

Oracle® Business Process Management

Oracle BPM 6.0 to 10gR3 Upgrade Guide

10g Release 3 (10.3.1)

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Introduction

This document provides the recommended guidelines for upgrading to the latest version of Oracle BPM and migrating existing AquaLogic BPM projects.

Document Scope and Audience

This guide is written for system administrators and developers who need to upgrade AquaLogic BPM projects to the latest version of Oracle BPM.

This guide provides information about requirements and procedures for migrating existing code and upgrading existing Oracle BPM Enterprise installations.

To upgrade existing projects or existing Oracle BPM installations you should understand all the product features used by the BPM projects being migrated and you should be familiar with the server environment hosting your BPM installations.

Oracle Documentation and Resources

This section describes other documentation, resources, support, and training information provided by Oracle.

The table below lists a number of Oracle Documentation and Resources which will help you get started with Oracle BPM.

Resource	Description
Oracle BPM Documentation	The complete Oracle BPM 10.3 product documentation is available at http://download.oracle.com/docs/cd/E13154_01/bpm/docs65/index.html .
Oracle BPM Product Page	The official BPM product page is available at http://www.oracle.com/technology/products/bpm/index.html and provides news, data sheets and useful links.
Oracle BPM Download Page	You can download the latest version of Oracle BPM from http://www.oracle.com/technology/software/products/ias/bea_main.html .
Online Help	To access online help: <ul style="list-style-type: none"> • In BPM Studio, select Help ► Help Contents to access the complete Oracle BPM Studio help. Context help is also available by pressing the F1 key, or by selecting Help ► Dynamic Help from the menu. • In BPM WorkSpace, click on Help in the title bar, or click on the help icon (🔍) in the title bar of any panel for help about that panel.
Oracle Technology Network (OTN)	The Oracle Technology Network features articles, blogs, and newsgroups which will help you make the most out of Oracle products. http://www.oracle.com/technology/index.html
User Groups	Visit the User Groups to collaborate with peers and view upcoming meetings. At Oracle forums: http://forums.oracle.com/forums/forum.jspa?forumID=560

Resource	Description
Technical Support	<p data-bbox="581 205 1464 268">If you cannot resolve an issue using the above resources, Oracle Technical Support is happy to assist.</p> <p data-bbox="581 283 1464 321">http://www.oracle.com/support/index.html</p>

Upgrade Overview

This document provides the recommended guidelines for upgrading to the latest version of Oracle BPM and migrating existing AquaLogic BPM projects.

Here's an overview of the main steps needed to upgrade AquaLogic BPM 6.0 projects to Oracle BPM 10.3:

1. If necessary, migrate your 6.0 projects code to 10.3, as described in [Migrating Project Code](#) on page 8.
2. Upgrade your 6.0 Enterprise environment to 10.3, as described in [Migrating Enterprise Environment](#) on page 9. The overall procedure can summarize in the following steps:
 - a. Stop all BPM 6.0 services and applications.
 - b. Install Oracle BPM Enterprise 10.3.
 - c. Configure Oracle BPM 10.3 to point to your existing 6.0 Directory database.
 - d. Make some necessary changes to make your environment compatible with 10.3.
 - e. Start your Process Execution Engines.

Upgrading Database structures

The schema structure of the Directory databases is automatically migrated when you first start Oracle BPM 10.3 Process Administrator. Likewise, the schema structures of the Engines' databases are migrated automatically when you first start each Engine. This means that pre-existing process instances will continue their execution on the new 10.3 environment.

Upgrade Requirements and limitations

You must satisfy a list of requirements and assumptions before attempting to upgrade an existing installation and migrating existing projects to this new version.

Assumptions

This document assumes you are familiar with AquaLogic BPM 6.0 and understand all the features used by the BPM projects being migrated.

Supported Versions

The guidelines in this document are only for upgrading from AquaLogic BPM version 6.0 (or above) to Oracle BPM 10.3.

If your projects are currently developed or deployed on earlier versions of AquaLogic BPM, you must first upgrade to the latest 6.0.x version before moving to Oracle BPM 10.3. Refer to the Upgrade Guide for AquaLogic BPM 6.0 available at http://download.oracle.com/docs/cd/E12483_01/index.htm.

Database privileges

The database (JDBC) users configured for the Directory and Engine Databases must have enough privileges to perform SQL DDL (Data Definition Language) operations (like ALTER, CREATE and DROP statements). Otherwise, the Process Administrator application and the Engine will fail to migrate the structures of their SQL tables and will not to start.

ALBPM 6.0 on ALI Environments

If your BPM environment is integrated with ALI (AquaLogic Interaction), you must first upgrade ALI to version 6.5 before upgrading BPM. Refer to the Upgrade Guide for AquaLogic Interaction 6.5 available at http://download.oracle.com/docs/cd/E12529_01/index.htm.

Oracle BPM 10.3 requires the new LDAP Directory service of ALI 6.5 for integration.

Migrating Project Code

This section provides guidelines migrating existing code based on AquaLogic BPM 6.0 onto Oracle BPM 10.3.

Review usage of Decimal types

The semantics of `Decimal` type declarations on PBL changed on version 10g of BPM. You might need to adjust existing BPM 6.0 project code to avoid potential runtime errors.

Starting with Oracle BPM version 10.3, PBL changes the way it verifies precision and scale of `Decimal` types. The semantics of `Decimal` type declarations changed as follows:

- AquaLogic BPM 6.0 and older versions: A `Decimal(M,N)` declaration means "M places reserved for integer part, N places for decimal part". Example for `Decimal(5,3)`: 12345.123.
- Oracle BPM 10.3: A `Decimal(M,N)` declaration means "A total of M places, from which a maximum of N are used for the decimal part". Example for `Decimal(5,3)`: 12.345.

This new interpretation of `Decimal` declarations is equivalent to that of SQL.

Existing code may raise `IllegalConversionException` at runtime, given that a value that was valid on version 6.0 may be too big for the same `Decimal` declaration on version 10.3.

Follow these steps to fix your code and prevent potential incompatibilities:

1. Identify all cases of `Decimal(M,N)` type declarations in your project.

This includes all variable type declarations, including project variables, process instance variables, local variables, argument variables and BPM Object attributes.

2. In each case, evaluate whether the current type declaration is still valid given the new semantics.

In general, you should be safe changing all `Decimal(M,N)` declarations with `Decimal(M+N, N)`. For example, replace `Decimal(5,2)` with `Decimal(7,2)`.

3. Re-deploy your project and test.

Migrating Enterprise Environment

These sections provide specific procedures for upgrading an existing environment running on ALBPM Enterprise 6.0 to Oracle BPM Enterprise 10.3.

You must follow the procedures on the next sections in the order presented. Those sections specific to certain environments may be skipped as noted in the beginning of each section.

Upgrading Database structures

The schema structure of the Directory databases is automatically migrated when you first start Oracle BPM 10.3 Process Administrator. Likewise, the schema structures of the Engines' databases are migrated automatically when you first start each Engine. This means that pre-existing process instances will continue their execution on the new 10.3 environment.



Important: The database (JDBC) users configured for the Directory and Engine Databases must have enough privileges to perform SQL DDL (Data Definition Language) operations (like ALTER, CREATE and DROP statements). Otherwise, the Process Administrator application and the Engine will fail to migrate the structures of their SQL tables and will not to start.

Installing Oracle BPM 10.3 Enterprise

The first step of the upgrade process is to download and install Oracle BPM Enterprise 10.3.

Follow this procedure to install Oracle BPM Enterprise 10.3. Refer to the [Oracle BPM Installation Guide](#) for more details about the installation process and requirements.

1. Obtain the installation file from the [Oracle downloads](#) page, and download your desired edition of Oracle BPM Enterprise 10.3 for your platform.
2. Execute the installation file.



Note: To use an already installed Java VM, specify the full path to the java command passing the LAX_VM parameter to the installer. You must always specify the location to an existing Java installation if a JVM is not included with the installer. Example:

```
OracleBPMEnterpriseSA103000_sol.bin LAX_VM /usr/jdk1.5/bin/java
```

The installation program proceeds with the installation and displays the **Introduction** page of the installation utility.

3. At the **Introduction** page, click **Next**.
The **Choose Install Folder** appears.
4. In the **Choose Install Folder**, enter the path or select a folder where you will install Enterprise. If you have entered a path but wish to use the Installer's default, click on **Restore Default Folder** to obtain it. Click **Next** to proceed.

Oracle recommends using the default folder path whenever possible, as this will help simplify support.

In Windows or 32-bit Linux, the **Pre-Installation Summary** page appears, and you should go to step 7. Otherwise, the **Choose J2SE 1.5 SDK** page appears.

5. In the **Choose J2SE 1.5 SDK** page, select the Java 1.5 SDK installed in your system that you want Enterprise to use. The installer lists those SDKs that it has detected. If you wish to specify a JDK that is not on the list, you can click on **Search for Others** for an automatic search, or on **Choose Another...** to look for the SDK manually. When you have selected the Java SDK that you want, click **Next**.
The **Pre-Installation Summary** page appears.

6. Verify the settings shown in the summary. If you need to make any changes, click **Previous** to go to the page where you need to make the change. Once you are ready to proceed, click **Install**. The installation is performed. Once it has finished, the **Install Complete** page appears.
7. In the Install Complete page, you can choose to exit the installer, to launch the Admin Center program, or to launch the Configuration Wizard. If you exit, you can run the Admin Center at a later time. You can also execute the Configuration Wizard from Admin Center. In all cases, the installation utility will exit.

Un-Deploying BPM 6.0 J2EE Applications

On ALBPM 6.0 environments running on WebLogic or WebSphere you must first stop and un-install all ALBPM-related .EAR and .WAR applications.

This section only applies for the J2EE edition of BPM. If you are upgrading an BPM Standalone Edition environment then you should skip this section.

1. Login to your application server console
2. Stop and un-install all BPM-related applications, except for the **Oracle BPM Deployer** (formerly **Fuego J2EE Deployer**) application.

Make sure you stop and un-install BPM applications, including:

- Engine (You may have one or more Engine applications)
- WorkSpace
- WorkSpace Administrator
- Archive Viewer

Do NOT un-install **Fuego J2EE Deployer**.

3. Stop your application server nodes.

Make sure all your WebLogic or WebSphere servers where ALBPM 6.0 was running are completely stopped. This includes the administration server and all additional servers running any ALBPM 6.0 component.


Configuring Directory DB

After installing Oracle BPM 10.3, you must run Oracle BPM Admin Center to create a new Directory configuration that will connect to your existing BPM 6.0 Directory database.

Before continuing, you must shutdown all existing BPM 6.0 applications and services, including:

- Process Engines
- All Web Applications and containers, including Process Admin, WorkSpace, WorkSpace Admin, Archive Viewer
- Admin Center
- BAM Updater
- Custom applications accessing the Directory Database

The following procedures show you how to configure the Oracle BPM Directory.

1. Start the Admin Center.
2. Click  **Configuration** and press the **Add** button from the **Directory** tab. The Configuration Wizard appears.
3. Select **Use existing Directory Service**.

4. Make sure options **Create Process Engine** and **Publish and Deploy Sample Project** are **not** selected.
5. Press **Next** and select a provider type for your Oracle BPM Directory.

You must select the same option used by your existing BPM 6.0 installation.

Select **Use an external directory service provider plus a database managed by Oracle BPM** in the following cases:

- You are upgrading a BPM environment integrated with AquaLogic Interaction.
- You are upgrading a BPM environment that is using an external directory service (like Active Directory or Sun ONE LDAP).

6. Press **Next** and enter the Directory information.

Under **Directory Provider** select the JDBC driver corresponding to your existing Directory database. Enter the **BPM Administrator User** and **BPM Administrator Password** of your Directory.



Note: This is **not** a new user and password. You must enter the Administrator user and password of your existing 6.0 Directory. If you are upgrading from an BPM with AquaLogic Interaction environment, BPM Administrator User must be an existing user in ALI within the *Process Administrator* Group. The user and password are case-sensitive.



Important: If you are upgrading an AquaLogic BPM environment integrated with AquaLogic Interaction:

1. Select **Generic JNDI** as you **Organization Provider**
2. BPM Administrator User must be an existing user in ALI within the *Process Administrator* Group. The password of this user in ALI cannot be blank.
3. The user and password are case-sensitive.

7. Press **Next** and enter the database connectivity information to your existing Directory.

This version of Oracle BPM comes with its own set of JDBC drivers.

For advanced JDBC URL configurations refer to the custom properties of the JDBC driver:

- For Oracle: http://download.oracle.com/docs/cd/E12840_01/wls/docs103/jdbc_drivers/oracle.html
- For Microsoft SQL Server: http://download.oracle.com/docs/cd/E12840_01/wls/docs103/jdbc_drivers/mssqlserver.html
- For DB2: http://download.oracle.com/docs/cd/E12840_01/wls/docs103/jdbc_drivers/db2.html

8. Enter your external LDAP directory service information if required.

The wizard skips this step if you selected **Use a database managed by Oracle BPM** on the Directory Provider Type step.

If your BPM environment is integrated with AquaLogic Interaction (ALI), you must specify the **LDAP Directory Properties** options as follows:

- a) Click **Browse**.
- b) Navigate to your <ORABPM_HOME>/conf/ directory.
- c) Select file generic_aluidirectory_upgrade.conf, and click **Open**.

9. Press **Next**.

10. Click on **Save Template...** if you want to save into an XML file all the values you entered in the Wizard.

This XML can be used in the future to run the Wizard again using the same configuration values.



11. Press **Next** and then **Finish** to complete your Directory configuration.


After successfully running the Configuration Wizard, the newly created directory appears in the list of available directory configurations.

12. To test connectivity to the Directory database highlight the new Directory configuration, press **Edit...** and then **Check...**
 A confirmation message appears. If you get an error message instead, revisit all connection properties and try again.
 - a) Press **OK** to close the confirmation dialog.
 - b) Press **OK** again to close the **Edit Directory Configuration** dialog.
13. Press **OK** to close the **Configuration** dialog.

Starting Process Administrator

After creating a new Directory configuration pointing to your existing 6.0 Directory database you must start Oracle BPM's Process Administrator to continue with the upgrade procedures.

1. From the main window of the Admin Center, click on  **Start BPM Web Applications**.
 The Admin Center starts the Web Applications. When the Process Administrator application starts, it will automatically migrate the Directory database schema to the new version.
2. When the applications have finished starting, click on  **Launch Process Administrator** to open a web browser to access the Process Administrator application.

 **Note:** You may also open your preferred web browser from outside Admin Center. The default URL to the Process Administrator application is: `http://localhost:8686/webconsole/`.

3. Login to Process Administrator using the same administrator user and password you used to specify for 6.0.

You should see all the existing information and configuration data of your Directory.

 **Important:** Do NOT start any Process Execution Engines yet.


4. If running the J2EE edition of Oracle BPM, you should now start your application servers.

If you are upgrading ALBPM for WebLogic or WebSphere, start the Administration server and any additional server in your cluster where you will deploy the Oracle BPM applications.


Validate Engine properties

Validate that the existing configuration properties of your Engine still apply for your new Oracle BPM 10.3 environment.

Follow this procedure for each of your Process Execution Engines.

1. Login to the Process Administrator.
2. Click on  **Engines** ► **YOUR_ENGINE_ID**.
3. Go through the configuration tabs and make sure all properties are still valid on your new Oracle BPM 10.3 environment.

In particular, you should change the **Home Directory** and **Log Directory**, which by default point to your previous Oracle BPM installation directory.

 **Important:** Do NOT start your Process Execution Engines yet.

Specific Steps for WebLogic Environments

If you are upgrading an Oracle BPM for WebLogic environment, follow these additional steps.

This procedure assumes you are modifying an existing WebLogic environment that was running ALBPM 6.0 and was upgraded to a version of WebLogic supported by Oracle BPM 10.3 (refer to [Upgrade Requirements and limitations](#) on page 6 for more details). If you are configuring a clean WebLogic environment, refer to the [Oracle BPM Configuration Guide \(WebLogic edition\)](#).

Build and Deploy Applications (.ear)

The Oracle BPM Process Administrator allows you to bundle the Oracle BPM applications as .ear files for installation on WebLogic.



Before creating the Oracle BPM application archives, you must have an Oracle BPM Engine for WebLogic configured.

1. Login to Oracle BPM Process Administrator. By default, it runs on `http://host:8686/webconsole`.
2. Click on **Engines** and then click on the name of your Oracle BPM Engine for WebLogic. You should see the configuration properties for your Engine.
3. Click on the **Basic Configuration** tab and then on **J2EE Application Server Files**.

This page allows you to re-create the .ear files of those Oracle BPM applications associated with this Engine.



Note: When you access this page, the Process Administrator gets the status of each of the applications by contacting Oracle BPM Deployer. You receive a warning message at the bottom of the page if there is a problem contacting Oracle BPM Deployer. If this is the case, make sure the **BPM Application Deployer URL** (within the **Application Server** tab) is correct and that Oracle BPM Deployer is up and running on WebLogic.

4. Click on the "new" icon () next to each of the applications you want to install.
5. Click on the "install" icon () next to each of the applications you want to install.




Attention: This may take several minutes. Do not click any link on the page or click the **back** button in your browser until the page is automatically reloaded. When you click on the icon, Oracle BPM Process Administrator transfers the file over to WebLogic's Deployment Manager (by means of Oracle BPM Deployer) and then WebLogic goes through the application installation process.

Start Execution Engines

Before starting a Process Execution Engine you must have all projects deployed to that Engine properly migrated and re-published.

Follow this procedure for each Process Execution Engines you to start.


1. Login to the Process Administrator.
2. Click on  **Engines**.

The **Engines** pane will appear, with a list of available engines. At this point, your engines should be stopped, showing a status of *Not running*.

3. Before starting the Engine for the first time after upgrading to 10.3, it is recommended you set the Engine Log severity level to **INFO** or below.

4. In the **Engines** pane, on the line of the engine you wish to start, click on the **Start** icon (🔴).

The engine will start. If the engine starts successfully, a status of *Ready* will be shown.

 **Important:** If this is the first time you start the Engine after upgrading to 10.3, you should check the Engine log file to ensure there are no errors. If the Log severity level is set to **INFO** (or lower) you should see several messages like these on the Engine log file:

```
info Migrating Schema to Build #60008 Nov 30, 2007 4:46:13 PM Engine
Main <0> main
info Schema migration successful Nov 30, 2007 4:46:13 PM Engine
Main <0> main
```

These messages correspond to the automatic migration of the Engine's database schema to the new structure.

Your Engines are now up and running. You should now log into WorkSpace and test your processes to make sure they behave as expected and existing process instances are running properly on your new 10.3 environment.

What's new on this release

























What's New in Oracle BPM 10.3 Studio

This topic provides an overview of the main new features, improvements and changes in this release of Oracle BPM Studio.

Standards Support

- By default, new processes now use horizontal swim-lanes. You can change the swim-lanes orientation individually for each process. You can define the default orientation for each project and for your Studio installation.
- BPM Studio now embraces the BPMN modeling elements and rendering constructs, and BPMN is the new default process diagram theme. Automatic activities and groups now support Loop conditions.

The new flow elements are categorized into Activities, Gateways, Events, Global Activities, Flow, Lanes and Artifacts. The name of some flow elements changed on this version.

Activities <ul style="list-style-type: none"> •  Interactive •  Decision •  Automatic •  Group •  Subflow •  Process Creation •  Termination Wait •  Grab 	Gateways <ul style="list-style-type: none"> •  Conditional •  Split •  OR Split (new) •  Multiple (old name: Split-N)
Events <ul style="list-style-type: none"> •  Message Wait (old name: Notification Wait) •  Send Message (old name: Process Notification) •  Timer (new) •  Compensate 	Global Activities <ul style="list-style-type: none"> •  Global Creation •  Global Automatic •  Global Interactive (old name: Global)
Flow <ul style="list-style-type: none"> •  Connector •  Transition 	Artifacts <ul style="list-style-type: none"> •  Measurement Mark •  Note
Lanes <ul style="list-style-type: none"> •  Lane (old name: Role) 	

- Studio is now built on top Eclipse 3.3. AquaLogic BPM 6.0 release was based on Eclipse 3.2.

WorkSpace

- WorkSpace provides a new **edit mode** which allows users to change the configuration and layout of panels.
- Users of BPM WorkSpace can configure and save the layout of panels. A new tabbed interface allows you to define multiple pages, each with its own set of panels. You can export the layout configuration to an XML file and re-import it on a different environment or as a different user. Administrators can define layouts for all users in a certain Role.
- You can export the data in the Worklist panel to PDF (Portable Document Format) or CSV (Comma-Separated values).
- You can see a chart representation of the distribution of items in the Worklist panel.
- WorkSpace includes the following new panels:
 - **Task Panel:** Renders the execution of interactive tasks within the panel, instead of using the default modal dialogs.
 - **Dashboard Display Panel:** Provides a way to display Dashboards within a Panel.
 - **View Chart Panel:** Provides predefined graphical reports about process performance, work items distributions and workload.
 - **Application Panel:** This panel contains an application (the execution of a Global Interactive). Applications can respond to work item selections or run independently.
- The user can now do re-assignment operations on multiple instances at once.
- The Business Rules editor shows additional auditing information, including who and when a rule was modified.
- WorkSpace now (optionally) stores session-specific information as client-side cookies. This allows load-balancing on a cluster environment without affecting the user experience.
- This new version of WorkSpace provides a simplified and streamlined interface, focused on usability and ease of use.

General

- Studio now supports Mac/OS 10.4 Tiger and Mac/OS 10.5 Leopard.
- Studio now supports Windows Vista.
- Studio now supports CVS and Subversion version control systems (VCS). Additional systems may work after installing their respective Eclipse VCS plugins but only CVS and Subversion are currently certified.
- The Studio UI incorporates Eclipse 3.3 improvements such as the following:
 - New Minimize/Maximize behavior: When minimizing view stacks in Studio, the view icons are placed on the nearest trim area. If a view is maximized, all other views are minimized, rather than hidden.
 - Tabs have a new color scheme based on your system title background color, and unselected tabs now also have rounded corners to match the appearance of selected tabs. When tabs become crowded, they now maintain their icon and no longer show an ellipsis in order to maximize the amount of useful information.
 - Firefox can now be set as the internal Web browser.

For more information on Eclipse 3.3 improvements, see [What's New in 3.3](#).

Process Design

- Interactive tasks provide a new "**previewable**" property. The new Application Display Panel and Task Execution Panel of WorkSpace automatically start the execution of previewable tasks without locking the process instance. Enabled by default for Dashboards.
- New type of Activity: **Time Activity**. A process instance that arrives to this activity just sits idle until a timed event occurs.

- Option **Process Notification Immediately** on Termination Wait activities has been deprecated. Now both the Wait activity and the first activity in the interruption flow always execute in the same transaction.
- New auto-layout feature re-arranges all visual elements of a process diagram automatically, minimizing superpositions and aligning the flow as much as possible. Only available for processes with horizontal lane orientation.
- New process property (**Greedy Execution Mode**) indicates the Process Execution Engine to collapse contiguous automatic tasks in a single transaction. This mode of execution provides better performance for some processes. Disabled by default.
- A new Process-Level debugger allows developers to introduce breakpoints and debug complete processes running in Studio. When the execution reaches a breakpoint, the Engine pauses and Studio's debugging view appears. You can inspect variables, add new breakpoints, resume and continue execution.

User Interface

- The **Business Analyst** and **Business Architect** profiles provide a simpler set of menu options and toolbars.
- New editor for BPM Object Presentations. It's easier to use, provides a true WYSIWYG interface (HTML-based), improved CSS support and a new Drag&Drop toolbar.
- You can now interrupt a running Simulation started with the **Run to the End** button.
- New **BETWEEN** operator added to Business Rules editor (on both Studio and WorkSpace). This operator works with Time and numeric types.
- The **Documentation** View now displays read-only documentation for the standard Fuego . * components.
- New on-line help book **Oracle BPM Components Reference** provides reference documentation for the standard Fuego . * components. Only available for the **developer** profile.
- This version introduces **Project Dependency**, which allows you to re-use components and role definitions from a common base project.

Integration

- Oracle BPM now provides an extension to the Microsoft Office 2007 Ribbon. This extension allows users to submit documents to BPM processes right from the Office application.
- Added support for abstract types when cataloging XML Schemas.
- New timeout property added to external resources of type HTTP Server. Use this setting to control timeouts on web service invocations.
- Authentication information added to external resources of type JMS (Java Messaging System)
- Processes exposed as Web Services can now provide a `runProcess` operation, which synchronously executes the complete process (from begin to end). Only meaningful on fully automated processes.
- New component `Fuego.Social.ALIActivityStreamPublisher` provides operations to publish plain text messages to Oracle WebCenter Interaction (formerly AquaLogic Interaction) activity streams.

What's New in Oracle BPM 10.3 Enterprise

This section provides an overview of the main new features, improvements and changes in this release of Oracle BPM Enterprise.

New features

- New Ant tasks to rebuild the Oracle BPM web applications for container-security.
- Configuration Wizard adds option **Generic JNDI** to the list of available LDAP servers. When using this option, you must provide a custom configuration file defining the mapping of object classes, attributes and filters. This new feature is also the new mechanism for integrating with AquaLogic Interaction 6.5, replacing the old Identity Service.

- Configuration Wizard can now be run without user interaction ("silent mode"). You specify all configuration values in an XML file.
- Oracle BPM client applications (including WorkSpace, PAPI-WS and custom PAPI apps) are now able to connect to multiple environments (BPM Directories) simultaneously.
- Standalone BPM Engine provides new Java interfaces to implement custom server-side token validation.
- Added Sybase as a new provider for the Engine database and BPM Directory database.

Changes and Improvements

- More information added for auditing of Business Rules, including who and when a rule was modified.
- Updated bundled JDBC drivers to their latest version.
- Updated support for latest version of Oracle Service Bus (formerly AquaLogic Service Bus).
- Email queue size of the Engine is now configurable from Process Administrator (in addition to the existing system property "fuego.engine.maxMailQueueSize").
- The Engine now logs warning messages when it detects rogue threads. A new preference allows the administrator to disable automatic re-starts when the **Maximum Number of Rogue Component Executions** is reached. In addition, in the case of an automatic re-start the Engine now logs a complete thread dump.
- Simplified procedures for deploying BPM WorkSpace on WebLogic Portal. BPM Process Administrator now generates the WorkSpace EAR file as a WebLogic Portal library module.
- Authentication information added to external resources of type JMS (Java Messaging System).

BPM WorkSpace changes

- WorkSpace provides a new **edit mode** which allows users to change the configuration and layout of panels.
- Users of BPM WorkSpace can configure and save the layout of panels. A new tabbed interface allows you to define multiple pages, each with its own set of panels. You can export the layout configuration to an XML file and re-import it on a different environment or as a different user. Administrators can define layouts for all users in a certain Role.
- You can export the data in the Worklist panel to PDF (Portable Document Format) or CSV (Comma-Separated values).
- You can see a chart representation of the distribution of items in the Worklist panel.
- WorkSpace includes the following new panels:
 - **Task Panel:** Renders the execution of interactive tasks within the panel, instead of using the default modal dialogs.
 - **Dashboard Display Panel:** Provides a way to display Dashboards within a Panel.
 - **View Chart Panel:** Provides predefined graphical reports about process performance, work items distributions and workload.
 - **Application Panel:** This panel contains an application (the execution of a Global Interactive). Applications can respond to work item selections or run independently.
- The user can now do re-assignment operations on multiple instances at once.
- The Business Rules editor shows additional auditing information, including who and when a rule was modified.
- WorkSpace now (optionally) stores session-specific information as client-side cookies. This allows load-balancing on a cluster environment without affecting the user experience.
- This new version of WorkSpace provides a simplified and streamlined interface, focused on usability and ease of use.