX-2024] MySQL Support added

Bugs Fixed

[BUG-118] IDW - Role View - Unable to update custom properties for a given role

[BUG-672] IDW - Business Unit view - Relationship view Tab - Complete relationship map doesn't show up

[BUG-327] IDW - Policy view - Unable to change state of a role belonging to a given policy as High Privilege

[BUG-452] Configuration - No limitation set on Max password length

[BUG-511] IDC - Revoke comments don't get updated in comments field until page is refreshed

[BUG-1654] Configuration - Tags to trigger Rule based Role Assignment job missing in jobs.xml and scheduling-context.xml files

[BUG-1711] IDW - Business Unit selection tree doesn't function properly

[BUG-1721] Reports - Business unit reports when downloaded for a specific BU generate prints results for all the BU's and not just for the specific BU for which the report has been downloaded

[BUG-1734] Weblogic fails to compile config.jsp due to large file size

[BUG-1749] Schema - ROLE_MEMBERSHIP_RULE has wrong data type for RULE_XML column

[BUG-1753] With high number of business unit , the ACL after collection filtering becomes very slow

[BUG-1767] Role Management - Role consolidation - Tree selection is not always captured

[BUG-1771] Configuration - For all failed import/export from SUN IDM job, scheduled from UI the progress feedback doesn't show the exception thrown

[BUG-1777] UI changes for replacing role deletion by role decommission

[BUG-1787] IDW - Scroll-bar in Users tab of Business Structure is not functioning properly

[BUG-1791] IDW - Remove Role(s) functionality is not working correctly in Roles tab of BU view

[BUG-1806] Role Management - Role consolidation on basis of entitlement throws "NULL" error

[BUG-1810] Search on the basis of date doesn't consider year

[BUG-1818] IDW - Decommissioned roles should not be editable from the UI

[BUG-1822] IDW - Business Structure view - Unable to add/remove policies or users to a BU

[BUG-1823] IDW - User view - Roles tab - unable to add policies,users to a given role belonging to the user selected in user view

[BUG-1827] Unable to edit policy from Role view

[BUG-1828] IDA - Audit Event Logs tab :Filtering doesn't work

[BUG-1831] IDW - Suspension label is misspelled in User Details pop up in Business Structure

[BUG-1846] Reports - UI issues with adhoc report tab in Reports Tab

[BUG-1849] My Requests - sorting not working in My Request >> completed Request >>Request Type

[BUG-1851] Policy Imports fails with obscure message when Namespace is unknown

[BUG-1854] Null pointer exception is thrown during user import from Etrust for custom fields

[BUG-1865] Sorting does not work for 'Request Type' column of My Requests tab

[BUG-1964] StackOverflow due to recursive reference of header.jspf in error.jsp

[BUG-2017] Parent role name does not appear if a role is more than one level down in role hierarchy

[BUG-2020] Ability to import accounts by endpoints

[BUG-2021] High number of business units causes slowness in retrieving certifications

[BUG-2022] Deadlock during policy import from ETrust admin

[BUG-2023] When assigning roles from rules, inactive users are also getting new roles assigned

[BUG-2032] Parent role value is lost in role version

[BUG-2033] Users & Owners tab in Version Details pop up of My Requests tab shows same values even if users and owners list is different in Roles tab of IDW

[BUG-2034] A deleted Business Unit is seen in pop up of Parent Business Unit of another BU

[BUG-2037] ROLE_VERSIONS created with wrong column length

[BUG-2041] Unable to Create RBACx User

[BUG-2042] My Settings - Unable to change rbacxadmin's password

[BUG-2058] Result does not show user with and or without entitlement

[BUG-2068] Role Mining result, role details does not show the number of users in Role

[BUG-2069] Role Mining result is not showing classification rules in classification tab

[BUG-2064] Role Mining UI hangs under IE 6 and IE 7 with large number of users (16K)

[BUG-2071] In IDW Business Structure, add user the search for users returns no results

[BUG-2070] Loading a Role in IDW Tab/Roles Tab does not complete when role has a large number of users in it

[BUG-2056] Threshold to ignore attribute/values if value count is smaller than threshold

[BUG-2020] NullPointerException when trying to execute RME rules

[BUG-2022] Inactive role status on my request page displayed as active

Version : Sun Role Manager 4.0

NEW FEATURES ADDED:

1. Enhanced Graphical User Interface (GUI) : Enhanced AJAX rich UI Interface

Role Manager features a new, highly interactive Web 2.0 user interface, which is more intuitive and greatly improves the usability and performance of the application.

Role Manager has been completely migrated to the thin client, moving away from its traditional thick client used in earlier versions. This unified Web-based GUI is designed for both the end-user and administrator

functions.

It features custom alerts which notifies end users on the status of their pending or in progress Identity Certifications or pending role approval requests.

This ensures the end user is aware at all times of any important tasks they need to perform while they are logged into Role Manager.

Role Manager also includes advanced Search and Filtering capabilities across all its modules, ensuring a smooth and easy-to-use end user experience.

2. New Dashboards

Role Manager now includes graphical dashboards across all its modules : identity warehouse, identity audit, identity certification, reporting, role management and an intuitive home screen dashboard.

These graphical representations in various dashboards are automatically updated with progress made by end users when using the various Role Manager modules, such as completing an identity certification, certifying or revoking access within a certification, certifying or revoking role content, signing off reports and so on.

This graphical representation of data also allows Role Manager Administrators to derive a better understanding of progress being made on a daily basis.

3. Enhanced Role Management Features : Enhanced workflow engine to manage lifecycle of roles; Role Versioning ; Role History

Role Manager extends its Role Management suite by providing robust new features to enable Life Cycle Management of Roles. These new features are explained in detail in the sub-sections below:

Role Workflow & Approvals:

Role Manager offers an enhanced workflow engine to manage the lifecycle of roles; this new workflow engine provides the ability to design various workflow processes and also allows users to call external functions from within the workflow.

Role Manager provides a robust and easily configurable workflow engine to facilitate Role Management involving various actors and entities in an organization.

It can be customized to cater to diverse requirements to support different actors, role approval paths, email integration, and also exposes web services to communicate with third party applications.

Role Versioning:

Role Manager includes complex Role Versioning capabilities, allowing role engineers and administrators to create different versions of roles so that any modifications made to a role do not affect the original role.

Role Manager allows 'n' number of versions to be created for any particular role, requiring all versions to be approved before they are made Active.

This feature helps in assists in managing the lifecycle of roles ensuring no role modifications are made without approval and that there is always a previous version of the role to fall back on.

Role History

Role Manager also introduces Role History, which creates a complete snapshot of the role when a modification is made to its role membership or it is certified/rejected during a Role Certification.

Role Ownership

Role Manager introduces the concept of Role Ownership, which allows more than one role owner to be assigned for each role.

These role owners would then be in charge of certifying and approving role content and modifications made to a role.

This ensures a role has a role owner at all times during a roles life cycle.

Role Consolidation:

Finally, Role Manager provides a Role Consolidation feature that allows a Role Engineer or Analyst to compare the content of a role with other roles as well as compare the users associated in one role versus users associated in other roles.

This analysis helps determine more accurate role creation, eliminates duplicate roles, and allows us to re-use existing roles.

Rule Based Role Assignments:

Role Manager provides a complete setup of security, workflow and auditing features to manage the lifecycle of rules. This functionality will help companies obtain greater efficiencies from a role-based access control model. Multiple rules to assign new and existing users specific role based access can be defined in Role Manager.

The Rule Management feature provides a robust rule creation engine with a vast combination of user attributes (such as job codes, department, location, etc.) and multiple conditions to dynamically assign and de-assign roles from users.

4. Next Generation Identity Certification :

The powerful Identity Certification module is extended in Role Manager to provide the ability to perform certifications at the instance or server level of a resource, provides advanced drill down capabilities for users, and advanced filtering and searching capabilities on the certification interface

The Identity Certification module also adds on two important Certification types:

1. Role Entitlement Certification: Allows role owners to certify roles and role content
2. Application Certification: Allows application owners to certify entitlements pertaining to an application narrowed down by each instance of the application

5. Improved Glossary Module : Glossary lookup feature extended across the entire Role Manager Suite

This feature helps administrators, business users and role analysts view the data in business-friendly terms. The glossary module also helps identify High Privileged entitlements which allow access reviewers to determine access critical entitlements across different certifications.

6. Advanced Data Correlation Engine:

The process of associating users to their entitlements across various target systems in order to build the Identity Warehouse in Role Manager is called correlation.

A commonly used method to import this data is to use the automated Role Manager Import process via flat files. In Role Manager, multiple correlation rules and patterns can be defined in order to accurately associate users to their entitlements.

7. Complete Automation of Data Imports/Exports:

Role Manager provides a UI based scheduler for data imports & exports into and from the Role Manager repository. This import/export process was carried out by editing xml files in the previous versions of Role Manager.

This feature makes it easier and faster to create and modify schedules directly from the Role Manager UI.

8. Enhanced Role Manager Application Program Interface (API):

a. Role Manager provides a comprehensive set of Web Services to cover major functionality of the solution. Enhancing the API provides the ability for users to integrate Role Manager with other applications in their IT infrastructure.

b. Role Manager Web Services have been designed to support interaction of third party systems with user management, business unit hierarchy and role management capabilities provided by Role Manager.

A set of methods are provided along with the web services to perform various operations with business units, users, roles, policies and other entities within Role Manager.

c. Role Manager Web Services also support interaction of third party systems with the Identity Audit policies within Role Manager. The Identity Audit module comprises of a list of Segregation of Duties (SOD) which can be defined. Using the Identity Audit Web Service, the exceptions generated by these SOD's can then be reported. This web service can be used to implement preventative SOD where a user requesting a role from a third party system can be verified against Role Manager for any SOD.

d. Role Manager also provides web services to support Workflow around Role Management.

9. Robust System Management:

Role Manager Provides enhanced support for clustering and load balancing; LDAP over SSL support for authentication; Oracle RAC Support.

10. DB2 Support:

Role Manager now adds support for DB2 (8.2 and above) deployed in both Windows and UNIX environments, a major addition to its existing support of MS SQL and Oracle.

Role Manager is able to fully exploit the potential of automating table and index reorganization in DB2, eliminating fragmented data to improve data access performance. DB2's cluster management software allows periodical server operability checks and can execute a seamless takeover during a failure, effectively reducing Role Manager downtime.

ENHANCEMENTS:

[RBX-749] IDW - User View - Business Unit Tab added

[RBX-751] IDW - Role View - Ownership Tab added

[RBX-830] IDW - Role View - Workflow Tab added

[RBX-752] IDW - Role View - Business Unit Tab added

[RBX-750] IDW - Role View - History tab added : This tab enlists all the Role User

[RBX-687] IDW - Role View - Version tab added : Role Manager introduces Role Versioning capability, which creates a complete snapshot of the role when a major change is made to the role or can be triggered on demand

[RBX-786] IDW - Role View - Role Search Facility

[RBX-1250] IDW - Role Status - Role Manager provides a Role Status feature, with pre-defined statuses, to further enhance the lifecycle of roles. It provide important information on the state of a role at any given point in time

[RBX-755] IDW - Policy View - Business Unit Tab added : This tab shows all the users who are owners of the role

[RBX-754] IDW - Policy View - Ownership Tab added : This tab shows all the users who are owners of the role

[RBX-753] IDW - Policy View - Endpoint Tab added : This tab enlists all the endpoints to which a policy belongs

[RBX-611] Policy refactoring: To make Policy attributes to have the same hierarchical schema of objects than accounts have.

[RBX-671] IDW - New Table Filter applied to User, Role and Policy view.

[RBX-696] IDA - Multiple Selection Business Unit tree added to Policy Scan

[RBX-1057] Multiple Select YUI Tree added

[RBX-851] Role Engineering UI migrated from thick to thin client

[RBX-850] Account Imports with Multiple Correlation Rules

[RBX-641] Accounts Management : Create a job to delete or suspend (action should be configurable) accounts that has been not synchronized in the X (also configurable) number of days

[RBX-840] IDC - Role Entitlement Certification : Allows role owners to certify roles and role content

[RBX-1081] IDC - Application Certification : Allows application owners to certify entitlements pertaining to an application narrowed down by each instance of the application

[RBX-1080] IDC - Certification Dashboard : Displays Certification Graphs displaying New, In Progress and Complete certification Statistics

[RBX-670] Role Management - Role Provisioning Rules

[RBX-772] Role Management - Role Consolidation UI

[RBX-800] Role Management - Role Life Cycle Approval Workflow

[RBX-789] Role Management - Role Request Workflow

[RBX-801] Role Management - Role Assignment Workflow

[RBX-841] Role Engineering Configuration

[RBX-1070] Reports - Reports Dashboard

[RBX-1071] Reports - System Reports migrated to Thin client

[RBX-1072] Reports - Identity Audit Reports migrated to Thin client

[RBX-776] Home Page refactoring : When a user logs in to Role Manager, he is routed to home Screen. Role Manager sports a more robust, cleaner look and feel and provides in-depth graphical views on whether they have any requests or Identity Certifications to approve or sign off.

[RBX-776] Top Module Header refactoring - System, Security, Configuration tabs added under one single tab - Administration

[RBX-1084] Login Page/Logout Page refactoring

[RBX-1089] Collapse/ Expand Applied on Navigation Panel

[RBX-642] Link policies with endpoints

[RBX-730] Authenticating against AD or LDAP server using a SSL encrypted channel

BUGS FIXED

[BUG-748] IDW - User View - Custom Properties Tab - Property Values don't show up in the UI even when present in the database.

[BUG-672] IDW - Business Unit view - Relationship view Tab - Complete relationship map doesn't show

up

[BUG-747] IDW - User view - Relationship view Tab - Complete relationship map doesn't show up

[BUG-743] IDW - Role view - Custom Properties Tab - Property Values don't show up in the UI even when present in the database.

[BUG-654] IDW - Endpoint view - Error creating new endpoint.

[BUG-543] Role Engineering - Error saving a role created by Role Mining process.

[BUG-621] IDC - IE, sometimes Certification Details page is not displayed properly for Certification with status as New or In Progress

[BUG-778] Role Engineering - Role Mining Performance With High Number Of Users

[BUG-184] Performance - In IE If I edit some attributes and saves it takes lot of time (>10 Sec)

[BUG-348] Import/Export tab View Details button shows error

[BUG-22] LDAP Context issue when dealing with LDAP password provider

[BUG-22] Identity Warehouse - Performance takes too much to showing the records (> 2 min)

[BUG-414] Security - While giving the New password it should ask for Old Password. If it is correct then only allowed for new password till not.

[BUG-154] Policy Violation detection count adds by 2 each time it finds violation

Version : Role Manager 2006 3.2.30.20070629001

Type : Patch Release

Enhancements

1. Role Mining - Rule Discovery Added.

2. IDW - Custom Properties tab added to User's view

3. IDW - Custom Properties tab added to Role's view

Issues Fixed

1. User Import/Export Logs tab under system fixed
2. Revoke access Notification was sending out empty reports in the email. This issue has been fixed

3. Revoke access report and certified access report have been fixed
4. UI performance issue on security, warehouse, identity audit
5. Etrust integration fixes (now custom and out-of-box use same code)

Version : Role Manager 2006 3.2.29.20070320001

Type : Patch release

Issues Fixed

1. Bug 23 - Proxy assignment emails not going out with correct details
2. Bug 67 - Glossary disappears when revoke an attribute value in certification UI
3. Bug 4 - Relationship charts for users

Enhancements

1. Rule Discovery Added under Role Mining

Version : Role Manager 2006 3.2.27.20070114001

Type : Patch release

Issues Fixed

1. Bug # 67: After revoking an attribute value , the glossary for whole account disappears
2. Missing included roles when importing from ETrust
3. If an namespace attribute has spaces, the account doesn't show on thick-client

Enhancements

1. Ability to define audit policy for classification
2. Scan user accounts for classification violations
3. Added firstName and lastName variable in email template for certification reminder
4. Endpoint view Added
5. Business Unit view
6. Role import from Feed
7. Policy Import from Feed
8. Data Owner Added.
9. Policy View Added.

Version : Role Manager 2006 3.2.25.20061215001

Type : Patch release

Issues Fixed

1. Identity Certification UI performance
2. Export of certification reports
3. Optional revoke comments
4. Certification date validation

Enhancements

1. Business Unit Reports Added under Report Tab in Thin Client.

Version : Role Manager 2006 3.2.23.20061121001

Type : Installer

Issues Fixed

1. BUG#2 Adding or Deleting a user to a Business unit (Thick client) didn't reflect any change in the business unit view.
2. BUG#6 New Policy button in Policy view didn't open a window to create a new policy.

Enhancements

Users can be exported from Role Manager into a CSV format.

Version : Role Manager 2006 3.2.20.20060926001

Type : Patch Release

Issues Fixed

1. BUG#7 Change of a role name doesn't get reflected.
2. BUG#9 Changing a User's Status in Thick client, Doesn't reflect in thin client.

Version : Role Manager 2006 3.1.17.20070507001

Type : Patch Release

Issues Fixed

1. Role Manager account import optimized for high number of changes between feeds which caused problems with memory. This particular code has been enhanced to better handle these situations.
2. ETL- Export bug is resolved with this release.

Version : Role Manager 2006 3.1.16.20070328001

Type : Patch Release

Issues Fixed

1. For the same entitlement the drilldown data shown is not the same through eLabel and direct drill down
2. Missing data - not all the drilldowns were being shown for an entitlement
3. Fixed the UAT Cycle 2 Bug #38. Profiles not showing xAuthProgram entitlements

Enhancements

1. Optimized Excelformat.jsp's Performance
2. Incorporated query timeout functionality in export to excel
3. Instadata seen in Drill Down