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Preface

This preface includes the following topics:

- Audience
- Documentation Accessibility
- Related Documents
- Conventions

Audience

This document is intended for users of Oracle Application Server 10*g*.

Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible to all users, including users that are disabled. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at `http://www.oracle.com/accessibility/`.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

Deaf/Hard of Hearing Access to Oracle Support Services

To reach Oracle Support Services, use a telecommunications relay service (TRS) to call Oracle Support at 1.800.223.1711. An Oracle Support Services engineer will handle technical issues and provide customer support according to the Oracle service request process. Information about TRS is available at

http://www.fcc.gov/cgb/consumerfacts/trs.html, and a list of phone numbers is available at http://www.fcc.gov/cgb/dro/trsphonebk.html.

Related Documents

For more information, see these Oracle resources:

- Oracle Application Server Documentation on Oracle Application Server Disk 1
- Oracle Application Server Documentation Library 10*g* Release 3 (10.1.3.1.0)

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in the *Oracle Application Server Release Notes*?

This chapter provides a listing of new topics introduced with this version of the *Oracle Application Server Release Notes*. The new topics are in the following chapters:

- Chapter 3, "General Management and Security Issues"
- Chapter 8, "Oracle BPEL Process Manager"
- Chapter 12, "Oracle HTTP Server"
- Chapter 13, "Oracle Containers for J2EE"

Chapter 3, "General Management and Security Issues"

- Section 3.1.14, "Welcome Page Link to Application Server Control Not Working"
- Section 3.3.10, "Incorrect request Attribute Description"
- Section 3.3.11, "Incorrect Title"

Chapter 8, "Oracle BPEL Process Manager"

- Section 8.2.1, "Cannot Exchange Multipart SOAP Messages Between Oracle BPEL Process Manager and a Remote Web Service"
- Section 8.8.1, "Domain Names Must Be in Lower Case"

Chapter 12, "Oracle HTTP Server"

- Section 12.1.2, "Changing the Location of the PID File Requires a Change in apachectl"
- Section 12.1.3, "Routing Requests to Different Middle Tiers Based on the URL of the Request"
- Section 12.2.7, "Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File"

Chapter 13, "Oracle Containers for J2EE"

- Section 13.3.5, "Using a Tag Library with the ojspc Utility"
- Section 13.4.1, "EJB 3.0 Support"

- Section 13.10.3.2, "Incorrect Subswitch Names for admin_client.jar Commands"
- Section 13.10.4.3, "Incorrect Example for Disabling Text File Logging"
- Section 13.10.4.6, "Configuration of OPMN Gateway Element Shows Incorrect Order"
- Section 13.10.4.7, "Starting Order Incorrect for Static Peer-to-Peer Replication"

1 Introduction

This chapter introduces Oracle Application Server Release Notes, 10*g* Release 3 (10.1.3.1.0). It includes the following topics:

- Section 1.1, "Latest Release Information"
- Section 1.2, "Purpose of this Document"
- Section 1.3, "Operating System Requirements"
- Section 1.4, "Certification Information"
- Section 1.5, "Licensing Information"

1.1 Latest Release Information

This document is accurate at the time of publication. Oracle will update the release notes periodically after the software release. You can access the latest information and additions to these release notes on the Oracle Technology Network at:

`http://www.oracle.com/technology/documentation/`

1.2 Purpose of this Document

This document contains the release information for Oracle Application Server 10*g* Release 3 (10.1.3.1.0). It describes differences between Oracle Application Server and its documented functionality.

Oracle recommends you review its contents before installing, or working with the product.

1.3 Operating System Requirements

Oracle Application Server installation and configuration will not complete successfully unless users meet the hardware and software pre-requisite requirements before installation. See the *Oracle Application Server Installation Guide* for a complete list of operating system requirements.

1.4 Certification Information

The latest certification information for Oracle Application Server 10*g* Release 3 (10.1.3.1.0) is available at:

`https://metalink.oracle.com`

1.5 Licensing Information

Licensing information for Oracle Application Server is available at:

https://oraclestore.oracle.com/OA_HTML/ibeCZzpHome.jsp

Detailed information regarding license compliance for Oracle Application Server is available at:

http://www.oracle.com/technology/products/ias/index.html

2

Installation Issues

This chapter describes installation and their workarounds associated with Oracle Application Server. It includes the following topics:

- Section 2.1, "Installation Issues"
- Section 2.2, "Documentation Errata"

2.1 Installation Issues

This section describes issues with installation of Oracle Application Server. It includes the following topics:

- Section 2.1.1, "Using the Unified Oracle SOA Suite Installer for the mySOACompany Topology"
- Section 2.1.2, "IPv6 Not Supported"
- Section 2.1.3, "Response Files Created through the Record Mode Are Not Supported"
- Section 2.1.4, "Set Kernel Parameter Prior to Installation of Oracle HTTP Server on Red Hat Linux 4.0"
- Section 2.1.5, "Asian Languages Do Not Display Correctly with Java 5.0"
- Section 2.1.6, "Japanese Characters Affected on Red Hat Linux"
- Section 2.1.7, "Check gcc Version Before Installing 10.1.3 on a Host with a 9.0.4 Installation"
- Section 2.1.8, "Install Software Packages for Red Hat Linux"
- Section 2.1.9, "Error Messages after Setting VIRTUAL_HOST_NAME"
- Section 2.1.10, "Error Message in application.log File"
- Section 2.1.11, "Tool and Script Failure"
- Section 2.1.12, "Middle Tier Installation Failure for Turkish Locale"
- Section 2.1.13, "Recommended Locales for Simplified Chinese and Traditional Chinese"
- Section 2.1.14, "Icon and URL Link Errors in Spanish and Brazilian Portuguese Language Locales"
- Section 2.1.15, "Oracle HTTP Server Welcome Page Displays Only In English"
- Section 2.1.16, "opmnctl Command Time Out with Old Data"
- Section 2.1.17, "Exception in Error Log when Installing MainCD"

- Section 2.1.18, "Error Message on the Configuration Assistants Screen While Installing Oracle BPEL Process Manager"
- Section 2.1.19, "Exception Message on the Configuration Assistants Screen on System Locales Using UTF-8 Encoding"
- Section 2.1.20, "TaskManager or TaskActionHandler Processes in Oracle BPEL Control Fail to Deploy After Installing Oracle Application Server"
- Section 2.1.21, "Incorrect Command for Installing Apache 2.0 from the Companion CD"
- Section 2.1.22, "ONS Port Conflict When Oracle Database is Installed After Oracle Application Server"
- Section 2.1.23, "OPMJA.MSG Message Format is Invalid"

2.1.1 Using the Unified Oracle SOA Suite Installer for the mySOACompany Topology

Oracle Application Server Enterprise Deployment Guide 10g Release 3 (10.1.3.1.0) describes how to install the mySOACompany topology in a distributed environment, i.e., the various SOA components are installed in separate containers. Oracle recommends this environment for availability and performance isolation reasons. If these issues are not important to you, you may install all of the SOA components in a single container. To do this, launch Oracle Application Server SOA Suite 10.1.3.1.0 installer and select the **J2EE Server, Web Server, and SOA Suite** installation type.

2.1.2 IPv6 Not Supported

This release of Oracle Application Server is not certified to run on machines that are configured with IPv6. You have to install and run this release of Oracle Application Server on machines that are configured with IPv4.

2.1.3 Response Files Created through the Record Mode Are Not Supported

If you want to run the installer with a response file (to perform a silent or non-interactive installation), you cannot use response files created through the `-record` command-line option in the installer, as described in the "Creating Response Files by Using the Record Mode in the Installer" section in the *Oracle Application Server Installation Guide*. Instead, you must use response files that were created from the provided response file templates; you replace the placeholder values in the template files with your own values.

2.1.4 Set Kernel Parameter Prior to Installation of Oracle HTTP Server on Red Hat Linux 4.0

Prior to installation of Oracle HTTP Server as part of an Oracle Application Server installation on Red Hat Linux 4.0, set the following kernel parameter:

```
file-max >= 131072
```

Failure to set the preceding parameter may result in an error in installation of Oracle Application Server.

2.1.5 Asian Languages Do Not Display Correctly with Java 5.0

Asian language characters including Japanese, Korean, Traditional Chinese, and Simplified Chinese are not displayed on SuSE platform due to lack of support of JDK.

To resolve this issue, you can modify the `font properties/config` files. Refer to the following Sun Microsystems Java Web site URL for details:

`http://java.sun.com/j2se/1.5.0/docs/guide/intl/fontconfig.html`

However, both Sun and Oracle do not support these modifications and if you need support, then you will need to reproduce the product functional errors with an unaltered JDK.

2.1.6 Japanese Characters Affected on Red Hat Linux

On Red Hat Linux Release 4 (Nahant Update 1) and Red Hat Linux Release 3 (version older than Taroon Update 3), Japanese (`ja_JP`) characters appears as square boxes on the Oracle Universal Installer installation screens for Oracle Application Server 10*g* Release 3 (10.1.3.1.0). This issue is due to the use of the Java Runtime Engine (JRE) version that is shipped with Oracle Application Server; 1.4.2_05 or an earlier version of the JRE.

To work around this issue use version number1.4.2._06 or a newer version of the JRE.

2.1.7 Check gcc Version Before Installing 10.1.3 on a Host with a 9.0.4 Installation

Oracle Application Server 10*g* Release 3 (10.1.3.1.0) requires a version of `gcc` that depends upon your operating system. See *Oracle Application Server Installation Guide* 10*g* Release 3 (10.1.3.1.0) for Linux x86 for the version of `gcc` required for your operating system.

If your host contains an Oracle Application Server 10*g* (9.0.4) installation, you may have installed `gcc-2.95` or `gcc-2.96` on your system, as outlined in *Oracle Application Server Quick Installation and Upgrade Guide 10g (9.0.4) for Linux x86*. The procedure involved creating symbolic links for `/usr/bin/gcc` and `/usr/bin/cc` to the appropriate version of the executables.

To check whether these links exist:

```
ls -l /usr/bin/gcc /usr/bin/cc
```

Check if the `gcc` and `cc` commands are symbolic links, for example:

```
gcc -> /opt/gcc295/bin/gcc
cc -> /opt/gcc295/bin/gcc
```

If the links exist, remove them and create new links to the version of gcc required for 10.1.3:

1. Install the version of `gcc` required for your version of Linux. For example:

   ```
   /opt/gcc323
   ```

2. Remove the existing symbolic links:

   ```
   rm /usr/bin/gcc
   rm /usr/bin/cc
   ```

3. Create links to the new version of `gcc`:

   ```
   ln -s /opt/gcc323/bin/gcc /usr/bin/gcc
   ln -s /opt/gcc323/bin/gcc /usr/bin/cc
   ```

4. Install Oracle Application Server 10*g* Release 3 (10.1.3.1.0).

2.1.8 Install Software Packages for Red Hat Linux

If you are installing on Red Hat Enterprise Linux AS/ES 4.0, Update 1 or higher, certified on AMD64 and Intel EM64T, the following packages (or higher versions) are required:

- glibc-2.3.4-2.9.i686.rpm (32-bit)
- glibc-2.3.4-2.9.x86_64.rpm
- glibc-common-2.3.4-2.9.x86_64.rpm
- glibc-devel-2.3.4-2.9.i386.rpm (32bit)
- glibc-devel-2.3.4-2.9.x86_64.rpm
- gcc-3.4.3-22.1.x86_64.rpm
- gcc-c++-3.4.3-22.1.x86_64.rpm
- gnome-libs-1.4.1.2.90-44.1.x86_64.rpm
- libstdc++-3.4.3-22.1.i386.rpm (32-bit)
- libstdc++-3.4.3-22.1.x86_64.rpm
- libstdc++-devel-3.4.3-22.1.i386.rpm (32-bit)
- libstdc++-devel-3.4.3-22.1.x86_64.rpm
- make-3.80-5.x86_64.rpm
- pdksh-5.2.14-30.x86_64.rpm
- sysstat-5.0.5-1.x86_64.rpm
- binutils-2.15.92.0.2-13.x86_64.rpm
- compat-db-4.1.25-9.i386.rpm (32-bit)
- compat-db-4.1.25-9.x86_64.rpm
- control-center-2.8.0-12.x86_64.rpm
- xscreensaver-4.18-5.rhel4.2.x86_64.rpm
- setarch-1.6-1.x86_64
- openmotif21-2.1.30-11.RHEL4.4.i386.rpm (32-bit)

2.1.9 Error Messages after Setting VIRTUAL_HOST_NAME

After successfully completing the Basic Installation with the `VIRTUAL_HOST_NAME` environment variable set, you may find the following error messages in `ORACLE_HOME\opmn\logs\default_group~home~default_group~1`:

```
Warning: Unable to set up connection factory for a resource adapter in esb-dt:
Error creating a ResourceAdapter implementation class.
Error creating a JavaBean of class
'oracle.tip.esb.server.bootstrap.DesignTimeResourceAdapter:
java.lang.RuntimeException: failed to get ESB_HOME:
java.lang.NullPointerException
Warning: Unable to set up connection factory for a resource adapter in esb-rt:
Error creating a ResourceAdapter implementation class.
Error creating a JavaBean of class
'oracle.tip.esb.server.bootstrap.RuntimeResourceAdapter:
java.lang.RuntimeException: failed to get ESB_HOME: java.lang.NullPointerException
log4j:WARN No appenders could be found for logger
```

```
(org.quartz.simpl.SimpleThreadPool).
log4j:WARN Please initialize the log4j system properly.
```

These error messages are benign and can be safely ignored.

2.1.10 Error Message in application.log File

After successful installation of Oracle Application Server, you may find the following error message in the `application.log` file:

```
javax.servlet.ServletException:
ORABPEL START-UP ERROR!!!!!!!!
OraBPEL run-time expected system environment property "orabpel.home".
```

This error message is benign and can be safely ignored.

2.1.11 Tool and Script Failure

Multiple Oracle Application Server tools and scripts will fail during Oracle Application Server installation due to the incorrect setting of the `ANT_HOME` environmental variable.

To workaround this issue, unset the `ANT_HOME` environmental variable prior to installing Oracle Application Server.

After you have unset the `ANT_HOME` environmental variable, you can either:

- remove the `/etc/ant.conf` file
- comment out the line in the `/etc/ant.conf` file that incorrectly sets the `ANT_HOME` environmental variable

2.1.12 Middle Tier Installation Failure for Turkish Locale

Installation of an Oracle Application Server middle-tier fails for Turkish locale.

Oracle recommends that you avoid running the Oracle Universal Installer to install Oracle Application Server using the Turkish locale because some of the installation screens will not be displayed properly and will not be usable.

Oracle Application Server components such as OWSM and BPEL are not functional for the Turkish locale.

2.1.13 Recommended Locales for Simplified Chinese and Traditional Chinese

To avoid issues with installation of Oracle Application Server in locales using simplified Chinese and Traditional Chinese, Oracle recommends using:

- `zh_CN.gbk` instead of `zh_CN.gb18030` for Simplified Chinese
- `zh_TW.big` instead of `zh_TW.eucTW` for Traditional Chinese

2.1.14 Icon and URL Link Errors in Spanish and Brazilian Portuguese Language Locales

In advanced Oracle Application Server installations in Spanish and Brazilian Portuguese Language locales, the Rules Control icon is not displayed.

Additionally the URL link to Oracle Application Server is not placed correctly.

There is no Rules control link in Brazilian Portuguese locale installations.

2.1.15 Oracle HTTP Server Welcome Page Displays Only In English

Oracle HTTP Server Welcome page displays in English only following installation of Oracle Application Server.

In order to view the translated Oracle HTTP Server Welcome page, you need to enter you installation information in the following format where <lang> is the language you would like to use to view the Welcome page:

```
http://<host>.<port>/index.html.<lang>
```

For example,

`http://<host>.<port>/index.html.ja` (Japanese)

`http://<host>.<port>/index.html.ko` (Korean)

`http://<host>.<port>/index.html.zh_TW` (Traditional Chinese)

`http://<host>.<port>/index.html.zh_CN` (Simplified Chinese)

`http://<host>.<port>/index.html.de` (German)

`http://<host>.<port>/index.html.fr` (French)

`http://<host>.<port>/index.html.it` (Italian)

`http://<host>.<port>/index.html.es` (Spanish)

`http://<host>.<port>/index.html.pt_BR` (Brazilian Portuguese)

2.1.16 opmnctl Command Time Out with Old Data

The `opmnctl stopall` command times out if the BPEL schema in your OracleAS Metadata Repository Database contains old schemas.

To fix this issue, run the production `irca.sh` to load new schemas in the Oracle database.

2.1.17 Exception in Error Log when Installing MainCD

After successful installation of Oracle Application Server SOA MainCD, you may find the following Exception message in the oraInstallyyyy-mm-dd_hh-mm-ssAM/PM.err file:

```
java.lang.NumberFormatException: For input string: ""80""
at java.lang.NumberFormatException.forInputString(Unknown Source)
......
Returning 0 instead
```

This exception message is benign and can be safely ignored.

2.1.18 Error Message on the Configuration Assistants Screen While Installing Oracle BPEL Process Manager

While performing an advanced J2EE Server, Web Server and SOA Suite installation, a Basic Installation of Oracle Application Server or installing Oracle BPEL Process Manager, the following error message is displayed on the Configuration Assistants Screen:

```
BUILD FAILED
$Oracle_Home/bpel/system/services/install/ant-tasks/bpm
install.xml:262: IOException in $Oracle_
```

```
Home/bpel/system/services/config/WFRepository -
sun.io.MalformedInputException:null
```

To fix this issue, check locale-specific environment variables such as LANG or LC_ALL to see if they end with the suffix .UTF-8. If a locale-specific environment variable ends with .UTF-8, you need to remove .UTF-8 from its value. This should be done before performing the installation.

Use the following command to check the value of LANG or LC_ALL :

```
prompt> echo $LANG
en_US.UTF-8
```

Set the value of this variable by using the following command:

```
prompt> export LANG=en_US
```

In Japanese locales where LANG=ja_JP.utf8 or LANG=ja_JP.eucJP, you need to perform the following steps:

1. Set the environment variable called LANG to en_us by giving the following command:

   ```
   prompt> export LANG=en_us
   ```

2. Start Oracle Universal Installer. For more information, refer to Section 3.12, "Starting the Oracle Universal Installer" in *Oracle Application Server Installation Guide*.
3. On the Select Installation Type Screen, click on **Product Language**. On the Language Selection Screen, add Japanese from the **Available Languages** column to the **Selected languages** column and click **OK**.
4. Complete the installation process. For more information, refer to *Oracle Application Server Installation Guide*.
5. Run the following command when you are in ORACLE_HOME directory:

   ```
   prompt> ORACLE_HOME/opmn/bin/opmnctl stopall
   ```

6. Set LANG or LC_ALL environment variables to ja_JP.utf8 (or ja_JP.eucJP) by the following commands:

   ```
   prompt> export LANG=ja_JP.utf8(or ja_JP.eucJP)
   prompt> export LC_ALL=ja_JP.utf8(or ja_JP.eucJP)
   ```

   Note: You can also set the value of LANG to ja_JP.ISO-2022-JP by giving the following command:

   ```
   prompt> export LANG=ja_JP.ISO-2022-JP
   ```

7. Run the following command after navigating to ORACLE_HOME directory:

   ```
   prompt> ORACLE_HOME/opmn/bin/opmnctl startall
   ```

2.1.19 Exception Message on the Configuration Assistants Screen on System Locales Using UTF-8 Encoding

Bug 5675158

If your system locale is using a UTF-8 encoding, the Oracle Application Server installation throws a `sun.io.MalformedInputException` message. For example, while performing an advanced J2EE Server, Web Server and SOA Suite installation, the following error message is displayed on the Configuration Assistants Screen:

```
BUILD FAILED
$Oracle_Home/bpel/system/services/install/ant-tasks/bpm
install.xml:262: IOException in $Oracle_
Home/bpel/system/services/config/WFRepository -
sun.io.MalformedInputException:null
```

Note: To know if your system is using a `UTF-8` encoding, examine the locale-specific environment variables such as `LANG` or `LC_ALL` to see if they end with the suffix `.UTF-8` or `UTF8`.

To fix this issue, remove the `.UTF-8` suffix from the value of locale-specific environment variables. You need to use the following command to check the value of a locale-specific environment variable like `LANG`:

```
prompt> echo $LANG
en_US.UTF-8
```

Set the value of `LANG` parameter to `en_us` by the following command:

```
prompt> export LANG=en_US
```

2.1.20 TaskManager or TaskActionHandler Processes in Oracle BPEL Control Fail to Deploy After Installing Oracle Application Server

The `TaskManager` or `TaskActionHandler` processes in Oracle BPEL Control fail to deploy after installing Oracle Application Server. This issue manifests itself in the following ways:

- The `domain.log` file present in `ORACLE_HOME/bpel/domains/default/logs` directory contains compilation failures and XML parser errors.
- A file named `bpel_TaskManager_1.0.jar.failed` is present in the `ORACLE_HOME/bpel/domains/default/deploy` directory.
- Either the `TaskManager` or `TaskActionHandler` processes(or both) do not show up in the BPEL console.

The workaround for this issue is the following:

1. Navigate to the `deploy` directory by using the following command:

   ```
   prompt> cd ORACLE_HOME/bpel/domains/default/deploy
   ```

2. Rename the `bpel_TaskManager_1.0.jar.failed` file to `bpel_TaskManager_1.0.jar`
3. If the `oc4j_soa` process is up and running, deployment happens automatically after you rename `bpel_TaskManager_1.0.jar` file.
4. If the `oc4j_soa` process is not running, you need to start the process using the following command:

   ```
   opmnctl startproc process-type=oc4j_soa
   ```

When deployment happens successfully with this workaround, `bpel_TaskManager_1.0.jar` file will be removed from the `ORACLE_HOME/bpel/domains/default/deploy` directory, and the BPEL console will show the `TaskManager` (and/or `TaskActionHandler`) process successfully listed in the BPEL console.

2.1.21 Incorrect Command for Installing Apache 2.0 from the Companion CD

Step 5 in Sec 2.3.1,"Software Requirements for Red Hat Enterprise Linux AS 4.0 Systems" of the *Oracle Application Server Installation Guide* states the command to install Apache 2.0 from the companion CD if the `/usr/lib/libgdbm.so.3` file is not present.

This command is incorrect.

```
#ln -s /usr/lib/libgdbm.so.2 /usr/lib/libgdbm.so.3
```

should actually be:

```
#ln -s /usr/lib64/libgdbm.so.2 /usr/lib64/libgdbm.so.3
```

2.1.22 ONS Port Conflict When Oracle Database is Installed After Oracle Application Server

When you install Oracle Application Server, the ONS localport is set to 6101 by default. If you then install Oracle Database on the same host, the database ONS port may also be set to 6101. This results in a port conflict. The workaround is to manually change one of the ONS ports to a different port number after installation. Refer to *Oracle Application Server Administrator's Guide* for instructions for changing the ONS port number.

2.1.23 OPMJA.MSG Message Format is Invalid

Using the Japanese_Japan locale for user opmn startup causes opmn to become unstable because of a logging function problem. instead of using Japanese_Japan, use another language locale, such as American_America.

2.2 Documentation Errata

This section describes issues with Oracle Application Server documentation. It includes the following topics:

- Section 2.2.1, "ASG Standalone Kit Runinstaller Location Correction"
- Section 2.2.2, "Incorrect Installation Requirements in the Screenshot of Select Installation Type Page"
- Section 2.2.3, "Incorrect URL"
- Section 2.2.4, "Additional Requirement for /etc/hosts File not Documented"

2.2.1 ASG Standalone Kit Runinstaller Location Correction

The following directory location is referenced in section 6.5.4, Installing the OracleAS 10g (10.1.3.1.0) Standalone Install of OracleAS Guard into Oracle Homes of *Oracle Application Server Installation Guide*:

```
/Disk2/asg/install/runInstaller
```

The correct directory location is:

```
/Disk2/asg/Disk1/install/runInstaller
```

2.2.2 Incorrect Installation Requirements in the Screenshot of Select Installation Type Page

In Chapter 2, Section 5.3.2, "Select Installation Type Screen" of the *Oracle Application Server Installation Guide*, the following incorrect installation requirements were listed in the screenshot of the Select Installation Type page:

- J2EE Server, Web Server, and SOA Suite (874 MB)
- J2EE Server and Web Server (659 MB)
- J2EE Server (622 MB)
- Web Server (535 MB)

The correct installation requirements are:

- J2EE Server, Web Server, and SOA Suite (1.20 GB)
- J2EE Server and Web Server (850 MB)
- J2EE Server (785 MB)
- Web Server (650 MB)

2.2.3 Incorrect URL

After installation is complete, the `readme.txt` is displayed and it contains a typo in the URL in the following section:

Online documentation for Oracle Application Server is available at:
`http://download.oracle.com/docs/cd/B31017-01/index.htm`

The correct URL should be:

`http://download.oracle.com/docs/cd/B31017_01/index.htm`

The dash (-) in the URL should be an underscore (_) character.

2.2.4 Additional Requirement for /etc/hosts File not Documented

In Chapter 2, "Requirements," of the *Oracle Application Server Installation Guide*, some additional information regarding the `/etc/hosts` file is missing.

The following entry must be present in the `/etc/hosts` file in order for the installation to start `oc4j:home`:

```
127.0.0.1 localhost
```

3

General Management and Security Issues

This chapter describes management and security issues associated with Oracle Application Server. It includes the following topics:

- Section 3.1, "General Issues and Workarounds"
- Section 3.2, "Clustering and Replication Issues"
- Section 3.3, "Documentation Errata"

3.1 General Issues and Workarounds

This section describes general management and security issues. It includes the following topics:

- Section 3.1.1, "Configuring JGroups for Minimum Thread Consumption by Adapters"
- Section 3.1.2, "Deploying an Application Hangs During File Upload"
- Section 3.1.3, "SOA Database Backups"
- Section 3.1.4, "Limited Management Support for Multiple-JVM OC4J Instances"
- Section 3.1.5, "OC4J Restart Required When Changing the Name or URL of a JDBC Data Source or Connection Pool"
- Section 3.1.6, "Problem Removing a Property from a Native Data Source"
- Section 3.1.7, "Use the Command-Line to Restart Standalone OC4J Instances"
- Section 3.1.8, "TopLink Sessions Not Available in Application Server Control Console"
- Section 3.1.9, "Unable to Receive MBean Notification Using OPMN to Start or Stop OC4J"
- Section 3.1.10, "Using the Java Server Pages Standard Tag Libraries"
- Section 3.1.11, "RMD Conditional Does Not Fully Evaluate"
- Section 3.1.12, "Cannot Browse System MBeans If Application Server and OC4J Instance Share the Same Name"
- Section 3.1.13, "Considerations When Restarting Oracle Application Server After Applying the Patch Set"
- Section 3.1.14, "Welcome Page Link to Application Server Control Not Working"

3.1.1 Configuring JGroups for Minimum Thread Consumption by Adapters

Oracle Application Server Enterprise Deployment Guide describes how to configure JGroups for activation points for adapters, such as file adapter or FTP adapter. If too many file or FTP adapter activations are performed on the system, you may experience performance issues with this configuration, such as:

```
java.lang.OutOfMemoryError: unable to create new native thread
```

To avoid this problem, Oracle recommends that you configure JGroups for minimum thread consumption by setting all `up_thread` and `down_thread` parameters to `false` in the JGroup configuration file. For example:

```
<config>
    <UDP
        mcast_port="45566"
        mcast_addr="228.10.10.10"
        tos="16"
        ucast_recv_buf_size="20000000"
        ucast_send_buf_size="640000"
        mcast_recv_buf_size="25000000"
        mcast_send_buf_size="640000"
        loopback="false"
        discard_incompatible_packets="true"
        max_bundle_size="10000"
        max_bundle_timeout="30"
        use_incoming_packet_handler="true"
        use_outgoing_packet_handler="false"
        ip_ttl="2"
        enable_diagnostics="false"
        down_thread="false" up_thread="false"
        enable_bundling="true"/>
    <PING timeout="2000"
        down_thread="false" up_thread="false" num_initial_members="3"/>
    <!--MERGE2 max_interval="100000"
        down_thread="false" up_thread="false" min_interval="20000"/-->
    <FD_SOCK down_thread="false" up_thread="false"/>
    <!--FD timeout="3000" max_tries="5" down_thread="false" up_thread="false"
shun="true"/-->
    <!--VERIFY_SUSPECT timeout="1500" down_thread="false" up_thread="false"/-->
    <pbcast.NAKACK max_xmit_size="1300"
                   use_mcast_xmit="false" gc_lag="0"
                   retransmit_timeout="200,300,600,1200,2400,4800"
                   down_thread="false" up_thread="false"
                   discard_delivered_msgs="true"/>

    <UNICAST timeout="300,600,1200,2400,3600" down_thread="false" up_
thread="false"/>
    <pbcast.STABLE stability_delay="1000" desired_avg_gossip="50000"
                   down_thread="false" up_thread="false"
                   max_bytes="2000000"/>
    <VIEW_SYNC avg_send_interval="60000" down_thread="false" up_thread="false" />
    <pbcast.GMS print_local_addr="true" join_timeout="3000"
                down_thread="false" up_thread="false"
                join_retry_timeout="2000" shun="true"
                 />
    <FC max_credits="5000000" down_thread="false" up_thread="false"
        min_threshold="0.01"/>
    <FRAG2 frag_size="1200" down_thread="false" up_thread="false"/>
    <!--pbcast.STATE_TRANSFER down_thread="false" up_thread="false"/-->
</config>
```

3.1.2 Deploying an Application Hangs During File Upload

When you deploy an application using Application Server Control, the upload page may keep showing the "upload in progress" message until you manually refresh the page. In the `ASControl.log` file, you may see these messages:

```
WARN  util.MultipartRequestUtil _getMultiPartRequestParameter.263 -
 java.io.IOException: Cannot create temp directory: The system cannot find the
 path specified
```

You get this message if the temporary directory specified by the `java.io.tmpdir` system property does not exist.

To determine the value of the `java.io.tmpdir` system property, go to the Application Server Control's System Property page, which lists the values of system properties. If the directory specified by the `java.io.tmpdir` system property does not exist, create the directory and restart the server.

3.1.3 SOA Database Backups

If you have a database associated with a SOA database, then you will need to do a cold backup to ensure a consistent state when restoring the application.

3.1.4 Limited Management Support for Multiple-JVM OC4J Instances

With Oracle Application Server 10g Release 3 (10.1.3.1.0), you can configure any OC4J instance to use multiple Java Virtual Machines (JVMs). You can perform this configuration change by using the Application Server Control Console or by setting the `numprocs` argument in the `opmn.xml` file to a number greater than one (1).

The `opmn.xml` file is located in the following directory in your Oracle Application Server Oracle home:

```
ORACLE_HOME/opmn/conf/
```

To set the number JVMs in the Application Server Control Console, see "Creating Additional JVMs for an OC4J Instance" in the Application Server Control online help.

To set the number of JVMs by editing the `numprocs` argument in the `opmn.xml` file, refer to the following example, which shows the `numprocs` entry you must modify:

```
<ias-component id="OC4J">
   <process-type id="home" module-id="OC4J" status="enabled">
         .
         .
         .
      <process-set id="default_group" numprocs="2"/>
   </process-type>
</ias-component>
```

Note, however, that this feature is not supported by Application Server Control. Specifically, Application Server Control (represented by the `ascontrol` application) cannot run on an OC4J instance that is running multiple JVMs. As a result, be sure that you do not configure multiple JVMs for the administration OC4J instance (the OC4J instance that is hosting the active ascontrol).

If you choose to configure the number of JVMs for the administration OC4J to more than one (1), then you must use command line tools to manage your Oracle Application Server environment. For example, you must use:

- `admin_client.jar` for deployment, re-deployment, undeployment, start and stop applications, and shared library management
- Apache Ant for deployment, redeployment, and undeployment of your applications
- `opmnctl` commands for starting, stopping, and other life cycle operations on the Oracle Application Server

Further, if you are using multiple JVMs on the administration OC4J and, as a result, the Application Server Control Console is not available, then you must make any Oracle Application Server instance configuration changes manually. Manual configuration changes often require you to shut down the Oracle Application Server instance, manually configure the relevant XML files, and then restart Oracle Application Server.

3.1.5 OC4J Restart Required When Changing the Name or URL of a JDBC Data Source or Connection Pool

If you modify the name or the connection URL of a JDBC data source or JDBC connection pool, then you must restart the OC4J instance; otherwise the changes you make will not take effect.

For example, if you use the JDBC Resources page in the Application Server Control Console to change the connection URL of a JDBC connection pool, you will not be prompted to restart the OC4J instance, but the restart is required. If you do not restart the OC4J instance, any deployed applications that require the data source will attempt to use the original connection URL.

> **See Also:** "Managing Data Sources and JDBC Connection Pools" in the Application Server Control online help

3.1.6 Problem Removing a Property from a Native Data Source

If you use the Application Server Control Console to remove a property from a native data source, Enterprise Manager does not remove the property from the underlying connection factory. As a result, the property (and its current value) is not changed.

This is expected behavior. To set a value on the underlying connection factory, use the `setProperty` operation of the `JDBCDataSource` MBean for the native Data Source to do this. You can use the MBean Browser, which is available in the Application Server Control Console, to invoke an MBean operation.

> **See Also:** "About the MBean Browser" in the Application Server Control online help

3.1.7 Use the Command-Line to Restart Standalone OC4J Instances

Some OC4J configuration pages in the Application Server Control Console (including the JTA Administration and Oracle Internet Directory Association pages) require a restart of the OC4J instance for changes to take affect. Users are notified of this with on screen warnings during configuration operations on these components.

If are using the Application Server Control Console in a standalone OC4J environment, and you use the **Restart** link, which is displayed after applying changes

to one of these pages, the operation may take a few minutes because it performs an internal restart of the OC4J instance. As a result, instead of using the **Restart** link, Oracle recommends that OC4J standalone users use the command line to restart the OC4J instance.

3.1.8 TopLink Sessions Not Available in Application Server Control Console

If the TopLink Sessions for a TopLink-enabled application are not available in Application Server Control Console, check to be sure the TopLink session is configured to create the MBeans at login time. This is done by ensuring that the application has a `serverPlatform` class defined, and that the `ServerPlatform` class has its is `RuntimeServicesEnabled` flag enabled.

For Oracle Application Server 10g Release 3 (10.1.3.1.0), you should be using the following platform class, which can be set in the `sessions.xml` or through the session API:

```
oracle.toplink.platform.server.oc4j.Oc4j_10_1_3_Platform
```

When developing a TopLink-enabled application using Oracle JDeveloper, make sure to use version 11 or higher.

> **See Also:** "Configuring the Server Platform" in the *Oracle TopLink Developer's Guide*

3.1.9 Unable to Receive MBean Notification Using OPMN to Start or Stop OC4J

You will not be able to receive notification from the `ias:j2eeType=J2EEServer,name...` MBean entity if you start or stop Oracle Containers for J2EE (OC4J) using OPMN. This happens using either the Application Server Control or the `opmnctl stop` or `opmnct start` command from the command line.

There is presently no workaround for this issue.

3.1.10 Using the Java Server Pages Standard Tag Libraries

The Java Server Pages Standard Tag Library (JSTL) makes use of Jaxp 1.2 classes that are packaged with Java Developer Kit 1.4.

Oracle Application Server 10g Release 3 (10.1.3.1.0) makes use of JDK 1.5 which uses Jaxp 1.3 classes. However, the JSTL still requires the Jaxp1.2 classes. If you run the JSTL with XML related tags in JDK 1.5 you may receive an error message similar to:

```
: missing class org.apache.xpath.encounter failure.
```

To avoid JSTL failure, include the `xalan.jar` file in the required `.war` file. Add the `xalan.jar` file into your `/WEB-INF/lib` directory with the `.war` file and then re-package.

For more information refer to the JSTL release notes at:

`http://java.sun.com/webservices/docs/1.6/jstl/ReleaseNotes.html`.

3.1.11 RMD Conditional Does Not Fully Evaluate

As documented in the *Oracle Process Manager and Notification Server Administrator's Guide* and functional specifications for Dynamic Resource Management (DRM), a Resource Management Directive (RMD) conditional can have a fully qualified path.

However, the conditional may not evaluate at all. It may fail to trigger any action or exception even though the `opmn.xml` file is valid.

RMD definitions can be either:

- Hierarchical: if defined at the `ias-instance` level or lower. Hierarchical RMDs assume an association within the OPMN configuration components in which they are defined.
- Global: if defined at the `process-manager` level. Global RMDs require explicit OPMN component specifications.

If you are referencing a hierarchical RMD, instead of a fully qualified path use a hierarchical relative reference.

For example, if the average request time is greater than 500 milliseconds for at least 60 seconds and there are less then 4 processes running for the `process-set` at which the hierarchical RMD was configured for OC4J, you would use the following in the `opmn.xml` file:

```
([process].avgReqTime > 500 {duration(60)})&([process-set].numProcs < 4)
```

If you are referencing a global RMD use a global absolute reference.

For example, if the heap size of a Java Virtual Machine (JVM) has exceeded 500 MBs, you would use the following in the `opmn.xml` file:

```
[process-set=home][process].heapSize > 500000
```

Note that the `opmn.xml` file is located in the following directory in your Oracle Application Server Oracle home:

```
ORACLE_HOME/opmn/conf/
```

3.1.12 Cannot Browse System MBeans If Application Server and OC4J Instance Share the Same Name

When you install Oracle Application Server 10g Release 3 (10.1.3.1) and specify a name for the default OC4J instance, do not use a name that matches the name of the Oracle Application Server instance or the first few characters of the Oracle Application Server instance name; otherwise, you will be unable to browse the system or applications MBeans using the Application Server Control MBean Browser.

For example, you will not be able to browse the MBeans for the instance if the name of your OC4J instance and the name of your Oracle Application Server instance are as follows:

```
Oracle Application Server instance name: instance1_as10132.node1.acme.com OC4J
instance name: instance1
```

Similarly, keep this restriction in mind when you are creating additional OC4J instances. Do not use a name that matches the name of the Oracle Application Server that is hosting the OC4J instance.

3.1.13 Considerations When Restarting Oracle Application Server After Applying the Patch Set

The following sections describe some important considerations if you are patching a 10g Release 3 (10.1.3.1.0) Oracle home and you selected the following installation options when you installed the 10g Release 3 (10.1.3.1.0) Oracle home:

- You selected the **Advanced Install** option
- You selected the **J2EE Server, Web Server and SOA Suite** installation type
- You configured the instance to serve as an Administration OC4J instance.

If you selected all of these options while installing Oracle Application Server 10g Release 3 (10.1.3.1.0), then in rare circumstances the Oracle Enterprise Manager 10g Application Server Control Console does not display when the installation is complete.

If you have experienced this problem, see the following sections for more information:

- Section 3.1.13.1, "Restarting the Application Server Instance If You Had Trouble Displaying the Application Server Control Console"
- Section 3.1.13.2, "Displaying the Application Server Control Console After a 10g Release 3 (10.1.3.1.0) Advanced Installation"

3.1.13.1 Restarting the Application Server Instance If You Had Trouble Displaying the Application Server Control Console

If you have experienced this problem and fixed it previously, be sure to use the following individual commands to start the application server instance. Do not use the `opmnctl startall` command:

```
opmnctl start
opmnctl startproc process-type=<OC4J instance name 1>
opmnctl startproc process-type=<OC4J instance name 2>
opmnctl startproc process-type=<Oracle HTTP Server instance name>
```

3.1.13.2 Displaying the Application Server Control Console After a 10g Release 3 (10.1.3.1.0) Advanced Installation

If you cannot display the Application Server Control Console after installing 10g Release 3 (10.1.3.1.0) with these options selected, the `server.xml` files in your application server instance might have become corrupted during the installation.

Do the following to correct the problem:

1. Use a text editor to open the `server.xml` file for the `home` OC4J instance:

   ORACLE_HOME`/j2ee/home/config/server.xml`

2. Make sure that the following entry exists in the `server.xml` file for the `home` instance:

   ```
   <global-application name="default" path="application.xml" parent="system"
   start="true" />
   ```

3. Save and close the `server.xml` file for the `home` instance.
4. Use a text editor to open the `server.xml` file for the `oc4j_soa` OC4J instance:

   ORACLE_HOME`/j2ee/oc4j_soa/config/server.xml`

> **Note:** *oc4j_soa* is the default name of the second OC4J instance installed b y the **Advanced Install** option. If you entered a different name for this instance on the Administration Settings screen of the installer, then replace *oc4j_soa* in the previous example with the name you entered on the Administration Settings page.

5. Make sure that the following entry exists in the `server.xml` file for the `oc4j_soa` instance:

```
<application name="ascontrol" path="../../home/applications/ascontrol.ear"
parent="system" start="false" />
```

6. Save and close the `server.xml` file for the `oc4j_soa` instance.
7. Stop and then start both the `home` instance and the `oc4j_soa` instance.

Caution: To prevent this problem from happening again, do not use the `opmnctl startall` command to start the application server instance. Instead, each time you need to restart the application server instance, be sure to use the following separate commands to stop and restart each component of the application server:

```
opmnctl start
opmnctl startproc process-type=<OC4J instance name 1>
opmnctl startproc process-type=<OC4J instance name 2>
opmnctl startproc process-type=<Oracle HTTP Server instance name>
```

Tip: "Starting and Stopping" in the *Oracle Application Server Administrator's Guide*

The latest *Oracle Application Server 10g Release 3 (10.1.3.1.0) Release Notes* available in the 10g Release 3 (10.1.3.0.0) documentation library on the Oracle Technology Network

3.1.14 Welcome Page Link to Application Server Control Not Working

The Oracle Application Server Welcome Page contains a link to Application Server Control. If this link is not working:

1. Edit `$ORACLE_HOME/Apache/Apache/htdocs/index.html.html`.
2. Locate the following entry:

```
<a href="/em">
```

3. Replace it with the following entry, substituting in your Application Server Control hostname and port number:

```
<a href="http://hostname:port/em">
```

3.2 Clustering and Replication Issues

This section describes clustering and replication issues. It includes the following topic:

- Section 3.2.1, "Using Oracle Universal Installer Provided Sample Cluster Discovery Address May Inadvertently Cluster Servers"

3.2.1 Using Oracle Universal Installer Provided Sample Cluster Discovery Address May Inadvertently Cluster Servers

Oracle Universal Installer provides an example cluster discovery address as part of the advanced installation option. The provide example discovery address is `225.0.0.1:6789`. This *is not* a recommended address; rather it is an example intended to provide the type of cluster discovery address users may ask for from their network administrator.

Because the cluster configuration of Oracle Application Server is fully dynamic it is possible for installations using the example cluster discovery address (`225.0.0.1:6789`) to be inadvertently clustered with other servers installed with the same example cluster discovery address.

The cluster discovery address of a specific Oracle Application Server instance can be set from the command line using the following `opmnctl` command:

```
> $ORACLE_HOME/opmn/bin/opmnctl config topology update discover=<cluster config
address>
```

For example, to update a cluster discovery address in a specific Oracle Application Server instance to be `225.0.0.1:9876`, the command would be:

```
> $ORACLE_HOME/opmn/bin/opmnctl config topology update discover="*225.0.0.1:9876"
```

Details on configuring topologies and the cluster discovery address can be found in Chapter 8, "Configuring and Managing Clusters" of the *Oracle Containers for J2EE Configuration and Administration Guide*.

3.3 Documentation Errata

The section describes documentation errata in management documentation. It includes the following topics:

- Section 3.3.1, "Valid Range of Multicast Addresses is Incorrect in the Application Server Control Online Help"
- Section 3.3.2, "Correction About Configuring Oracle Application Server 10.1.2 with Oracle Application Server 10.1.3"
- Section 3.3.3, "Additional Information for Changing Hostname"
- Section 3.3.4, "Additional Information About Cloning and Oracle Enterprise Service Bus"
- Section 3.3.5, "Additional Information About Cloning"
- Section 3.3.6, "Online Help for the the Java SSO Session Timeout Field is Incorrect"
- Section 3.3.7, "Incorrect Gateway Example in Oracle Process Manager and Notification Server Administrator's Guide"
- Section 3.3.8, "Default Ping Timeout Value in OPMN Is 30 Seconds, Not 20"
- Section 3.3.9, "Enabling and Disabling Components Is Supported"
- Section 3.3.10, "Incorrect request Attribute Description"
- Section 3.3.11, "Incorrect Title"

3.3.1 Valid Range of Multicast Addresses is Incorrect in the Application Server Control Online Help

The following topics in the Application Server Control online help incorrectly state the valid range of addresses you can use for a multicast address when configuring an Oracle Application Server 10g Release 3 (10.1.3.1.0) cluster topology:

- "Tips When Configuring the Cluster Topology"
- "Summary of the Supported Cluster Topologies"

The multicast address must be within the following range: `224.0.1.0` to 239.255.255.255.

3.3.2 Correction About Configuring Oracle Application Server 10.1.2 with Oracle Application Server 10.1.3

To use the latest J2EE features of Oracle Application Server, 10g Release 3 (10.1.3.1.0), with existing Oracle Application Server, Release 2 (10.1.2), components and applications, you can use the Oracle HTTP Server from an Oracle Application Server, Release 2 (10.1.2), middle tier as the front-end for your Oracle Application Server, 10g Release 3 (10.1.3.1.0), middle tier. Section 6.4 of the *Oracle Application Server Administrator's Guide* describes how to do this.

However, in that section, the following command is incorrect:

```
ORACLE_HOME_SERVER2/opmn/bin/opmnctl config port update ias-component=OC4J
process-type=instance name portid=default-web-site protocol=ajp
```

The command should be:

```
ORACLE_HOME_SERVER2/opmn/bin/opmnctl config port update ias-component=default_
group process-type=instance name portid=default-web-site protocol=ajp
range=12501-12600
```

3.3.3 Additional Information for Changing Hostname

If your environment includes Oracle Enterprise Service Bus, the following describes additional information that is not currently documented in Section 7.2.2 of the *Oracle Application Server Administrator's Guide*:

- In Task 9, Step 1 describes editing the `esbparam.properties` file to change the DT_OC4J_HOST property. Additionally, if the port number changed, you must change the DT_OC4J_HTTP_PORT property.
- After you import the `esbparam.properties` file as described in Step 3, you must redeploy all applications, including Oracle BPEL Process Manager applications.

3.3.4 Additional Information About Cloning and Oracle Enterprise Service Bus

If your environment includes Oracle Enterprise Service Bus, the following describes additional information that is not currently documented in Section 9.5.6 of the *Oracle Application Server Administrator's Guide*:

- In the part that describes steps to take on the cloned instance, step 2 describes editing the `esbparam.properties` file on the cloned instance to change the DT_OC4J_HOST property to the new hostname. Note that if the cloned instance is located on a remote host, you must change both the DT_OC4J_HOST and DT_OC4J_HTTP_PORT properties. If the cloned instance is on the same node as the source instance, you must change the DT_OC4J_HTTP_PORT property.
- After you import the `esbparam.properties` file as described in Step 4, you must redeploy all applications, including Oracle BPEL Process Manager applications.

3.3.5 Additional Information About Cloning

The following contains additional and corrected information about cloning, to supplement and correct the information in the cloning chapter of the *Oracle Application Server Administrator's Guide*:

- Section 9.6.1 does not give an example of how to add additional options to the clone_command_line. The following information should be added:

To specify multiple arguments, append the argument to the `clone_command_line`, separating each argument with a space. Do not add additional `clone_command_line` lines. The following example shows how to specify two arguments:

```
clone_command_line= -silent -invptrloc /private/oracle/oraInst.loc
oracle.as.j2ee.top:szl_PortListSelect="{YES, /tmp/staticports.ini}"
```

- Section 9.6.2 does not specify the location of the cs.properties file. The file is located in:

  (UNIX) *ORACLE_HOME*/clone/ias/config/cs.properties

- The example in Section 9.6.2 uses an incorrect option. The correct example is:

```
clone_command_line= oracle.as.j2ee.top:szl_PortListSelect="{YES,
/tmp/staticports.ini}"
```

- If you set VIRTUAL_HOST_NAME when you installed the Oracle Application Server instance, you must update the OUI_HOSTNAME parameter in the following file with the VIRTUAL_HOST_NAME, before you run the prepare_clone script:

  (UNIX) *ORACLE_HOME*/inventory/Clone/clone.xml

3.3.6 Online Help for the the Java SSO Session Timeout Field is Incorrect

The online help provided for the *Session Timeout (secs)* field on the Java SSO Configuration page in the Oracle Enterprise Manager Application Server Control is incorrect. The field is documented correctly in Table 14-1, "Java SSO Properties," in the *Oracle Containers for J2EE Security Guide*.

The Session Timeout is the period of time (in seconds) for which the Java SSO cookie is valid. Note that this is a hard timeout, not an inactivity timeout.

The session will timeout after this amount of time no matter what. The default for this configuration setting is 7200 seconds (2 hours).

3.3.7 Incorrect Gateway Example in Oracle Process Manager and Notification Server Administrator's Guide

In chapter 6, "opmn.xml Common Configuration", of the *Oracle Process Manager and Notification Server Administrator's Guide*, the last example shown in the `<gateway>` section may produce a validation error. The example shows these two lines:

```
<gateway
list="host1a.subA.com:6200&host2a.subA.com:6200/host1b.subB.com:6200&host2b.subB.c
om:6200"/>
<gateway
list="host1b.subB.com:6200&host2b.subB.com:6200/host1a.subA.com:6200&host2a.subA.c
om:6200"/>
```

You may get the following error if you use the lines above:

```
In line 9 of /scratch/aime1/10133/ohs/opmn/conf/opmn.xml:
LPX-00241: entity reference is not well formed
XML parse failed: error 241.
opmnctl: opmn.xml validation failed.
```

To fix this, you should merge the two lines into a single line, as follows:

```
<gateway
 list="host1a.subA.com:6200&
 host2a.subA.com:6200/host1b.subB.com:6200&host2b.subB.com:6200,
 host1b.subB.com:6200&host2b.subB.com:6200/host1a.subA.com:6200&
 host2a.subA.com:6200"/>
```

3.3.8 Default Ping Timeout Value in OPMN Is 30 Seconds, Not 20

The *Oracle Process Manager and Notification Server Administrator's Guide* incorrectly states that the default ping timeout value is 20 seconds. It is actually 30 seconds.

3.3.9 Enabling and Disabling Components Is Supported

The *Oracle Application Server Administrator's Guide* incorrectly states that enabling and disabling components is not supported. Although it is not supported in Application Server Control Console, it is supported by OPMN. For more information on enabling and disabling components, see the *Oracle Process Manager and Notification Server Administrator's Guide*.

3.3.10 Incorrect request Attribute Description

In *Oracle Process Manager and Notification Server Administrator's Guide*, section 6.2, "opmn.xml Element and Attribute Descriptions", the `request` attribute description contains the following incorrect statement:

"The `request` attribute is for the IP address or host name to which ONS will bind its remote port."

The correct statement is:

"The `request` attribute is for the IP address or host name to which ONS will bind its request port."

3.3.11 Incorrect Title

In Section 7.6, "Generic Apache (Linux only)", of the Oracle Process Manager and Notification Server Administrator's Guide the title is incorrect. The listed configuration for the Oracle HTTP Server process module to manage generic Apache processes is valid for Linux and Microsoft Windows operating systems.

4

Oracle JDeveloper

This chapter describes issues associated with Oracle JDeveloper. It includes the following topics:

- Section 4.1, "Introduction"
- Section 4.2, "General IDE Issues and Workarounds"
- Section 4.3, "Deployment Issues and Workarounds"
- Section 4.4, "Modeling Issues and Workarounds"
- Section 4.5, "Toplink Issues and Workarounds"
- Section 4.6, "EJB Issues and Workarounds"
- Section 4.7, "Web Services Issues and Workarounds"
- Section 4.8, "JavaServer Faces (JSF) Issues"
- Section 4.9, "Miscellaneous Issues and Workarounds"

4.1 Introduction

For additional information not available at the time of this document's publication, review the Oracle JDeveloper (10.1.3.1.0) Release Notes Addendum at (`http://www.oracle.com/technology/products/jdev/htdocs/10.1.3.1/index.html`

For more information and technical resources for JDeveloper, visit the JDeveloper product center on the Oracle Technology Network at `http://www.oracle.com/technology/products/jdev/101`

4.2 General IDE Issues and Workarounds

This section describes general IDE issues and workarounds. It includes the following topic:

- Section 4.2.1, "Incompatibility Between Internal CVS Client and CVSNT Server"

4.2.1 Incompatibility Between Internal CVS Client and CVSNT Server

In some cases binary files can become corrupted when using JDeveloper's internal CVS client against a CVSNT server. The workaround is to use CVSNT's client within JDeveloper. This can be configured on the **Versioning | CVS** panel of IDE preferences.

4.3 Deployment Issues and Workarounds

This section describes general deployment issues and workarounds. It includes the following topic:

- Section 4.3.1, "EJB Web Service Fails to Deploy to JDeveloper's Embedded Server"
- Section 4.3.2, "ADF Web Application with Ejb3 Model Project Dependency Fails to Deploy"
- Section 4.3.3, "Deploying JDeveloper Deployment Profiles to Archive Files on the File System"

4.3.1 EJB Web Service Fails to Deploy to JDeveloper's Embedded Server

JDeveloper may exceed the length of the path names permitted by Windows when you compile an EJB session bean with a web service annotation. The path name JDeveloper generates for the web service class file is concatenated from three elements: the path to the application-deployment folders (set by system and not editable), the path to the web service source folder (also set by system), and the path to the class file specified by its package name (set by user and must be as short as possible).

For example, the following path would be created for a web service class file, where the user-specified portion of the path name is based on the package name `com.oracle.myapp.ejb.webservice.test`.

```
<JDev_
Install>jdev\system\oracle.j2ee.10.1.3.37.58\embedded-oc4j\application-deployment
s\\current-workspace-app\
MyApplication_MyProject\ws-src\com\oracle\myapp\ejb\webservice\test
```

and results in the exception:

```
oracle.j2ee.ws.common.tools.api.SeiValidationException: Interface
<classname>.SessionEJBBeanPortType: The class could not be loaded from
the class path.
```

You can workaround this limitation by shortening the name of the package you enter when you create the EJB session bean. For example, instead of `com.oracle.myapp.ejb.webservice.test`, as shown in the above example, the package name com.oracle.myapp will result in a legal class path length.

4.3.2 ADF Web Application with Ejb3 Model Project Dependency Fails to Deploy

When you deploy an ADF web application WAR file to Standalone OC4J you may encounter the following error due to multiple persistence unit definitions resulting from an EJB3 model project dependency:

```
DeployerRunnable.run[application1:ejb3_mdnav_adffaces] - Multiple persistence
units with name "model" are defined at the same
scope.oracle.oc4j.admin.internal.DeployerException: [application1:ejb3_mdnav
_adffaces] - Multiple persistence units with name "model" are defined at the same
scope.
```

To avoid this error, update the ViewController project settings to remove the dependency on the Model project before deploying the ADF Web application to Standalone OC4J.

4.3.3 Deploying JDeveloper Deployment Profiles to Archive Files on the File System

When deploying JDeveloper deployment profiles to an archive file the default behavior is to deploy the archive as standard J2EE. In order to deploy an archive to a file for a specific application server platform to incorporate platform specific descriptor handling, the user must set the Target Connection in the **Deployment Profiles - Platform page**. The Target Connection can only be set to something other than the default (J2EE) after creating an application server connection in the connection navigator.

4.4 Modeling Issues and Workarounds

This section describes modeling issues and workarounds. It includes the following topic:

- Section 4.4.1, "Refactoring Context Menu and UML"
- Section 4.4.2, "Java Modeler Accessibility"

4.4.1 Refactoring Context Menu and UML

From the Application Navigator context menu, the refactoring submenu is visible for navigator packages containing UML artifacts. However, refactoring the package will NOT cause UML artifact to be refactored, though Java and other types will be refactored as expected.

4.4.2 Java Modeler Accessibility

The Java Modeler's popup code editor is not currently accessible when using the JAWS screen reader. The workaround is to invoke **Go To Source** instead of **Edit** for Java elements on the diagram, which will invoke the main code editor.

4.5 Toplink Issues and Workarounds

This section describes Toplink issues and their workarounds. It includes the following topics:

- Section 4.5.1, "Importing Tables with Multibyte Characters"

4.5.1 Importing Tables with Multibyte Characters

When importing database tables named with multibyte characters, you must change the JDeveloper encoding to UTF-8.

1. Select **Tools > Preferences > Environment**.
2. Change **Encoding** to **UTF-8**.
3. Restart JDeveloper, then import the tables.

4.6 EJB Issues and Workarounds

This section describes EJB issues and their workarounds. It includes the following topics:

- Section 4.6.1, "EJB 3.0 Application Migration Issue (10.1.3 to 10.1.3.1)"
- Section 4.6.2, "Running EJB 3.0 Applications"

4.6.1 EJB 3.0 Application Migration Issue (10.1.3 to 10.1.3.1)

In 10.1.3.1 the life span of an entity's Persistence Context is strictly tied to the life span of its associated transaction, since by default, a PersistenceContext's type is `PersistenceContextType.TRANSACTION`.

This requirement was relaxed in JDeveloper 10.1.3, and some applications were found to be dependent on this requirement not being met.

To operate under the stricter requirement in JDeveloper 10.1.3.1, EJB 3.0 Stateless Session beans migrated from JDeveloper 10.1.3 and interacting with web clients may need to be changed to Stateful Session beans.

In addition to this change, the generated statement:

```
@Resource
EntityManager em;
```

should be changed to:

```
@PersistenceContext(type=PersistenceContextType.EXTENDED)
EntityManager em;
```

to allow web clients to perform additional operations on entities returned from the (newly Stateful) Session bean.

4.6.2 Running EJB 3.0 Applications

EJB 3.0 runtime is different between JDeveloper 10.1.3 and JDeveloper 10.1.3.1. An EJB 3.0 application that was created in JDeveloper 10.1.3 will only work with Oracle Application Server 10.1.3, and an EJB 3.0 application created in JDeveloper 10.1.3.1 will only work with Oracle Application Server (SOA) 10.1.3.1.

You can migrate EJB 3.0 applications from JDeveloper 10.1.3 to JDeveloper 10.1.3.1 by following the instructions in the online help topic *Migrating EJB 3.0 Applications from Oracle JDeveloper 10g Release 10.1.3 to 10.1.3.1* by selecting **Getting Started with Oracle JDeveloper > Migrating to Oracle JDeveloper 10g** .

4.7 Web Services Issues and Workarounds

This section describes Web Services issues and their workarounds. It includes the following topics:

- Section 4.7.1, "Top-Down SOAP 1.2 Services Changed to SOAP 1.1 after Editing"
- Section 4.7.2, "Top-Down Service with One-Way Operations Changed to Two-Way Methods after Editing"
- Section 4.7.3, "Top-down Web Services Generated with Enumerated Types Fail Validation"
- Section 4.7.4, "Deleting InitParam or Header in a Web Service Handler Causes an Error"
- Section 4.7.5, "Web Service Proxy Fails when Running with Reliability Settings"
- Section 4.7.6, "'Invoke' Button Not Present in Enterprise Manager for Testing EJB3.0 Web Service on External OC4J"
- Section 4.7.7, "Invalid Web Service Endpoint in Generated Proxy for Multi-Port WSDLs"

- Section 4.7.8, "Runtime Exception when More than One Web Service Exists in a Project"

4.7.1 Top-Down SOAP 1.2 Services Changed to SOAP 1.1 after Editing

If you create a web service top-down from a WSDL that contains SOAP 1.2 bindings, then modify that service in the web service editor, the bindings are changed to SOAP 1.1.

The workaround is in the Web Services Editor dialog, manually deselect SOAP 1.1 Binding and select SOAP 1.2 Binding instead.

4.7.2 Top-Down Service with One-Way Operations Changed to Two-Way Methods after Editing

If you create a top-down web service that has one-way operations, then use the Web Service Editor to change the service or invoke **Regenerate Web Service from Source**, the one-way operations are changed to two-way operations.

The workaround is in the Web Services Editor dialog, manually select the **Create One-Way Operations From Void Methods** checkbox.

4.7.3 Top-down Web Services Generated with Enumerated Types Fail Validation

When you generate a top-down web service a WSDL with enumerated types, subsequent changes made to the service in the Web Service Editor cannot be committed due to an error in validation.

4.7.4 Deleting InitParam or Header in a Web Service Handler Causes an Error

If you have created a web service handler that uses an InitParam and/or a Header, and you subsequently edit the handler to remove the InitParam or the Header, JDeveloper displays an error message.

The workaround is to remove the handler, then recreate it without the initial parameter.

4.7.5 Web Service Proxy Fails when Running with Reliability Settings

When you run a proxy to a web service that has reliability enabled, you may find that it fails, and on examination with the HTTP Analyzer the SOAP message returned from the server has an empty body. This can occur because the default value of **Expiry Time** on the **Operation Settings** tab of the Proxy Reliability wizard.

The workaround is to increase the expiry time to 2 seconds or more.

4.7.6 'Invoke' Button Not Present in Enterprise Manager for Testing EJB3.0 Web Service on External OC4J

If you deploy an EJB3.0 web service to external OC4J, and try to test it from Oracle Enterprise Manager, the **Invoke** button is not always present.

There is no workaround.

4.7.7 Invalid Web Service Endpoint in Generated Proxy for Multi-Port WSDLs

When you create a proxy to a web service with more than one port, the proxy may be generated with an invalid endpoint for the web service.

The workaround is to examine the WSDL to find the correct endpoint URL, and paste this into the generated proxy class.

4.7.8 Runtime Exception when More than One Web Service Exists in a Project

If you create two or more web services in a project that use the same mapping file, you will get a runtime exception.

The workaround is:

- For bottom-up web service generation, specify a `serviceName` argument value that does not already exist for the second web service.
- For top-down web service generation, make sure the web services are each in a different WAR for deployment so that the same deployment descriptor is not used.

4.8 JavaServer Faces (JSF) Issues

This section describes JavaServer Faces issues and workarounds. It includes the following topic:

- Section 4.8.1, "In JSF 1.1_02 Pages under /WEB-INF Fail to Load"

4.8.1 In JSF 1.1_02 Pages under /WEB-INF Fail to Load

JDeveloper 10.1.3.1 upgrades to the JavaServer Faces reference implementation version 1.1_02. This maintenance release of the JSF runtime from Sun introduces a new restriction preventing the processing of any JSF page located in the `./WEB-INF` directory (or subdirectory thereof). If your JSF applications contain pages in the `WEB-INF` directory, you will need to move those pages to another directory under the web root other than `WEB-INF` for them to function correctly. If your JSF pages use ADF Model data binding, after moving the JSP/JSPX pages from `./WEB-INF` (or subdirectory) to a new directory under your web root, you will need to reflect the change in the "path" value inside the <pageMap> section of your DataBindings.cpx file. For example, if your page previously had a "path" value of `/WEB-INF/page/Test.jspx` and you moved this Test.jspx page to `./public_html/page/Test.jspx`, where `./public_html` is the HTML root directory of your view controller project -- then you must edit the value of the path and change it from `/WEB-INF/page/Test.jspx` to `/page/Test.jspx`.

4.9 Miscellaneous Issues and Workarounds

This section describes documentation errata. It includes the following topic:

- Section 4.9.1, "Using JAZNMigrationTool with JDeveloper"
- Section 4.9.2, "Running ADF Installer against Application Server 10.1.2 Instance"
- Section 4.9.3, "Restore Option Does Not Restore bc4j.ear"

4.9.1 Using JAZNMigrationTool with JDeveloper

The JAZNMigrationTool provides a way to migrate the contents of one store to another that can then be loaded to the LDAP directory. The command to be used is:

```
java JAZNMigrationTool -D binddn -w passwd [-h ldaphost] [-p ldapport]
[-sf filename] [-df LDIF_filename]
[-sr source_realm] [-dr dest_realm]
[-m policy|realm|all]
[-help]
```

Below is an example of migrating all users, roles, and JAAS policies from `embedded-oc4j/config/system-jazn-data.xml` to `j2ee/home/config/system-jazn-data.xml`

```
set CLASSPATH=JDEV_HOME/j2ee/home/jazn.jar:$CLASSPATH$JDEV_HOME/jdk/bin/Java
oracle.security.jazn.tools.JAZNMigrationTool -w welcome -sf JDEV
_HOME/jdev/system/oracle.j2ee.xxxx/embedded-oc4j/config/system-jazn-data.xml -df
JDEV_HOME/j2ee/home/config/system-jazn-data.xml -dt xml
```

Note that JDEV_HOME should be the directory where they install JDeveloper. XXXX represents the final build number.

For more information issue `Java JAZNMigrationTool -help`.

4.9.2 Running ADF Installer against Application Server 10.1.2 Instance

When running the ADF installer within JDeveloper (**Tools | ADF Installer**) against an Oracle Application Server 10.1.2 instance, you may encounter the error `Cannot finish the installation` even if the server is shut down. In addition to stopping the Application Server instance, you must also shut down the Application Server Control Manager (Enterprise Manager) service before running the ADF Installer against the Oracle Application Server 10.1.2 instance.

4.9.3 Restore Option Does Not Restore bc4j.ear

Use of the restore facility does not redeploy bc4j.ear to the Oracle Application Server 10.1.3.0.0. This should not affect functionality, as `datatags.ear` is the same as bc4j.ear. However, if required, bc4j.ear must be manually deployed using the Enterprise Manager console.

5

Oracle Application Server Packaged-Application Adapters

This chapter describes issues and workarounds for the following Oracle Application Server adapters (OracleAS adapters):

- Oracle Application Server Adapter for PeopleSoft (OracleAS Adapter for PeopleSoft)
- Oracle Application Server Adapter for MySAP ERP (OracleAS Adapter for MySAP ERP)
- Oracle Application Server Adapter for Siebel (OracleAS Adapter for Siebel)
- Oracle Application Server Adapter for J.D. Edwards OneWorld (OracleAS Adapter for J.D. Edwards OneWorld)

This chapter includes the following topics:

- Section 5.1, "OracleAS Adapters: General Issues and Workarounds"
- Section 5.2, "OracleAS Adapter Application Explorer"
- Section 5.3, "OracleAS Adapter for PeopleSoft: Issues and Workarounds"
- Section 5.4, "OracleAS Adapter for MySAP ERP: Issues and Workarounds"
- Section 5.5, "OracleAS Adapter for Siebel: Issues and Workarounds"
- Section 5.6, "OracleAS Adapter for J.D. Edwards OneWorld: Issues and Workarounds"
- Section 5.7, "Software Maintenance Notice"
- Section 5.8, "Documentation Errata"

5.1 OracleAS Adapters: General Issues and Workarounds

The following topics discuss general issues that pertain to Oracle Application Server adapters, OracleAS Adapter J2CA (J2CA), and OracleAS Adapter Business Services Engine (BSE):

- Section 5.1.1, "Namespace Requirements"
- Section 5.1.2, "Testing Outbound BPEL and ESB Processes"
- Section 5.1.3, "Schema Validation"
- Section 5.1.4, "HTTP Repository Connection"
- Section 5.1.5, "Using Business Services Engine for Inbound Processing"

- Section 5.1.6, "Using Business Services Engine with a File Repository"
- Section 5.1.7, "Synchronous Events"
- Section 5.1.8, "Ports Option for Inbound Processing"
- Section 5.1.9, "Supported Custom Objects"
- Section 5.1.10, "Windows Shortcuts"
- Section 5.1.11, "OPMN and JCA Test Servlet Startup Error"
- Section 5.1.12, "Adapter Certification"
- Section 5.1.13, "Adapter Compatibility"
- Section 5.1.14, "Unsupported Configuration"
- Section 5.1.15, "Encoding Support"
- Section 5.1.16, "New OracleAS Adapter J2CA Targets"
- Section 5.1.17, "Invoking a Run-Time Message When BSE Is Unavailable"
- Section 5.1.18, "Invoking Outbound BPEL Process at Run Time Using BSE"
- Section 5.1.19, "Java Command Error in iwae.sh"
- Section 5.1.20, "WSIL Browser Not Working in JDeveloper"
- Section 5.1.21, "Using the J2CA Test Tool for Outbound Only"
- Section 5.1.22, "J2CA Test Tool Does Not Support DBCS Input"
- Section 5.1.23, "BSE Web Services Browser Pages Do Not Support DBCS Input"
- Section 5.1.24, "Creating an ESB Process for Web Services"
- Section 5.1.25, "Adapter Language Certification"

5.1.1 Namespace Requirements

The purpose of an XML namespace is to allow the deployment of XML vocabularies (where element and attribute names are defined) in a global environment and to reduce the risk of name collisions in a given document when vocabularies are combined. Qualified namespaces are used for stricter schema validation. In documents conforming to this specification, element and attribute names appear as qualified names. Syntactically, they are either prefixed names or unprefixed names. An attribute-based declaration syntax is provided to bind prefixes to namespace names and to bind a default namespace that applies to unprefixed element names. These declarations are scoped by the elements on which they appear so that different bindings may apply in different parts of a document. Processors conforming to this specification must recognize and act on these declarations and prefixes.

In the 10.1.3.1.0 SOA release, the recommendations for BPEL and ESB based on W3C, is to perform stricter name space validations. As a result, Application Explorer generates Web services for the backend with the namespace marked as "Qualified". This means that during testing or usage of this service by BPEL or ESB, the request XML document that is being used should adhere to the schema and WSDL document. Once again, it is important to remember that the namespaces are qualified. To further understand this point, the difference is illustrated with the following example:

1. Input XML for ESB and BPEL, based on unqualified namespaces:

```
<?xml version="1.0" encoding="UTF-8"?>
<CompanyCode.GetDetail>
```

```
   <COMPANYCODEID>1000</COMPANYCODEID>
</CompanyCode.GetDetail>
```

2. Input XML for ESB and BPEL, based on qualified namespaces:

```
<?xml version="1.0" encoding="UTF-8"?>
<bapi:CompanyCode.GetDetail xmlns:bapi="urn:sap-com:document:sap:business"
 CompanyCodeId="1000">
</bapi:CompanyCode.GetDetail>
```

Note : If you are passing an unqualified input against a WSDL document that is expecting qualified namespaces, the ESB will throw the exception as "Unable to process input xml...."

5.1.2 Testing Outbound BPEL and ESB Processes

The BPEL console allows you to test deployed BPEL processes. Once a process is deployed, you can manage, monitor, and run an end-to-end scenario using the Initiate tab in the console. The iWay Adapters are certified for testing using the **XML Payload** option and the option of running using **Through Java Delivery API**. It is recommended that developers use this method for testing the iWay Adapters.

When testing an outbound BPEL process from the BPEL console or an outbound ESB process from the Enterprise Manager (EM) console, do not use the XML envelopes that are generated by these consoles. Instead, remove them and use the XML payloads that are generated from the schemas, which conform to the WSDLs for namespace qualifications.

The ESB data flows can be tested using the EM console. When creating an ESB data flow and interactions, the Web services are created and registered with the Oracle Application Server. For more information on testing Web services, see your Oracle Application Server administrator and the following documentation:

- *Oracle Application Server Adapter for PeopleSoft User's Guide*
- *Oracle Application Server Adapter for MySAP ERP User's Guide*
- *Oracle Application Server Adapter for Siebel User's Guide*
- *Oracle Application Server Adapter for J.D. Edwards OneWorld User's Guide*

5.1.3 Schema Validation

Root validation, namespace validation, and schema validation for inbound processing (events) are only supported for the OracleAS Adapter for MySAP ERP with 10.1.3.1.0 BPEL. This validation is not supported for the OracleAS Siebel, OracleAS PeopleSoft, and OracleAS J.D. Edwards OneWorld Adapter.

In the following procedure, MATMAS is being used as an example for inboundprocessing.

To validate inbound processing using the OracleAS Adapter for MySAP ERP, perform the following steps. This procedure uses MATMAS as an example for inboundprocessing.

1. Start Application Explorer.
2. Connect to the MySAP target.
3. Expand the **ALE/IDOCs** node.
4. Verify that you have already created a channel for the MySAP adapter.

5. Select and expand the **MATMAS – Material Master** node.
6. Right-click **MATMAS01** select **Create Inbound JCA Service (event)** from the context menu.

   The WSDL and Validation details pane opens and includes three new check boxes for Root, Namespace, and Schema validation.

   - Selection of multiple validation options is allowed.
   - Root validation is used to validate the root element in the inbound XML document.
   - Namespace validation is used to validate the namespace in the inbound XML document.
   - Schema validation is used to validate the inbound XML document with the schema in the WSDL document.
   - During run time, validation is processed based on the order of the validation options that are selected.
   - If more than one validation option is selected, during run time if the first validation option fails, the remaining validation options are not processed.
   - Root and namespace validations are considered modest levels of validation. Schema validation is a stricter validation level.
   - It is recommended to use root and namespace validation options together, unless the root element and namespace are different between the IDOCs in the SAP environment.
7. Generate the WSDL document and create the BPEL process.
8. Trigger the transactions (IDOCs) from the SAP GUI.

   Inbound transactions that fail for the validation are shown in the SAP Transaction Monitor (SM58).

   The status text field shows "java.lang.exception" for the documents that have failed the validation process.

5.1.4 HTTP Repository Connection

J2CA users can create an HTTP repository connection, which enables them to generate and store WSDL documents remotely. Perform the following steps to create an HTTP repository connection in Application Explorer. To use the HTTP repository, make sure that the iwjcaivp test tool(jca-app-adapter-test) is successfully deployed and running.

1. Start the Application Explorer.
2. Right-click the **Configurations** node in the left pane and select **New**.

   The New Configuration dialog box opens.
3. Type a name for the configuration and click **OK**.
4. Select **JCA** from the Service Provider list box and enter an HTTP target value in the Home field.

   Use the following format for the HTTP target value:

   ```
   http://hostname:port/iwafjca/JCAServlet
   ```

   For example:

```
http://iwserv14:7777/iwafjca/JCAServlet
```

5. Click **OK**.

   The new HTTP repository connection is added to the Configurations node.

   Once you connect to the remote server, you can create new Adapter targets, generate WSDL documents, and store them in the remote server.

   Note: When you configure an Adapter target with the J2CA HTTP repository, you are not required to restart the Oracle Application Server for run time purposes.

5.1.5 Using Business Services Engine for Inbound Processing

Using Business Services Engine (BSE) for inbound processing is not supported. BSE only supports services.

5.1.6 Using Business Services Engine with a File Repository

If you are using Business Services Engine (BSE) on IBM-AIX platforms, do not use the File repository since there are limitations present. As a workaround, use the Database repository.

5.1.7 Synchronous Events

Synchronous event handling is not supported for the OracleAS MySAP ERP, OracleAS Siebel, OracleAS PeopleSoft, and OracleAS J.D. Edwards OneWorld Adapter.

5.1.8 Ports Option for Inbound Processing

The ports option for inbound processing is not supported for J2CA events. Only the no-ports option is supported.

5.1.9 Supported Custom Objects

iWay will do its best effort to support the custom objects of the EIS. However, iWay cannot guarantee the support for all custom objects at the customer environment. Support to the custom object will be considered on a case by case option. Custom objects could fall under any of the following category:

- **SAP**

  BAPIs, RFCs, and ALE/IDOCs

- **Siebel**

  Business Objects, Business Services, and Integration Objects

- **PeopleSoft**

  Component Interfaces and Messages

- **J.D. Edwards OneWorld**

  Business Functions and Transaction Types

It is recommended that customers who wish to troubleshoot an issue with the custom objects of an EIS, provide the following to iWay:

1. Data and definition of custom objects.
2. Request and response XML documents for the custom objects.

3. Reproduction steps for the custom object.

5.1.10 Windows Shortcuts

Windows shortcuts for the Business Services Engine (BSE) Servlet and JCA Test Servlet don't work from the Programs menu. As a workaround, invoke the shortcuts and update the URL by providing the correct host name , port number, and application name. You can also invoke the URL directly from the browser.

5.1.11 OPMN and JCA Test Servlet Startup Error

The following error message is displayed when OPMN is started or the JCA Test Servlet page is accessed on a Windows platform:

```
The application has failed to start because iwsiebel.core.dll was not found.
Re-installing the application may fix this problem.
```

This error message can be ignored.

5.1.12 Adapter Certification

The OracleAS Adapters are certified with 10.1.3.1.0 BPEL and ESB only. Any other method of invoking the adapters is not certified and is not supported as a result. This includes invoking the adapters through a JAVA CCI program.

5.1.13 Adapter Compatibility

To configure an adapter, you must copy the enterprise information system (EIS) client `lib` files associated with the target system into your `lib` directory, *`OracleAS_home`*`\adapters\application\lib`. You cannot have multiple versions of the client lib files in the same `lib` directory. Therefore, you cannot have one instance of the adapter configured to connect to different EIS versions at the same time.

5.1.14 Unsupported Configuration

Installing the OracleAS adapters and iWay 55 (iWay Service Manager and the iWay adapters) on the same machine is currently not a supported configuration. As a workaround, use a separate machine for each version.

5.1.15 Encoding Support

The OracleAS adapters support only UTF-8 encoding.

5.1.16 New OracleAS Adapter J2CA Targets

When using a J2CA implementation, you must redeploy J2CA or restart Oracle Containers for J2EE (OC4J) to refresh the repository and see the new target in the J2CA Test Servlet after it is created in Oracle Application Server Adapter Application Explorer (Application Explorer). The default URL is:

`http://`*`hostname`*`:`*`port`*`/iwjcaivp`

This applies to J2CA targets only, not BSE targets. It does not affect the first target created for a given EIS. It only affects the targets created after the first one for a given EIS.

5.1.17 Invoking a Run-Time Message When BSE Is Unavailable

When invoking a run-time message while BSE is unavailable, a "Whitespace required" exception error occurs.

The error message "unable to connect to URL http://*host*:*port*/ibse..." appears.

5.1.18 Invoking Outbound BPEL Process at Run Time Using BSE

When invoking an outbound BPEL process at run time using BSE, a "Not able to find SoapRouter" message appears.

Workaround: Add the following element in the respective `bpel.xml` file:

```
<property name "optSoapShortcut">false</property>
```

5.1.19 Java Command Error in iwae.sh

The "Java command is not found" error appears when `iwae.sh` opens.

You must set the `JAVACMD` path in `iwae.sh` to *`OracleAS_home`*`/jdk/bin/java`.

5.1.20 WSIL Browser Not Working in JDeveloper

The `ApplicationsWSDLHome` parameter found in the collaxa-config.xml file specifies the location where the application WSDLs are exported. The property value is incorrectly set to: `/oracleas\adapters\application\wsdls`.

You must correct the value of the property as follows: `/oracleas/adapters/application/wsdls`.

5.1.21 Using the J2CA Test Tool for Outbound Only

The J2CA Test Tool must be used only for outbound (services). Inbound (events) activity options available in the tool are not supported.

5.1.22 J2CA Test Tool Does Not Support DBCS Input

When using a J2CA configuration, the browser-based test tools add encodings to the content being sent. The J2CA test tool causes characters to become garbled due to these added encodings. Therefore, you cannot perform a test using input that contains Japanese characters. You cannot test create, insert, or update type of functions using Japanese characters in J2CA for any adapters in any releases.

5.1.23 BSE Web Services Browser Pages Do Not Support DBCS Input

When using a BSE configuration, the browser-based test tools add encodings to the content being sent. The BSE test tool causes characters to become garbled due to these added encodings. Therefore, you cannot perform a test using input that contains Japanese characters. A possible workaround is to use a tool that can send pure SOAP requests.

5.1.24 Creating an ESB Process for Web Services

Users who want to create an ESB process for a Web service, must create the ESB process using the SOAP Service.

1. Start Oracle JDeveloper.
2. Open a new ESB project.

3. Right-click the work area, select **Create ESB Service** from the context menu and click **SOAP Service**.

5.1.25 Adapter Language Certification

iWay Adapters are certified with the English language. However, on specific release levels, some iWay Adapters are also certified with the Japanese language. If you have encountered issues with other languages, please contact iWay Customer Support for a workaround.

5.2 OracleAS Adapter Application Explorer

The following topics discuss issues that pertain to OracleAS Adapter Application Explorer:

- Section 5.2.1, "Environment Variable and Permission Settings"
- Section 5.2.2, "Unable to Connect to Remote Machines Using File or DB Repositories for J2CA Configurations"

5.2.1 Environment Variable and Permission Settings

When starting Application Explorer, ensure the following:

- Set the environment variable `$IWAY55` to *`$ORACLE_HOME`*`/adapters/application`
- Add executable permission as follows:

```
chmod u+x $ORACLE_HOME/adapters/application/tools/iwae.sh
```

5.2.2 Unable to Connect to Remote Machines Using File or DB Repositories for J2CA Configurations

OracleAS Adapter Application Explorer cannot be used to connect to remote machines for a J2CA configuration when using a File or DB repository. When using a J2CA configuration, OC4J must be installed on the same machine that is being used as the container for the adapters. If you need to use OracleAS Adapter Application Explorer to connect to the OC4J on a remote machine, configure an HTTP repository instead. For more information on how to create a connection using an HTTP repository, see "HTTP Repository Connection".

5.3 OracleAS Adapter for PeopleSoft: Issues and Workarounds

The following topics discuss issues that pertain to OracleAS Adapter for PeopleSoft:

- Section 5.3.1, "PeopleSoft Versions and PeopleTools Release Levels Supported"
- Section 5.3.2, "PeopleSoft Library Files and Component Interface Java API Files"
- Section 5.3.3, "PeopleSoft LDAP Authentication Incompatible"
- Section 5.3.4, "Automatic Reconnect to PeopleSoft"
- Section 5.3.5, "HTTPS Protocol"
- Section 5.3.6, "PeopleSoft Messages"
- Section 5.3.7, "Limitation with Level 2 Scrolls"

- Section 5.3.8, "Limitation with Level 3 Scrolls"
- Section 5.3.9, "Limitation with Effective Dated Scrolls"
- Section 5.3.10, "Limitation When Inserting a Second Row for Level 1, 2, or 3 Scrolls"
- Section 5.3.11, "Limitation when Creating a Schema for Multilevel Component Interfaces"
- Section 5.3.12, "PeopleTools Date Format"
- Section 5.3.13, "Generating Java APIs"
- Section 5.3.14, "Differences Between Component Interface Functionality and Adapter Functionality"
- Section 5.3.15, "Missing Field Errors When Using a Component Interface"
- Section 5.3.16, "Support for Related Display Fields"
- Section 5.3.17, "Differences Between Component Interface Functionality and Adapter Functionality"
- Section 5.3.18, "Multiple Effective Dated Scrolls"
- Section 5.3.19, "Debug Message"
- Section 5.3.20, "LOCATION Component Interface"
- Section 5.3.21, "Component Interface Names"
- Section 5.3.22, "Component Interface Java API Compilation Errors (People Tools 8.46)"

5.3.1 PeopleSoft Versions and PeopleTools Release Levels Supported

The following table indicates which combinations of adapter platforms and PeopleSoft platforms are supported, and for each combination, which PeopleSoft release and PeopleSoft Tools release is supported.

Adapter Platform	PeopleSoft Platform	PeopleSoft Release	PeopleTools Release Level
UNIX (HP-UX, Solaris)	Windows, AIX, HP-UX, Linux	8.1	8.16.03 - 8.22
UNIX (HP-UX, Solaris)	Windows, AIX, HP-UX, Linux	8.4	8.40.05 - 8.48
UNIX (HP-UX, Solaris)	Solaris	8.1	8.16.03 - 8.22
UNIX (HP-UX, Solaris)	Solaris	8.4	8.40.05 - 8.48

5.3.2 PeopleSoft Library Files and Component Interface Java API Files

When installing the OracleAS Adapter for PeopleSoft, make sure the psjoa.jar library file and PeopleSoft Component Interface Java API files are copied into the following directories:

- $oraclehome\adapters\application\lib
- $oraclehome\j2ee\home\connectors\jca-app-adapter\jca-app-adapter

5.3.3 PeopleSoft LDAP Authentication Incompatible

Explanation

PeopleSoft LDAP authentication relies on sign-on PeopleCode. However, the authentication services that PeopleSoft provides with component interfaces do not invoke sign-on PeopleCode, so you cannot use PeopleSoft LDAP authentication with OracleAS Adapter for PeopleSoft.

Workaround

None.

5.3.4 Automatic Reconnect to PeopleSoft

Explanation

OracleAS Adapter for PeopleSoft does not automatically reconnect when a connection to PeopleSoft becomes unavailable.

Workaround

None.

5.3.5 HTTPS Protocol

Explanation

OracleAS Adapter for PeopleSoft does not support the HTTPS protocol for events.

Workaround

None.

5.3.6 PeopleSoft Messages

Explanation

OracleAS Adapter for PeopleSoft uses messages only for events and not for services.

Workaround

None.

5.3.7 Limitation with Level 2 Scrolls

Explanation

PeopleSoft has acknowledged a limitation with component interfaces that contain level 2 scrolls. If you try to insert a new row on a level 2 scroll, then a Null Pointer Exception error occurs.

If you receive this error, then you must upgrade your PeopleSoft release level.

This limitation is fixed in PeopleTools Version 8.16.08, and PeopleTools Version 8.17.02 in the 8.1x code line. It is tracked by PeopleSoft Incident T-MZYGAR-2C5YS.

In the 8.4x code line, this limitation is tracked by PeopleSoft Incident T-TCHURY-YZ9FR and is fixed in PeopleSoft 8.41.

Workaround

None.

5.3.8 Limitation with Level 3 Scrolls

Explanation

PeopleSoft has acknowledged a limitation with component interfaces that contain level 3 scrolls. If you try to insert a new row on a level 3 scroll, then a Null Pointer Exception error occurs.

If you receive this error, then you must upgrade your PeopleSoft release level.

This limitation is fixed in PeopleTools Version 8.18 and is tracked by PeopleSoft Incident T-MZYGAR-D2529. However, this is still a limitation in PeopleSoft 8.41 and 8.42 (PeopleSoft Incident T-MZYGAR-3F72X). PeopleSoft has reported that this will be fixed in 8.43 (PeopleSoft incident report, 562734000).

Workaround

None.

5.3.9 Limitation with Effective Dated Scrolls

Explanation

PeopleSoft has acknowledged that there is a limitation with effective dating and multiple transactions. If you want to insert multiple effective dated rows for the same primary keys, then you must use two separate transactions. This limitation is tracked by PeopleSoft Incident T-ACESAR-BS362.

Workaround

None.

5.3.10 Limitation When Inserting a Second Row for Level 1, 2, or 3 Scrolls

Explanation

If you are trying to insert a level 1, 2, or 3 scroll and the following conditions exist:

- There is exactly one row for the level 1, 2, or 3 scroll.
- There are required field names that end in a numeric value.

An error message appears, in the following format:

```
This is an invalid property {ADDRESS_1} (91,15)
```

This example was created using the VNDR_ID Component Interface from the Financials application. Note that the actual property name is ADDRESS1.

Workaround

As a workaround, perform the following steps:

1. In the PeopleSoft Application Designer, open the component interface with which you are working.
2. Select the property that ends in a numeric value.
3. Right-click and select Edit Name from the context menu.

4. Change the name of the property.

   You can select a name that does not end in a number (for example, ADDRESSA), or you can add an underscore (for example, ADDRESS_1).

5. Save the component interface.
6. Regenerate the Java APIs for the component interface.
7. Use the revised property name in your XML transaction.

5.3.11 Limitation when Creating a Schema for Multilevel Component Interfaces

Explanation

In later releases of the 8.1x series, if you try to create a schema for a multilevel component interface, then the following error occurs:

```
Index: -1, Size: 0
```

This is a result of a change in the back-end PeopleSoft interface in later versions of the 8.1 series.

Workaround

Retain the `iwpsci84.jar` file and delete the `iwpsci81.jar` file from the *`OracleAS_home`*`\adapters\application\lib` directory.

See Also:

- *Oracle Application Server Adapters Installation Guide*
- *Oracle Application Server Adapter for PeopleSoft User's Guide*

5.3.12 PeopleTools Date Format

Explanation

The YYYY-MM-DD date format does not work for a component interface key.

PeopleSoft has acknowledged this limitation for most releases of PeopleTools and has addressed it in the newest releases. For more information, refer to PeopleSoft Resolution ID 200730918.

Workaround

Use the MM/DD/YYYY format. Alternatively, you can write a PeopleSoft method that takes a date format of YYYY-MM-DD, changes the date to a string, reformats it to DD/MM/YYYY, and passes it to the component interface date.

5.3.13 Generating Java APIs

Explanation

It is possible to create component interfaces within PeopleSoft that are internally inconsistent. Inconsistencies in component interface templates delivered by PeopleSoft have been observed. Indicators of this problem include errors when generating the Java APIs in the PeopleSoft Application Designer.

If you encounter errors while generating the Java APIs, then the component interface is likely to malfunction and can possibly corrupt your database. The correct operation

of component interfaces when errors appear during API generation cannot be guaranteed. In addition, it is strongly recommended that the source of the errors is fixed before continuing.

Workaround

Fix the component interface using PeopleTools.

5.3.14 Differences Between Component Interface Functionality and Adapter Functionality

Explanation

Differences between component interfaces and standard application functionality relating to panel processing have been observed. Among the possible symptoms of these differences are messages such as, "First Operand of . is NULL." OracleAS Adapter for PeopleSoft should replicate the functionality of a PeopleSoft Component Interface, but only when the component interface is run through the PeopleSoft application server in three-tier mode.

If you notice differences between expected component interface functionality and adapter functionality, then you must verify that the differences are real by running the component interface with the PeopleTools Component Interface test tool in three-tier mode.

Workaround

Test the component interface using the PeopleTools Component Interface testing tool in three-tier mode only.

5.3.15 Missing Field Errors When Using a Component Interface

Explanation

When using a component interface, it is difficult to determine which of the required fields are missing when you receive a PeopleSoft error message that states, "The highlighted field is required." PeopleSoft has acknowledged this limitation.

Workaround

You can edit the message in the PeopleSoft message catalog to pass a variable for the field name. For more information, refer to PeopleSoft Resolution 200731449.

5.3.16 Support for Related Display Fields

Explanation

Related display fields are not supported by component interfaces. PeopleSoft has acknowledged this limitation.

Workaround

For more information, refer to PeopleSoft Resolution 200731974, which offers several workarounds.

5.3.17 Differences Between Component Interface Functionality and Adapter Functionality

Explanation

PeopleSoft has acknowledged problems in the component interface back-end processor which will cause the adapter to act differently than the component interface test tool in three-tier mode for certain component interfaces.

PeopleSoft Case 1965239 describes a problem with the CI_JOB_DATA_HIRE Component Interface in HR 8.1x. In this situation, the NAME field is not populated by PeopleCode correctly. The workaround is to manually populate the NAME field through the XML.

PeopleSoft Resolution ID 200728981 describes a problem with the JOBCODE Component Interface which does not allow the REG_TEMP field to be changed to empty. As a workaround, customers must upgrade to a later release of PeopleTools.

Workaround

The workaround is dependent on the component interface.

5.3.18 Multiple Effective Dated Scrolls

Explanation

A failure occurs when inserting multiple effective dated rows.

Workaround

If you want to insert multiple effective dated rows for the same primary keys, then you must use two separate transactions. This limitation is tracked by PeopleSoft Incident T-ACESAR-BS362.

5.3.19 Debug Message

Explanation

For certain releases of PeopleTools 8.4x, you may receive the following message in your debug window:

```
PSProperties not yet initialized!
```

This is a PeopleSoft warning message you can ignore.

Workaround

None.

5.3.20 LOCATION Component Interface

Explanation

When you attempt to access the LOCATION Component Interface using the Human Resources application, release 8.80.000, a failure occurs during runtime and the following message is displayed:

```
Component Interface Not Found
```

This is due to a problem in the way the PeopleSoft application has been delivered and is not related to the PeopleTools release.

Workaround

Perform the following steps:

1. Open the component interface in the PeopleTools Application Designer.
2. Make a small change to the component interface.
3. Undo the change.
4. Save the component interface.

This procedure resets certain internal PeopleSoft data structures, which enables OracleAS Adapter for PeopleSoft to find the component interface. This has been observed in the LOCATION Component Interface running on the Human Resource applications release 8.8.000 on several different releases of PeopleTools, but it may occur in other component interfaces as well.

5.3.21 Component Interface Names

Explanation

Although PeopleSoft permits component interface names that begin with certain special characters (such as an underscore), Application Explorer does not recognize such names.

Workaround

Begin component interface names with the letters A-Z or the integers 0-9.

5.3.22 Component Interface Java API Compilation Errors (People Tools 8.46)

Explanation

When you compile all Java APIs for the component interfaces using People Tools 8.46, you may encounter compilation errors with some of the component interfaces.

Workaround

You can manually correct the Java source code of the failing component interfaces. Alternatively, if the failing component interfaces are not going to be used, then remove them from the API build process and do not include them in the build.

5.4 OracleAS Adapter for MySAP ERP: Issues and Workarounds

The following topics discuss issues that pertain to OracleAS Adapter for MySAP ERP.

- Section 5.4.1, "MySAP ERP Versions and APIs"
- Section 5.4.2, "Intermediate Documents (IDocs) During Inbound Processing"
- Section 5.4.3, "Unable to Connect to an SAP Target in BSE"
- Section 5.4.4, "SAP IDoc Data with Japanese DBCS Characters Overflows and Truncates Characters"
- Section 5.4.5, "No Values Set for Code and Details in Binding Fault"
- Section 5.4.6, "MySAP Adapter Exceptions"

5.4.1 MySAP ERP Versions and APIs

The following MySAP ERP platforms are supported by OracleAS Adapter for MySAP ERP:

- SAP R/3 Enterprise 47x100
- SAP R/3 Enterprise 47x200
- MySAP ERP Central Component (ECC) 5.0, deployed on SAP NetWeaver 2004
- MySAP ERP Central Component (ECC) 6.0, deployed on SAP NetWeaver 2004s
- SAP Java Connector (SAP JCo) Version 2.18.

  For the current release status of the SAP Java Connector, refer to SAP Note #549268 in the SAP Service Marketplace.

  Release versions may vary by product component. In addition, SAP functions may vary by SAP product version and support package.

Note: The OracleAS Adapter for MySAP ERP supports only the versions listed above. It is not recommended to use the OracleAS Adapter for MySAP ERP with older versions of SAP R/3. If you plan to use the adapter with older versions of SAP R/3 for example SAP R/3 4.6C, prior approval from iWay Software Product Management is required.

SAP R/3 Adapter Support

The SAP R/3 Adapter (iwsap.jar) is not certified and not supported for the 10.1.3.1.0 release even though it is available with the OUI installer. Only the MySAP ERP Adapter (iwmysap.jar) is certified and supported for this release.

5.4.2 Intermediate Documents (IDocs) During Inbound Processing

Explanation

When using IDocs during inbound processing (service mode), if the DOCNUM field does not have a unique document number for each IDoc, then the system creates an IDoc for each header record in the IDoc file and duplicates the data for each IDoc.

Workaround

Do not change the columns in a table used by an Oracle Database adapter interaction after deployment.

5.4.3 Unable to Connect to an SAP Target in BSE

Explanation

Unable to connect to an SAP target in BSE.

Workaround

For Solaris, before connecting to an SAP target in BSE, set the environment variable `LD_LIBRARY_PATH` to *`OracleAS_home`*`/adapters/application/lib`.

For HP-UX, before connecting to an SAP target in BSE, set the environment variable `SHLIB_PATH` to *`OracleAS_home`*`/adapters/application/lib`.

5.4.4 SAP IDoc Data with Japanese DBCS Characters Overflows and Truncates Characters

Explanation

SAP IDoc data with Japanese DBCS characters overflows and truncates characters in all BSE and J2CA events and services.

Workaround

This will be fixed in a future release.

5.4.5 No Values Set for Code and Details in Binding Fault

Explanation

If you use the wrong request XML to invoke a SAP outbound process in Oracle BPEL Console, then the instance will be faulted and a binding fault will be thrown. Log in to Oracle BPEL Console, select the faulted instance, and click **Audit**. No values are set for Code and Details in the binding fault.

Workaround

None.

5.4.6 MySAP Adapter Exceptions

Explanation

When using the OracleAS Adapter for MySAP ERP during outbound processing, the following type of exception from the BPEL or ESB layer may occur in certain situations:

```
failed due to: Error in processing the input document.; nested exception is:
javax.resource.ResourceException: Error in processing the input document.
```

At the same time, the JCA log file that is generated by the adapter shows the exact error message. For example, if you use the GetDetail method for the CompanyCode SAP BAPI in your outbound processing, the following error message is shown in the JCA log file:

```
MySAP response error: BapiError: Company code 1010 does not exist
```

Workaround

Perform the following steps:

1. Start OracleAS Adapter Application Explorer and connect to an appropriate configuration.
2. Expand the MySAP adapter node to view the available targets.
3. Right-click an available MySAP target node and select **Edit**.

   The Application Server dialog box displays the target connection information.
4. Click the **Advanced** tab.
5. From the Error Handling drop-down list select **Creates Error Document**.
6. Click the **User** tab.

7. In the Password field, type a valid password for the MySAP ERP application.
8. Click **OK**.
9. Restart OracleAS Adapter Application Explorer.

   Oracle BPEL or ESB generates the error message in the response XML document. For example, if you use the GetDetail method for the CompanyCode SAP BAPI in your outbound processing, the following error message is shown in the XML response:

```
<companycode_get_detail_
oct24ProcessResponseurn:sap-com:document:sap:business.responsehttp://xmlns.orac
le.com/companycode_get_detail_oct24>
<COMPANYCODE_ADDRESS> </COMPANYCODE_ADDRESS>
<COMPANYCODE_DETAIL> </COMPANYCODE_DETAIL>
<RETURN>
<TYPE>E</TYPE>
<CODE>FN020</CODE>
<MESSAGE>Company code 1010 does not exist</MESSAGE>
<LOG_MSG_NO>000000</LOG_MSG_NO>
<MESSAGE_V1>1010</MESSAGE_V1>
</RETURN>
</companycode_get_detail_oct24ProcessResponse>
```

5.5 OracleAS Adapter for Siebel: Issues and Workarounds

The following topics discuss issues that pertain to OracleAS Adapter for Siebel.

- Section 5.5.1, "Siebel Versions and APIs Supported"
- Section 5.5.2, "Additional Configuration in the Siebel Environment"
- Section 5.5.3, "Automatic Reconnect to Siebel"
- Section 5.5.4, "Updating or Deleting Siebel Records Using OracleAS Adapter for Siebel"
- Section 5.5.5, "Adapter Exception Error If Siebel Request Document Contains Japanese Characters"
- Section 5.5.6, "HTTPS Protocol"
- Section 5.5.7, "Multi-Value Groups"
- Section 5.5.8, "Siebel Schema Issue When Generating Multiple WSDL Files"
- Section 5.5.9, "Business Services in Siebel 7.8"
- Section 5.5.10, "Siebel Connectivity Prerequisites"

5.5.1 Siebel Versions and APIs Supported

The following table indicates which combinations of adapter platforms and Siebel platforms are supported, and for each combination, which Siebel release and Siebel APIs are supported.

Adapter Platform	Siebel Platform	Siebel Release	API
UNIX (HP-UX, Solaris)	Windows, AIX, HP-UX, Linux	6.3 - 7.8	Java Data Bean

Adapter Platform	Siebel Platform	Siebel Release	API
UNIX (HP-UX, Solaris)	Solaris	6.0.1 - 7.8	Java Data Bean

5.5.2 Additional Configuration in the Siebel Environment

Some out-of-the-box Siebel business services may require additional setup steps in the Siebel environment before they can be run successfully. For example:

- When using a business service such as EAI XML Converter, before generating the XSD for the integration object, you should use Siebel tools to remove the 'xml container element' tag in the integration components you plan to use.
- When building a solution with the EAI dispatch service business service, you may need to set up a named subsystem to handle HTTP requests.

5.5.3 Automatic Reconnect to Siebel

Explanation

When connecting to Siebel using the Java Data Bean Interface, you cannot reconnect after initial connection loss. This might occur when Application Explorer experiences a brief loss of network connection or if the Siebel Server or Gateway Service is restarted while Application Explorer is logged into the Siebel application.

Workaround

To log in successfully to the Siebel application, restart your application server and Application Explorer. This is a known Siebel API issue. Refer to Siebel Alert 984 for more information.

5.5.4 Updating or Deleting Siebel Records Using OracleAS Adapter for Siebel

Explanation

If you are logged in as a Siebel user that does not belong to the team that owns the record being updated or deleted, then you cannot perform the action. By default, the adapter is set to 'My' view. However, in Siebel Access Control there are other views, such as 'All' view and 'Organization' view. Therefore, even if the user does not belong to the team and the record is not visible in 'My' view, the user may be able to update or delete the record through another view in the Siebel front end. This is not possible through the adapter. The adapter requires that the user is part of the team of the record being updated or deleted.

Workaround

There are two possible workarounds:

- Log in through the Siebel adapter as a user that is already part of the team that owns the record you need to update or delete.
- Add the user to the team that owns the record you need to update or delete.

5.5.5 Adapter Exception Error If Siebel Request Document Contains Japanese Characters

Explanation

An adapter exception error is returned if the Siebel request document contains Japanese characters in OracleAS Adapter J2CA. The same request works in BSE.

Workaround

This will be fixed in a future release.

5.5.6 HTTPS Protocol

Explanation

OracleAS Adapter for Siebel does not support the HTTPS protocol for services and events.

Workaround

None.

5.5.7 Multi-Value Groups

Explanation

OracleAS Adapter for Siebel does not support Multi-Value Groups (MVG) with join specifications.

Workaround

None.

5.5.8 Siebel Schema Issue When Generating Multiple WSDL Files

Explanation

When you attempt to generate two different WSDL files for different Siebel objects, the second generated WSDL file contains the same schema information as the first one.

Workaround

Follow these steps to avoid this issue:

1. Generate the WSDL for the first Siebel object.
2. Before you generate WSDL for another Siebel object, remove the existing schemas from the following folder:

   ```
   <Oracle_Home>\adapters\application\config\<configuration_
   name>\schemas\Siebel\<target_name>
   ```

3. Generate the WSDL for the next Siebel object.

5.5.9 Business Services in Siebel 7.8

When the OracleAS Siebel Adapter invokes Siebel Business Service – EAI XML Converter with the method "IntObjHierToXMLDOC", the following error is generated:

- In BSE:

  ```
  The XML Document cannot be converted to an XML Hierarchy.(SBL-EAI-04110)
  ```

- In J2CA:

  ```
  javax.resource.ResourceException: Error in processing the input document
  ```

iWay has opened a Service Request (SR# 38-3296542173) with Siebel Customer Support for this issue. Other Business Services that convert XML to the property set may also encounter this error message. Release Notes will be updated once a resolution is provided by Siebel.

5.5.10 Siebel Connectivity Prerequisites

You must perform the following steps to connect to your Siebel system (version 6.2 and lower) using COM connectivity for a JCA configuration.

1. Install Siebel thick client on the same machine where the adapters are installed.
2. Install the database client (Microsoft SQL Server or Oracle) on the same machine.
3. The Siebel .DLL files (iwsiebel.local.dll and iwsiebel.core.dll) in the adapter lib folder must be added to the Application server path.
4. Edit the uagent.cfg file and change the data source parameter value from "local" to "server".

   The uagent.cfg file can be found in the following Siebel thick client folder:

   ```
   c:\sea\client\bin
   ```

5. Edit the data source for SEA MSQl with appropriate parameters.

   You can edit a data source in Windows by accessing the Control Panel, Administrative Tools, and Data Sources (ODBC).

6. Use the following target type when creating the adapter target connection:

   ```
   Siebel 6.2 - (Local COM Access Implementation)
   ```

7. Provide the full path to the uagent.cfg file when creating an adapter target connection, for example:

   ```
   c:\sea\client\bin\uagent.cfg
   ```

5.6 OracleAS Adapter for J.D. Edwards OneWorld: Issues and Workarounds

The following topic discusses issues that pertain to OracleAS Adapter for J.D. Edwards OneWorld.

- Section 5.6.1, "J.D. Edwards OneWorld Platforms, Products, and Releases Supported"
- Section 5.6.2, "J.D. Edwards OneWorld Inbound WSDL Generation on UNIX Platforms"
- Section 5.6.3, "J.D. Edwards OneWorld Unit Of Work (UOW)"
- Section 5.6.4, "J.D. Edwards OneWorld Versions and Library Files"

5.6.1 J.D. Edwards OneWorld Platforms, Products, and Releases Supported

The following table indicates which combinations of adapter platforms and J.D. Edwards OneWorld platforms are supported, and for each combination, which J.D. Edwards OneWorld products and releases are supported.

Adapter Platform	J.D. Edwards OneWorld Platform	J.D. Edwards OneWorld Product and Release
Windows, AS400, HP 9000/B, Sun or IBM RS/6000	Windows, AS400, HP 9000/B, Sun or IBM RS/6000	■ XE (B7333) from SP19 to SP23 ■ ERP 8.0 (B7334) ■ EnterpriseOne B9 (8.9) ■ EnterpriseOne 8.10 (with Tools release 8.93 and 8.94) ■ EnterpriseOne 8.11 (SP1)

5.6.2 J.D. Edwards OneWorld Inbound WSDL Generation on UNIX Platforms

You cannot generate inbound WSDL documents for J.D. Edwards OneWorld on UNIX platforms. As a workaround, generate the WSDL documents on a Windows platform and use the same WSDL documents on a UNIX platform. However, you must ensure that the adapter target and channel on the Windows and UNIX platforms have identical configuration details.

5.6.3 J.D. Edwards OneWorld Unit Of Work (UOW)

The following section provides information on the J.D. Edwards OneWorld Unit of Work (UOW).

1. iWay recommends the customer to generate individual business functions of J.D. Edwards OneWorld and then group them together.
2. Generating the individual business functions and grouping them together is completely based on the experience and knowledge related to the business functions of J.D. Edwards OneWorld. There is no documentation on generating the UOW.
3. To create the XML Schema Document (XSD) files that can be used for UOW, perform the following steps:
   a. Trigger the appropriate event from the J.D. Edwards OneWorld GUI and generate an XML output file based on the event.
   b. Using the XML file, create an XSD file using an XML editor, such as XMLSPY.
   c. When creating the XSD, make sure that the XSD satisfies the SOA 10.1.3.1 namespace requirements. Manually add the namespace, target namespace, and other items that are required for SOA 10.1.3.1.
4. Once generated, copy the XSD files for the UOW into the repository folder. This repository folder is automatically configured on your file system when a J.D. Edwards OneWorld target is created using Application Explorer.

5.6.4 J.D. Edwards OneWorld Versions and Library Files

The following table lists the library files by version that are required for the OracleAS Adapter for J.D. Edwards OneWorld.

J.D. Edwards OneWorld Version	Required Library Files
XE (B7333)	Connector.jar and Kernel.jar
ERP 8.0 (B7334)	Connector.jar and Kernel.jar
EnterpriseOne 8.9 (B9)	Connector.jar, Kernel.jar, jdeutil.jar, and log4j.jar
EnterpriseOne 8.10	Connector.jar, Kernel.jar, jdeutil.jar, and log4j.jar
EnterpriseOne 8.11	Connector.jar, Kernel.jar, jdeutil.jar, and log4j.jar

5.7 Software Maintenance Notice

Oracle OEM 10.1.3.1 WSDL generation has a new feature, which allows generating the outbound and inbound WSDLs for both qualified and unqualified namespaces. In earlier versions, schemas were created for unqualified namespaces and WSDLs were generated for qualified namespaces. This was creating issues for namespace prefixes. Hence, this patch allows WSDLs to be generated for both qualified and unqualified namespaces. Please note, this is applicable only to the J2CA configurations.

The Java archive (.jar) files that have changed as a result of this new feature include:

- iwafcont.jar
- iwae.jar
- iwaeutil.jar
- iwafjca15.jar
- orabpel-adapters.jar

The following table lists the deployments of the .jar files.

Table 5–1 Location of JAR Files

Sl. No	Jar File	Folders
1.	iwafcont.jar	$ORACLE_HOME\adapters\application\lib and $ORACLE_HOME \j2ee\home or oc4j_soa\connectors\jca-app-adapter\jca-app-adapter
2.	iwae.jar	$ORACLE_HOME\adapters\application\lib and $ORACLE_HOME \j2ee\home or oc4j_soa\connectors\jca-app-adapter\jca-app-adapter
3.	iwaeutil.jar	$ORACLE_HOME\adapters\application\lib and $ORACLE_HOME \j2ee\home or oc4j_soa\connectors\jca-app-adapter\jca-app-adapter

Table 5–1 (Cont.) Location of JAR Files

Sl. No	Jar File	Folders
4.	iwafjca15.jar	$ORACLE_HOME \j2ee\home or oc4j_soa\connectors\jca-app-adapter\jca-app-adapter
5.	orabpel-adapters.jar	$ORACLE_HOME\adapters\application\lib and $ORACLE_HOME \adapters\lib

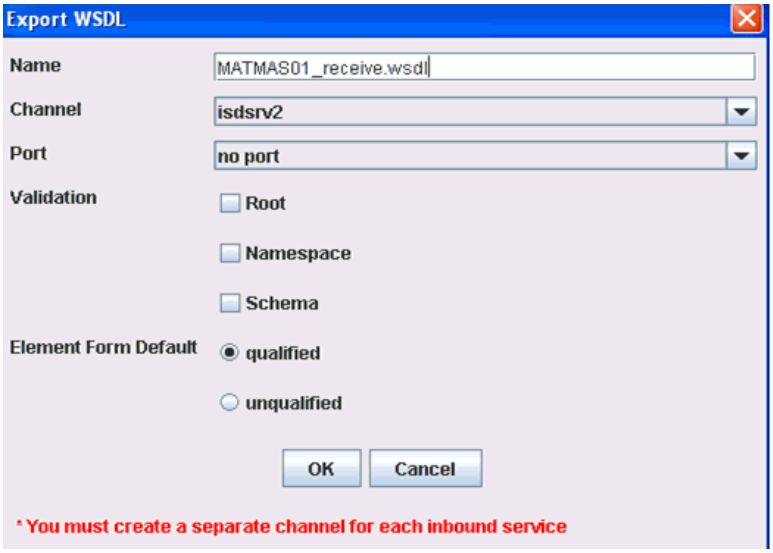
Note: Oracle Application Server should be stopped and restarted when deploying the .jar files.

Generating WSDLs With Qualified Namespaces

Perform the following steps to generate WSDLs with qualified name spaces:

1. Start OracleAS Adapter Application Explorer.
2. Connect to a J2CA configuration.
3. Connect to an adapter target, for example, MySAP.
4. Select **ALE(IDOCS)**.
5. Select any IDOC, for example MATMAS and expand the node.
6. Right-click **MATMAS01** and select **Create inbound JCA Service (event)** from the context menu to generate an WSDL for the business object.

   The Export WSDL dialog box opens.



   The **Element Form Default** field is new and provides two options:

   - qualified (selected by default)
   - unqualified

7. Select **qualified** and click **OK**.

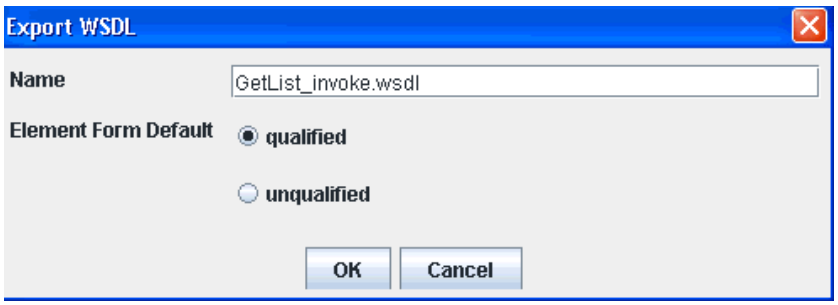
   The WSDL is generated with a qualified namespace.

Generating Outbound WSDLs With Qualified Namespaces

Perform the following steps to generate outbound WSDLs with qualified name spaces:

1. Start OracleAS Adapter Application Explorer.
2. Connect to a J2CA configuration.
3. Connect to an adapter target, for example, MySAP.
4. Select **Business Object Repository**, **Financial Accounting**, **Company Code**, and **GetList**.
5. Right-click GetList and select Create outbound JCA Service (Request / Response) from the context menu to generate an WSDL for the business object.

   The Export WSDL dialog box opens.



   The **Element Form Default** field is new and provides two options:

   - qualified (selected by default)
   - unqualified

6. Select **qualified** and click **OK**.

   The outbound WSDL is generated with a qualified namespace.

Support for Different WSDL Types

Only qualified WSDLs are supported for the OEM adapters and unqualified WSDLs are not supported.

5.8 Documentation Errata

This section describes known errors in the documentation. It also identifies sections where further clarifications are necessary.

- Section 5.8.1, "Configuring the Database Repository for J2CA"
- Section 5.8.2, "The Data Export Control Table and the Processing Log Table"

5.8.1 Configuring the Database Repository for J2CA

The following is an amendment to Step 9 in the section "Configuring the Database Repository for J2CA" for the J.D. Edwards, MySAP, PeopleSoft, and Siebel user guides:

Oracle database JDBC drivers should be copied to the following folder:

```
OracleAS_home\adapters\application\lib
```

Where OracleAS_home is the directory where Oracle Application Server is installed.

5.8.2 The Data Export Control Table and the Processing Log Table

This section provides clarification to *Oracle Application Server Adapter for J.D. Edwards OneWorld User's Guide*.

Appendix: A, "Configuring J.D. Edwards OneWorld for Outbound Transaction Processing"

Heading: "The Data Export Control Table and the Processing Log Table"

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Modify the second paragraph in this section as follows:

The records in the Data Export Control table are used to determine the vendor-specific objects to call from the Outbound Subsystem batch process (R00460). Perform the following steps:

1. Start the subsystem R00460 manually.

   The subsystem should be always running (Job Status).

2. Assign the separate job queue in the jde.ini file.

3. Assign the same queue for the XJDE0001 version of R00460.

6

Oracle Application Server Technology Adapters

This chapter describes issues associated with Oracle Application Server Adapters. It includes the following topics:

- Section 6.1, "Oracle Application Server Adapter for Files/FTP Issues and Workarounds"
- Section 6.2, "Oracle Application Server Adapter for Java Message Service Issues and Workarounds"
- Section 6.3, "Oracle Application Server Adapter for Advanced Queuing Issues and Workarounds"
- Section 6.4, "Oracle Application Server Adapter for Database Issues and Workarounds"
- Section 6.6, "Oracle Application Server Adapter for Oracle Applications Issues and Workarounds"
- Section 6.7, "Documentation Errata"

6.1 Oracle Application Server Adapter for Files/FTP Issues and Workarounds

This section describes the following issues and workaround related to Oracle Application Server Adapter for Files (file adapter) and Oracle Application Server Adapter for FTP (FTP adapter):

- Section 6.1.1, "Using CorrelationSets With File Adapter"
- Section 6.1.2, "Setting up Maverick on FTP Adapter"

6.1.1 Using CorrelationSets With File Adapter

When you use correlation sets with file adapter by using the empty BPEL project template, the property aliases get created in the partnerlink wsdl files. However, if you edit the adapter partnerlink, the property aliases are removed from the wsdl file. This can cause some compilation issues for the BPEL project.

To overcome this issue, you need to manually edit the partnerlinks wsdl files by using the source view.

6.1.2 Setting up Maverick on FTP Adapter

Perform the following steps to set up Maverick on FTP adapter:

1. Download licensed `maverick-all.jar` from the following location:

   http://www.3sp.com/requestEvaluation.do?productCode=MAVERIC

2. Copy `maverick-all.jar` to the directory where FTP adapter is installed.

   For Oracle Enterprise Service Bus or Oracle BPEL Process Manager installed on Oracle Application Server middle tier, copy the `maverick-all.jar` to the *ORACLE_HOME*`\j2ee\homemid\connectors\FtpAdapter\FtpAdapter` directory.

   For standalone installation, you need to copy the `maverick-all.jar` to the *ORACLE_HOME*`\j2ee\home\connectors\FtpAdapter\FtpAdapter` directory.

3. Rename the license file to `SshImplLicense.lic` and copy it to the directory to which you copied the `maverick-all.jar` file.

4. On command prompt, go to the FTP adapter directory.

   - For Oracle Enterprise Service Bus or Oracle BPEL Process Manager installed on Oracle Application Server middle tier:

     ORACLE _HOME`\j2ee\homemid\connectors\FtpAdapter\FtpAdapter`

   - For standalone installation:

     `ORACLE_HOME\j2ee\home\connectors\FtpAdapter\FtpAdapter`

5. Run the following command:

   ```
   jar uvf ftpAdapter.jar SshImplLicense.lic
   ```

6. Restart the server.

6.2 Oracle Application Server Adapter for Java Message Service Issues and Workarounds

This section describes the following issues and workarounds:

- Section 6.2.1, "JMS adapter in an XA scenario against AQ-JMS (OJMS)"
- Section 6.2.2, "ESB Cannot Run JMS Adapter (OEMS JMS provider) in Non-Managed Mode"
- Section 6.2.3, "Regression Stress - Dequeue Fails with AQJMSException in AQJMS Advanced Scenario"
- Section 6.2.4, "When using Topics with OJMS (AQ based JMS), AQ JMS Topic Hangs, and Ceases to Dequeue"
- Section 6.2.5, "Enabling Native Correlation in JMS Adapter"

6.2.1 JMS adapter in an XA scenario against AQ-JMS (OJMS)

You must use separate Resource Providers for inbound and outbound AQJMS Adapters:

1. You must set a new partnerlink property (BPEL) or endpoint property (ESB) called "`cacheConnections`" to `false`. If this is not specified, then the default value is `true` (which is the default in both 10.1.2 and 10.1.3).

2. You should use separate OJMS resource providers (defined `J2EE_HOME/config/application.xml`) for inbound and outbound JMS destinations (queues or topics) participating in the same global transaction.

6.2.2 ESB Cannot Run JMS Adapter (OEMS JMS provider) in Non-Managed Mode

JMS Adapter cannot use connection information from WSDL to run in non-managed mode. It reports missing connection factory.

Even in non-managed mode, some adapters have pre-requisites; you should not assume that non-managed equates no server configuration is required. For instance, the JMS Adapter requires a resource provider to be configured in`application.xml` and potentially `data-sources.xml` (if the resource provider refers to a data source). If these pre-requisites exist ahead of time, then non-managed mode would also work for ESB. Exact same issue pertains to BPEL as well. Note that this is applicable only for OEMS JMS provider.

6.2.3 Regression Stress - Dequeue Fails with AQJMSException in AQJMS Advanced Scenario

Under heavy system load, that is, when the load for inbound and outbound for AQ JMS adapters is high, dequeue fails with an `AQjmsException`.

To address this issue, use the following workaround:

Create two separate physical connection pools (that is, use two separate (AQ) JMS resource providers). Each `JMS WSDL` (Enqueue and Dequeue) then points to a different `JCA JNDI` Connection Factory, which in turn would point to two separate JMS connection factories, each using one of the two resource providers, as shown in the following examples:

Enqueue WSDL

```
<jca:address location="eis/aqjms1" />
```

Dequeue WSDL

```
<jca:address location="eis/aqjms2" />
```

JmsAdapter/oc4j-ra.xml

```
<connector-factory location="eis/aqjms1" ...
     <config-property name="connectionFactoryLocation"
value="java:comp/resource/aqjms1/QueueConnectionFactories/qcf"/>
     ...
<connector-factory location="eis/aqjms2" ...
<config-property name="connectionFactoryLocation"
value="java:comp/resource/aqjms2/QueueConnectionFactories/qcf"/>
...
```

j2ee/home/config/application.xml

```
<resource-provider class="oracle.jms.OjmsContext" name="aqjms1">
   <description>OJMS Context using thin JDBC</description>
   <property name="url"value="jdbc:oracle:thin:scott/tiger@localhost:1521:ORCL" />
<resource-provider class="oracle.jms.OjmsContext" name="aqjms2">
   <description>OJMS Context using thin JDBC</description>
  <property name="url" value="jdbc:oracle:thin:scott/tiger@localhost:1521:ORCL" />
```

Note: Even when the scenario works fine under regression stress, you will still see the `AQJMSException` in the log. You can use this workaround to avoid this exception.

6.2.4 When using Topics with OJMS (AQ based JMS), AQ JMS Topic Hangs, and Ceases to Dequeue

When using Topics with OJMS (AQ based JMS), AQ JMS Topic hangs, and does not dequeue even though there are messages at topic.

The JMS adapter *subscriber* (inbound) WSDL should use a JCA connection factory (for example, `eis/OJms/myConnectionFactory1`) which uses an OJMS resource provider (for example, `resprov1`), which is based on a URL (for example, `jdbc:oracle:thin:@host:1521:orcl`).

The following list exemplifies the workaround mentioned in the preceding paragraph:

- **MyJmsSubsriber.wsdl**

```
...
<service name="JmsSubscribe">
  <port name="jmsSubscribe_pt" binding="tns:jmsSubscribe_binding">
    <jca:address location="eis/OJms/myConnectionFactory1"/>
  ...
```

- **J2EE_HOME/application-deployments/default/JmsAdapter/oc4j-ra.xml**

```
<connector-factory location="eis/OJms/myConnectionFactory1" connector-name="Jms
Adapter">
   <config-property name="connectionFactoryLocation"
           value="java:comp/resource/resprov1/QueueConnectionFactories/myQCF"/>
```

- **J2EE_HOME/config/application.xml**

```
<orion-application  ...
    ...
    <resource-provider class="oracle.jms.OjmsContext" name="resprov1">
        <property name="url" value="jdbc:oracle:thin:@host:1521:orcl" />
        <property name="username" value="scott" />
        <property name="password" value="tiger" />
    </resource-provider>
```

6.2.5 Enabling Native Correlation in JMS Adapter

The following types of correlation schemas are available for JMS Adapter message correlation within Oracle BPEL Process Manager:

- Section 6.2.5.1, "Native Adapter Correlation"
- Section 6.2.5.2, "Oracle BPEL Process Manager Correlation Sets"

6.2.5.1 Native Adapter Correlation

This is one of the choices available for JMS Adapter message correlation within BPEL process: Native adapter correlation when a BPEL invoke is followed by BPEL receive.

Note: Native adapter correlation is applicable only to AQ, JMS and MQ Series adapters.

The messaging Adapters like JMS have support for native correlation and perform automatic correlation between an outbound (BPEL invoke) message and an inbound (BPEL receive) message mimicking a request-response scenario. The Correlation ID of the incoming message has to be set to the Message ID of the outgoing JMS message. This needs to be implemented in the JMS application that is sending the reply on the other end. The underlying Adapter Framework (AF) stores a hashmap table whose entries map the Message Id of the outgoing JMS message with that of the native BPEL correlation ID. However Adapter native correlations can be used only in certain specific cases involving an invoke followed by a receive pointing to the same `PartnerLink` activity. You need to use the BPEL correlation sets for all other cases.

6.2.5.2 Oracle BPEL Process Manager Correlation Sets

The following correlation sets are available:

- Based on JMS and AQ headers (available to JMS and AQ adapters only)
- Based on payload (available to all adapters)

Correlation sets are a BPEL mechanism that provides for the correlation of asynchronous messages based on message body contents. Correlation sets needs to be defined when the interactions are not simple invoke-receive activities.

6.3 Oracle Application Server Adapter for Advanced Queuing Issues and Workarounds

This section describes the following issue and workaround:

- Section 6.3.1, "Dequeuing in the AQ Adapter is Very Slow for Large Numbers of Messages"

6.3.1 Dequeuing in the AQ Adapter is Very Slow for Large Numbers of Messages

When there are large number of messages (more than 100K) in an AQ queue, dequeuing in the AQ adapter can be very slow. The problem is a performance issue with the 10.x.x version of the database. However, the previous versions of the database work fine.

When you encounter this issue, run one of the following commands to generate statistics for the queue or topic table:

```
dbms_stats.gather_table_stats('JMSUSER', 'QTAB')
```

or

```
dbms_stats.gather_schema_stats('JMSUSER')
```

where `QTAB` is the Queue/Topic table and `JMSUSER` is the user/schema. Note that statistics should be refreshed every time a large number of rows are updated, inserted, or deleted.

6.4 Oracle Application Server Adapter for Database Issues and Workarounds

This section describes the following issues and workarounds:

- Section 6.4.1, "DB Adapter Wizard Shows Empty (Blank) Page After Creating DB Connection"
- Section 6.4.2, "Faulted DBAdapter Instances Do Not Appear in BPEL Console"

6.4.1 DB Adapter Wizard Shows Empty (Blank) Page After Creating DB Connection

After migration of 10.1.2.0.2 `122.DBAdapter/InsertWithCatch` (when you open in JDeveloper 10.1.3.1), if you open the project, and double-click the DB adapter partnerlink, then you will get a message stating that your UI connection is missing. After you create the UI connection, and click the **Next** button, you will get a blank page.

The issue here is that the **Next** button should be disabled, which in this case, isn't. The workaround is ensure a connection exists and is selected, and not to click the **Next** button otherwise.

6.4.2 Faulted DBAdapter Instances Do Not Appear in BPEL Console

Faulted DBAdapter instances do not appear in BPEL console because the BPEL auditing is tied to the JTA transaction, that is, auditing can only occur if the JTA transaction commits.

The faulted instance does not appear if a XA/JTA DBAdapter invoke fails, and the JTA transaction cannot (must not) be committed. This problem also occurs with server timeouts, where the JTA transaction is marked `rollback only`. However, in 10.1.3.1 DBAdapter is configured for JTA out of the box so this problem is now apparent all the time.

Report of success or failure has to be tied to JTA, but you cannot report failure and rollback the transaction at the same time. If the instance is successful you must audit through JTA, but if unsuccessful you theoretically cannot (you are writing as part of a transaction which can never commit.)

6.5 Oracle Application Server Adapter for MQSeries Issues and Workarounds

This section describes the following issues and workarounds:

- Section 6.5.1, "Mandatory Patch for Oracle Application Server Adapter for MQSeries"

6.5.1 Mandatory Patch for Oracle Application Server Adapter for MQSeries

You must apply patch 5594751 before using the Oracle Application Server Adapter for MQSeries. The patch is available at the following location:

https://www.metalink.oracle.com/

6.6 Oracle Application Server Adapter for Oracle Applications Issues and Workarounds

This section describes the following issues and workarounds:

- Section 6.6.1, "Schema for Business Event Payload Cannot be Specified in the Wizard"

6.6.1 Schema for Business Event Payload Cannot be Specified in the Wizard

Issue: While configuring Oracle Application Server Adapter for Oracle Applications to create business event outbound messages, users must specify the schema file location and select the schema element that defines the messages for the event payload using the Adapter Configuration Wizard in Oracle JDeveloper. However, if users are not sure about the event payload data type or the schema details, then users may not have the correct WDSL file generated corresponding to a selected business event.

Resolution: To resolve this issue, Oracle Application Server Adapter for Oracle Applications provides an updated schema selection page allowing you to select the business event payload schema from one of the following options through the Wizard:

- No Schema
- Any Schema
- Specify Schema

When you select either the "No Schema" or "Any Schema" option, there is no need to further specify the schema information for your business event service. The associated WSDL file corresponding to your specified business event service will be generated. If you select the "Specify Schema" option, then you must specify the location of schema file and then select the schema element that defines the payload of outbound business event.

For more information, refer to *Oracle Application Server Adapter for Oracle Applications User's Guide* (B28351-03) for details.

6.7 Documentation Errata

This section describes documentation errata. It includes the following topic:

- Section 6.7.1, "Incorrect Values of the hostOSType and Indextype Parameters"
- Section 6.7.2, "Incorrect Segmentation Property Name"
- Section 6.7.3, "Using Data Source While Creating a Server Connection in AQ Adapters when oc4j-ra.xml Is Not Configured"
- Section 6.7.4, "Implication of Dequeue Condition in AQ Adapters"
- Section 6.7.5, "XMLType Is Supported in the 10.1.3.1 Release"

6.7.1 Incorrect Values of the hostOSType and Indextype Parameters

Section 6.4.2 "Modify the oc4j-ra.xml File" of *Oracle Application Server Adapters for Files, FTP, Databases, and Enterprise Messaging User's Guide* contains incorrect values of the `hostOSType` and `Indextype` parameters.

The value of `hostOSType` should be specified as `z/os` or `Z/OS` and Indextype of the MQSeries queues should be set to `MQIT_GROUP_ID`.

6.7.2 Incorrect Segmentation Property Name

Section 6.3.8 "Message Segmentation" of *Oracle Application Server Adapters for Files, FTP, Databases, and Enterprise Messaging User's Guide* contains incorrect property name. The property name in this section should be `SegmentIfReqd`. For example:

```
SegmentIfReqd="true"
```

6.7.3 Using Data Source While Creating a Server Connection in AQ Adapters when oc4j-ra.xml Is Not Configured

Section 3.2.1.3 "Adding a Partner Link" of *Oracle Application Server Adapters for Files, FTP, Databases, and Enterprise Messaging User's Guide* has missing information about using Data Source. While creating a server connection while defining an AQ adapter service, you can use Data Source when oc4j-ra.xml is not configured with the correct jndi location for connector factory. Consider the following code snippet from the adapter service wsdl:

```
<jca:address location="eis/AQ/aqSample" UIConnectionName="aqSample" />
```

If the adapter service is configured as shown in the preceding example and oc4j-ra.xml does not have an entry for "eis/AQ/aqSample", then the data source value specified by "Data Source" will be used. Additionally, the data source should be defined in the data-sources.xml file as well.

6.7.4 Implication of Dequeue Condition in AQ Adapters

Section 3.1.1.2 "Dequeue and Enqueue Features" of *Oracle Application Server Adapters for Files, FTP, Databases, and Enterprise Messaging User's Guide* has missing information about the implication of Dequeue condition.

Dequeue condition is an Advanced Queuing product feature that AQ adapter uses. A dequeue condition is specified as part of the `AQDequeueOption` object, which is internally used by the Dequeue AQ API. If a dequeue condition is specified and no messages meet the specified condition, then no dequeue will happen.

A dequeue condition element is a Boolean expression using syntax similar to the WHERE clause of a SQL query. This Boolean expression can include conditions on message properties, user object payload data properties, and PL/SQL or SQL functions. Message properties include `priority`, `corrid`, and other columns in the queue table.

6.7.5 XMLType Is Supported in the 10.1.3.1 Release

Section 3.1.1 "AQ Adapter Features" of *Oracle Application Server Adapters for Files, FTP, Databases, and Enterprise Messaging User's Guide* contains incorrect information about XML type not being supported by AQ adapters. XML type is supported by AQ adapters from release 10.1.3 onwards.

7

Oracle Enterprise Service Bus

This chapter describes issues associated with Oracle Enterprise Service Bus. It includes the following topics:

- Section 7.1, "General Issues and Workarounds"
- Section 7.2, "Configuration Issues and Workarounds"
- Section 7.3, "Documentation Errata"

7.1 General Issues and Workarounds

This section describes general issue and workaround. It includes the following topic:

- Section 7.1.1, "The SOA Basic Installation Type Should be Used Instead of the ESB Standalone Developer Installation Type"
- Section 7.1.2, "Performance Degradation of Dequeuing Operations Against AQ When Using an Oracle 10.2.0.2 Database"
- Section 7.1.3, "Memory Usage Grows Gradually in Default Installation at High Volume"
- Section 7.1.4, "Filter Expression Only Supports XPath Functions that are Included in the XPath 1.0 Specification"
- Section 7.1.5, "External Dependencies Used at Design Time Must Be Available at Deployment Time"
- Section 7.1.6, "Multibyte Characters Are Not Supported in Some ESB Component Names"

7.1.1 The SOA Basic Installation Type Should be Used Instead of the ESB Standalone Developer Installation Type

The Oracle Application Server SOA Suite Basic Install type should be used for development and pre-production testing. The Oracle Enterprise Service Bus standalone Developers installation type is not a supported option.

For information on installing the SOA Suite Basic Install type, see *Oracle Application Server Installation Guide* .

7.1.2 Performance Degradation of Dequeuing Operations Against AQ When Using an Oracle 10.2.0.2 Database

When there is a large number of outstanding messages (more than 100K) in an AQ queue, dequeuing in the AQ adapter can be very slow with an Oracle 10.2.0.2 database.

You can remedy the problem by running `dbms_stats.gather_table_stats` or `dbms_stats.gather_schema_stats` to analyze the queue tables for query optimization.

7.1.3 Memory Usage Grows Gradually in Default Installation at High Volume

In high volume, high throughput environment, you might notice that the memory usage of the container is growing gradually. This might be a result of the instance tracking data not being flushed from the in-memory data structure fast enough. You can tune (reduce, in this case) the flush interval with a SQL statement executed against the `ESB_PARAMETER` table in the ORAESB schema as follows:

```
INSERT INTO ESB_PARAMETER (PARAM_NAME, PARAM_VALUE)
       VALUES ('TrackingMessageFlushInterval', '500');
```

The `PARAM_VALUE` in the SQL statement represents 500 milliseconds.

If a value already exists, use the SQL `UPDATE` statement to update the parameter value, as follows:

```
UPDATE ESB_PARAMETER SET PARAM_VALUE = '500'
       WHERE PARAM_NAME = 'TrackingMessageFlushInterval';
```

After modifying the `ESB_PARAMETER` table, you need to restart the ESB Server.

7.1.4 Filter Expression Only Supports XPath Functions that are Included in the XPath 1.0 Specification

Filter expressions, XSL data transformations, and tracking fields do not support any XPath functions that are not part of the XPath 1.0 specification. The header support functions are an exception and are supported as Preview features. For information about Preview features, see Section 7.3.1, "Some Oracle Enterprise Service Bus Features are in Preview Mode".

7.1.5 External Dependencies Used at Design Time Must Be Available at Deployment Time

Ensure that all external dependencies that are used at design time, such as hosted WSDLs and XSDs, are available at the time of deployment. The deployment engine uses these artifacts to generate metadata. The deployment engine will try to access the artifacts until they are available or the engine times out.

7.1.6 Multibyte Characters Are Not Supported in Some ESB Component Names

The Oracle Enterprise Service Bus project, schema, service, and system names do not support multibyte characters. Use ASCII characters for those names.

Oracle Enterprise Service Bus does support multibyte character set payloads (data). The restriction on multibyte characters only applies to configuration data.

7.2 Configuration Issues and Workarounds

This section describes configuration issues and their workarounds. It includes the following topics:

- Section 7.2.1, "ESB Server Displays a Warning Message When Shut Down"
- Section 7.2.2, "Oracle ESB Control Does Not Display Correctly For Some Window Sizes"
- Section 7.2.3, "Access Problem After Logging into Oracle ESB Control Using Internet Explorer"
- Section 7.2.4, "Timeout Exceptions When Using Oracle Enterprise Service Bus"
- Section 7.2.5, "Missing pc.properties After Completing the ESB Standalone Installation"
- Section 7.2.6, "An Inbound Adapter Service and its Corresponding Routing Service Should Reside in the Same ESB System"
- Section 7.2.7, "Configuration of an Additional Design Time Instance in a High Availability Deployment Requires Additional Configuration"
- Section 7.2.8, "New Parameters in the ESB_PARAMETER Table are Required for a Non-default OC4J JMS Setup"
- Section 7.2.9, "Non-transactional MQ Adapter Incorrectly Configured as Transactional"

7.2.1 ESB Server Displays a Warning Message When Shut Down

A warning message might be displayed when the ESB Server shuts down. This occurs because the ESB runtime process interrupts the worker threads while shutting down.

The warning message has no impact and is safe to ignore.

7.2.2 Oracle ESB Control Does Not Display Correctly For Some Window Sizes

When resizing Oracle ESB Control, sometimes the scroll bar is missing and other layout issues might occur. To display the correct layout, maximize the Oracle ESB Control window.

7.2.3 Access Problem After Logging into Oracle ESB Control Using Internet Explorer

If you are having problems accessing the Oracle ESB Control with Internet Explorer, you can reconfigure the security options to add your domain to the local intranet zone.

From the Internet Explorer toolbar, select Tools > Internet Options > Security > Local intranet > Sites > Advanced, then add your domain in the entry field. For example, if your server hostname is `esbserver.oracle.com`, add `*.oracle.com` to the local intranet zone.

7.2.4 Timeout Exceptions When Using Oracle Enterprise Service Bus

You should make both of the updates described in this section to avoid time out errors when either ESB or another application, such as BPEL, starts a transaction. The time out error for an OC4J transaction applies to all applications and the time out error while deploying from Oracle JDeveloper only applies to Oracle Enterprise Service Bus. Note that the time out value set in the `esb_config.ini` file takes precedence when ESB starts the transaction.

If an OC4J transaction time out error occurs while importing metadata into the ESB Server, you need to increase the value of the `transaction-timeout` parameter in the *`Oracle_Home`*`/j2ee/home/config/transaction-manager.xml` file. The error can occur for various reasons, such as a BPEL or an external service WSDL is not available or slow.

If a time out error occurs while deploying from Oracle JDeveloper, you need to increase the value of the `xa_timeout` parameter in the *`Oracle_Home`*`/integration/esb/esb_config.ini` file. After modifying the file, you need to restart the ESB Server.

7.2.5 Missing pc.properties After Completing the ESB Standalone Installation

After completing the Oracle Enterprise Service Bus standalone installation, the following error message might occur:

```
Could not locate file pc.properties in classpath
```

To create the `pc.properties` file for your system, perform the following:

1. Copy *`Oracle_Home`*`/integration/esb/config/pc.properties.esb` to *`Oracle_Home`*`/integration/esb/config/pc.properties`.
2. Edit `pc.properties` according to your system requirements.
3. Restart the ESB Server.

7.2.6 An Inbound Adapter Service and its Corresponding Routing Service Should Reside in the Same ESB System

An inbound adapter service and its corresponding routing services are considered peer entities that should be deployed together in the same ESB system.

7.2.7 Configuration of an Additional Design Time Instance in a High Availability Deployment Requires Additional Configuration

If you install multiple ESB repositories against the same database, the second repository installation overwrites the existing ESB metadata configuration residing in the `ESB_PARAMETER` table. In order to preserve the old values, you need to export the `ESB_PARAMETER` table before installing the second repository, then import the `ESB_PARAMETER` table after completing the installation of the second repository.

For information about exporting and importing the `ESB_PARAMETER` table, see "Updating the ESB Metadata" in *Oracle Application Server Enterprise Deployment Guide*.

7.2.8 New Parameters in the ESB_PARAMETER Table are Required for a Non-default OC4J JMS Setup

When using a non-default JMS setup, you need to specify several parameters in the `ESB_PARAMETER` table to indicate JNDI locations for the topic and connection factory. The parameters are:

- `PROP_NAME_ERROR_XATCF_JNDI`

  Description: XA JMS connection factory for error topic

  Example: `OracleOJMS/XATCF`

- `PROP_NAME_ERROR_TCF_JNDI`

Description: Non-XA JMS connection factory for error topic

Example: `OracleOJMS/TCF`

After modifying the `ESB_PARAMETER` table, you need to restart the ESB runtime and design time servers.

7.2.9 Non-transactional MQ Adapter Incorrectly Configured as Transactional

At installation time, the MQ Adapter is incorrectly registered with Oracle Enterprise Service Bus as transactional. This leads to the display of an incorrect status in Oracle ESB Control when transactions are rolled back.

The `IS_TRANSACTIONAL` columns in the `ESB_SERVICE_TYPE` table should be set to `N` (not `Y`) when `SERVICE_TYPE` is equal to `MQ`. You can fix the ESB service configuration in the `ESB_SERVICE_TYPE` table using the following SQL statement:

```
UPDATE ESB_SERVICE_TYPE SET IS_TRANSACTIONAL = 'N' WHERE SERVICE_TYPE = 'MQ';
```

After modifying the table, you need to restart the ESB Server.

7.3 Documentation Errata

This section describes documentation errata. It includes the following topic:

- Section 7.3.1, "Some Oracle Enterprise Service Bus Features are in Preview Mode"
- Section 7.3.2, "Oracle Enterprise Service Bus and Oracle Application Server Integration B2B"
- Section 7.3.3, "Incorrect Account Name Mentioned in Oracle Enterprise Service Bus Installation Guide"

7.3.1 Some Oracle Enterprise Service Bus Features are in Preview Mode

Some Oracle Enterprise Service Bus features are available in Preview mode and will be supported in a later release.

Preview features in this release are:

- Endpoint properties
  - Adapter Endpoint properties
  - SOAP Endpoint properties
- Header Support
  - Header support for Adapters
  - Header support for SOAP Headers, such as security, encryption, and WS-Addressing
- Oracle Enterprise Service Bus to Oracle Application Server Integration B2B integration

7.3.2 Oracle Enterprise Service Bus and Oracle Application Server Integration B2B

The B2B WSIL Browser enables interoperability between Oracle Enterprise Service Bus and Oracle Application Server Integration B2B and is available through patch 5105622.

This feature are available in Preview mode and will be supported in a later release.

See Also:

- The README.txt file for patch 5105622. this patch is available from the following location:

  `https://metalink.oracle.com/`

- *Oracle Application Server Integration B2B User's Guide*

7.3.3 Incorrect Account Name Mentioned in Oracle Enterprise Service Bus Installation Guide

The section "Step 1: Recommended - Change Default Passwords" on page 2-8 of *Oracle Enterprise Service Bus Installation Guide* mentions incorrect account that gets created when you install Oracle Enterprise Service Bus. The user account that gets created with Oracle Enterprise Service Bus installation is `oc4jadmin` instead of `esbadmin`, as mentioned in the guide.

8

Oracle BPEL Process Manager

This chapter describes issues associated with Oracle BPEL Process Manager. It includes the following topics:

- Section 8.1, "Installation and Deinstallation Issues and Workarounds"
- Section 8.2, "Modeling and Design-Time Issues and Workarounds"
- Section 8.3, "Deployment and Run-Time Issues and Workarounds"
- Section 8.4, "Workflow and Worklist Issues and Workarounds"
- Section 8.5, "Notification Issues and Workarounds"
- Section 8.6, "Transformation Issues and Workarounds"
- Section 8.7, "XPath Expression Builder Issues and Workarounds"
- Section 8.8, "Oracle BPEL Control and Oracle BPEL Server Issues and Workarounds"
- Section 8.9, "Oracle BPEL Portlets Issues and Workarounds"
- Section 8.10, "Globalization/Multibyte Character Issues and Workarounds"
- Section 8.11, "Sample Demos and Tutorials Issues and Workarounds"
- Section 8.12, "Javadoc Errata"
- Section 8.13, "Documentation Errata"

See Also: Section 10.11, "BPEL-BAM Integration Issues and Workarounds"

8.1 Installation and Deinstallation Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.1.1, "OC4J Instance Names of 14 or More Characters Cause Oracle BPEL Process Manager Installation Failure"
- Section 8.1.2, "Installing Oracle Java Virtual Machine on Linux"
- Section 8.1.3, "Use the SOA Basic Install Type Instead of the Oracle BPEL Process Manager for Developers Installation Type"
- Section 8.1.4, "Oracle BPEL Process Manager Clusters Do Not Need to Be Part of an OPMN Cluster"
- Section 8.1.5, "EJB URL in wf_client_config.xml Is Incorrect After Installation"
- Section 8.1.6, "Installing BPEL on OID-Associated J2EE"

- Section 8.1.7, "Error Message Can Be Ignored During BPEL Standalone Installation"
- Section 8.1.8, "Deploying BPEL Processes to All Nodes in a Cluster"
- Section 8.1.9, "Installation Impact on Adapter Endpoint Activation Topologies"
- Section 8.1.10, "Changes to ant-orabpel.properties Required for Certain Clustering Configurations"
- Section 8.1.11, "Error Message on the Configuration Assistants Screen While Installing Oracle BPEL Process Manager"
- Section 8.1.12, "Subsequent BPEL Installations as a Different User Fail To Detect the BPEL Version"
- Section 8.1.13, "Surviving Nodes Do Not Automatically Continue Instance Execution After a Failover"

8.1.1 OC4J Instance Names of 14 or More Characters Cause Oracle BPEL Process Manager Installation Failure

The name of the OC4J instance for the Oracle Application Server middle tier on which you are installing Oracle BPEL Process Manager for Oracle AS Middle Tier must not be more than 13 characters. If the length of the OC4J instance name is 14 or more characters, the BPEL Process Manager Configuration Assistant fails during installation.

8.1.2 Installing Oracle Java Virtual Machine on Linux

If you want to use the CodeCoach and Profiling features of Oracle JDeveloper, you must install Oracle Client Java Virtual Machine (OJVM).

The `InstallOJVM` script installs OJVM in the specified JDK directory. Once installed, OJVM is the default virtual machine for every new project created in Oracle JDeveloper for the specified JDK.

1. Go to `$ORACLE_HOME/integration/jdev/ojvm_linux_x86`.
2. Run `installOJVM`, and specify the JDK root directory. For example:

```
InstallOJVM $/OraBPELPM/integration/jdev/jdk
```

8.1.3 Use the SOA Basic Install Type Instead of the Oracle BPEL Process Manager for Developers Installation Type

Oracle recommends that you use the Oracle Application Server SOA Basic installation type instead of the Oracle BPEL Process Manager for Developers installation type.

8.1.4 Oracle BPEL Process Manager Clusters Do Not Need to Be Part of an OPMN Cluster

In section "Clustering Scenario and Architecture" of chapter "Oracle BPEL Process Manager Clustering" of the *Oracle BPEL Process Manager Installation Guide*, the following introductory paragraph appears:

J2EE instances on which Oracle BPEL Process Manager is installed and clustered must be part of an OPMN cluster. In this environment, J2EE applications that are part of BPEL applications are automatically deployed to all nodes (if they are up and running) when a BPEL application is deployed.

This paragraph can be ignored. Oracle BPEL Process Manager does not need to be part of an OPMN cluster.

8.1.5 EJB URL in wf_client_config.xml Is Incorrect After Installation

Do the following to avoid a connection failure error when using the worklist client code:

1. Go to

   SOA_Oracle_Home/bpel/system/services/config/wf_client_config.xml

2. Locate the entry

   servicesClientConfigurations\ejb\serverURL

3. Make the preceding entry the same as the `jndi.url` property in

   SOA_Oracle_Home/bpel/utilities/ant-orabpel.properties

   with `/hw_services` appended to it. For example:

   <serverURL>opmn:ormi://*hostname:nnnnn*:oc4j_soa/hw_services</serverURL>

4. Ensure that the following is in the classpath:

   SOA_Oracle_Home/bpel/system/services/config/wf_client_config.xml

8.1.6 Installing BPEL on OID-Associated J2EE

The following preinstallation steps are required for the environment in which you are using the 10.1.3.1 patch and a 10.1.3.1.0 BPEL J2EE standalone installation associated with the 10.1.2.0.2 infrastructure OID.

> **Note:** For the following preinstallation steps to work, OID must be seeded with workflow-related users running the config tool for workflow before you restart the BPEL server.

1. Shut down the instance by executing

   opmnctl stopall

2. Back up the `jazn.xml` file found at

   SOA_Oracle_Home/j2ee/home/config

3. In the same directory, rename `jazn.xml.save`*nnnn* to `jazn.xml`.

   This is the `jazn.xml` file before OID was associated with the J2EE instance.

4. Confirm that the contents of `jazn.xml` look something like the following. In particular, note that the entries in bold are as indicated.

```
<?xml version = '1.0' encoding = 'UTF-8' standalone = 'yes'?>
<jazn xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://xmlns.oracle.com/oracleas/schema/jazn-10
_0.xsd" schema-major-version="10" schema-minor-version="0" provider="XML"
location="./system-jazn-data.xml" default-realm="jazn.com"/> "
```

5. Start the instance by executing

   opmnctl startall

6. Install BPEL.
7. After completing the installation successfully, shut down the instance.
8. Rename `jazn.xml` to the new name (to keep as a backup).
9. Copy back the backed up copy of LDAP `jazn.xml` as the new `jazn.xml`.
10. Start the instance.
11. For Oracle BPEL Control to work, follow the manual steps required for OID setup with BPEL.

8.1.7 Error Message Can Be Ignored During BPEL Standalone Installation

You can ignore the following error messages for the environment in which you are using the 10.1.3.1 patch and a 10.1.3.1.0 BPEL J2EE standalone installation associated with the 10.1.2.0.2 infrastructure OID.

```
The operation is unsupported
```

This message appears when you type the password during installation (in the background console, from where Oracle Universal Installer was invoked).

8.1.8 Deploying BPEL Processes to All Nodes in a Cluster

When following the BPEL process clustering procedures in section "Task 4: Compiling and Deploying the BPEL Process" of *Oracle BPEL Process Manager Installation Guide*, ensure that you deploy the BPEL process to all nodes in the cluster.

8.1.9 Installation Impact on Adapter Endpoint Activation Topologies

The method by which you install Oracle BPEL Process Manager and Oracle Enterprise Service Bus can impact adapter endpoint activation. Review the following issues before performing an installation.

If you install the following components into the same Oracle home:

- Oracle Application Server 10.1.3.0
- Oracle Application Server Patch Set 10.1.3.1
- Oracle BPEL Process Manager for OracleAS Middle Tier from its own 10.1.3.1 software CD
- Oracle Enterprise Service Bus from its own 10.1.3.1 software CD

Or, if you install:

- J2EE and Web Server advanced install type of Oracle Application Server SOA 10.1.3.1
- Oracle BPEL Process Manager for OracleAS Middle Tier from its own 10.1.3.1 software CD
- Oracle Enterprise Service Bus from its own 10.1.3.1 software CD

Adapter end point activation is *successful* for the following scenarios:

- If Oracle BPEL Process Manager and Oracle Enterprise Service Bus are installed under the same default home OC4J container.

- If Oracle BPEL Process Manager and Oracle Enterprise Service Bus are installed under the same container (other than the home OC4J container) and under the same default group (as that of the home OC4J container).

See *Oracle Application Server Administrator's Guide* for details about OC4J groups.

8.1.10 Changes to ant-orabpel.properties Required for Certain Clustering Configurations

Common clustering configuration assumes that two different installations are done in two different Oracle homes, and that you are not using the same Oracle Home on a network drive.

However, if an installation on two nodes uses the same Oracle Home on a network drive, you must manually edit the `ant-orabpel.properties` file as follows:

1. Find the properties `http.hostname` and `j2ee.hostname` in

   SOA_Oracle_Home`/bpel/utilities/ant-orabpel.properties`

   Property `http.hostname` is defined as the virtual hostname in a clustering environment, while `j2ee.hostname` is set to the hostname of the installation node.

2. Set the `j2ee.hostname` value to the virtual hostname, or change it so that `j2ee.hostname=${http.hostname}`.

   Both `j2ee.hostname` and `http.hostname` must be set to the virtual hostname.

8.1.11 Error Message on the Configuration Assistants Screen While Installing Oracle BPEL Process Manager

While performing an advanced J2EE Server, Web Server and SOA Suite installation, a Basic Installation of Oracle Application Server or installing Oracle BPEL Process Manager, the following error message is displayed on the Configuration Assistants Screen:

```
BUILD FAILED
$Oracle_Home/bpel/system/services/install/ant-tasks/bpm
install.xml:262: IOException in $Oracle_
Home/bpel/system/services/config/WFRepository -
sun.io.MalformedInputException:null
```

To fix this issue, check locale-specific environment variables such as `LANG` or `LC_ALL` to see if they end with the suffix `.UTF-8`. If a locale-specific environment variable ends with `.UTF-8`, you need to remove `.UTF-8` from its value. This should be done before performing the installation.

Use the following command to check the value of `LANG` or `LC_ALL` :

```
prompt> echo $LANG
en_US.UTF-8
```

Set the value of this variable by using the following command:

```
prompt> export LANG=en_US
```

In Japanese locales where `LANG=ja_JP.utf8` or `LANG=ja_JP.eucJP`, you need to perform the following steps:

1. Set the environment variable called LANG to en_us by giving the following command:

   ```
   prompt> export LANG=en_us
   ```

2. Start Oracle Universal Installer. For more information, refer to Section 3.12, "Starting the Oracle Universal Installer" in *Oracle Application Server Installation Guide*.
3. On the Select Installation Type Screen, click on **Product Language**. On the Language Selection Screen, add Japanese from the **Available Languages** column to the **Selected languages** column and click **OK**.
4. Complete the installation process. For more information, refer to *Oracle Application Server Installation Guide*.
5. Run the following command when you are in ORACLE_HOME directory:

   ```
   prompt> ORACLE_HOME/opmn/bin/opmnctl stopall
   ```

6. Set LANG or LC_ALL environment variables to ja_JP.utf8 (or ja_JP.eucJP) by the following commands:

   ```
   prompt> export LANG=ja_JP.utf8(or ja_JP.eucJP)
   prompt> export LC_ALL=ja_JP.utf8(or ja_JP.eucJP)
   ```

   Note: You can also set the value of LANG to ja_JP.ISO-2022-JP by giving the following command:

   ```
   prompt> export LANG=ja_JP.ISO-2022-JP
   ```

7. Run the following command after navigating to ORACLE_HOME directory:

   ```
   prompt> ORACLE_HOME/opmn/bin/opmnctl startall
   ```

8.1.12 Subsequent BPEL Installations as a Different User Fail To Detect the BPEL Version

When you initially install Oracle BPEL Process Manager as part of the Oracle Application Server SOA Suite installation on Linux, it creates a /tmp/com/collaxa/cube/resources_version.properties version file. If a different user performs a subsequent installation on the same host, the resources_version.properties version file is not overwritten or read. Since the BPEL version cannot be obtained, the ant-orabpel.properties file is not instantiated, causing the second installation to fail.

As a workaround, remove the /tmp/com directory before performing the second installation.

8.1.13 Surviving Nodes Do Not Automatically Continue Instance Execution After a Failover

The *Oracle BPEL Process Manager Installation Guide* incorrectly indicates that upon failover, the surviving nodes automatically continue execution of process instances. The other nodes in the cluster can resume the instances from the last dehydration point. However, instance resumption is not automatic. To resume instances:

1. Go to the **BPEL Processes** tab in Oracle BPEL Control.

2. Click **Perform Manual Recovery** to initiate a recovery.

If you want to automatically recover instances, it is possible to write a script (for example, a Java client) that connects to the server through a remote method invocation (RMI) and invokes the recovery step through the Oracle BPEL Process Manager API (which is the same method used by Oracle BPEL Control).

> **See Also:** *Oracle BPEL Process Manager Client API Reference* for details about using the Oracle BPEL Process Manager API

8.2 Modeling and Design-Time Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.2.1, "Cannot Exchange Multipart SOAP Messages Between Oracle BPEL Process Manager and a Remote Web Service"
- Section 8.2.2, "Cannot Select Property Aliases in project_name.wsdl File"
- Section 8.2.3, "BPEL Processes Initiated by Partner Links Referring to Adapters"
- Section 8.2.4, "Dragging a Decision Service Icon into a BPEL Diagram Activities Area"
- Section 8.2.5, "Decision Service Cannot Be Edited in Oracle JDeveloper"
- Section 8.2.6, "Correlation Sets in Previously Deployed Versions May Be Overwritten"
- Section 8.2.7, "Change in HeaderHandler from Release 10.1.2.0.2 to Release 10.1.3.1.0"
- Section 8.2.8, "Online Help for Invocation Pattern Operations in a Decide Activity"
- Section 8.2.9, "WSIF Bindings Generated from Oracle JDeveloper Are Not Interoperable with Oracle BPEL Process Manager"
- Section 8.2.10, "BPEL XPath Functions File and Console Link Location"
- Section 8.2.11, "Schema Names Do Not Support Multibyte Characters"
- Section 8.2.12, "Creating an Application Server Connection in Oracle JDeveloper with Non-oc4jadmin Users"
- Section 8.2.13, "Running the Adapter Configuration Wizard in Edit Mode Removes Property Aliases in an Empty BPEL Process"
- Section 8.2.14, "Java Class BPELProcessRevisionInfo Has Moved to BPELProcessMetaData"

8.2.1 Cannot Exchange Multipart SOAP Messages Between Oracle BPEL Process Manager and a Remote Web Service

You cannot exchange multipart SOAP messages between Oracle BPEL Process Manager and a *remote* Web service that is running in either another Oracle BPEL Process Manager or in any other third-party Web service container.

8.2.2 Cannot Select Property Aliases in project_name.wsdl File

You cannot select property aliases in the *`project_name`*`.wsdl` file. To use the property aliases in, for example, `adapters.wsdl`, manually add them.

8.2.3 BPEL Processes Initiated by Partner Links Referring to Adapters

If the BPEL process is initiated by a partner link that refers to an adapter, you may need to import the *process_name*.wsdl file inside the partner link's WSDL file. This is so that any references to the message types inside *process_name*.wsdl can be handled during compilation.

This may be required in the following cases:

- When using correlation sets (the property alias is stored in *process_name*.wsdl)
- If any message type defined in *process_name*.wsdl is referred to in the *process_name*.bpel file

8.2.4 Dragging a Decision Service Icon into a BPEL Diagram Activities Area

As with the other services listed under **Services** in the **Component Palette** of Oracle JDeveloper, a decision service must be dragged into one of the **Services** swim lane. You cannot drag a service into the activities area of a BPEL diagram. However, the interface does not provide a visual indicator that you cannot drag a decision service into the activities area, except that nothing happens.

8.2.5 Decision Service Cannot Be Edited in Oracle JDeveloper

A decision service cannot be edited in Oracle JDeveloper. You must delete and re-create it.

8.2.6 Correlation Sets in Previously Deployed Versions May Be Overwritten

If correlation sets are changed between process versions, then the last deployed version overrides the correlation sets in previously deployed versions. This may be an issue if you have in-flight instances of version 1, followed by a newly deployed version 2, where the correlation set has changed.

8.2.7 Change in HeaderHandler from Release 10.1.2.0.2 to Release 10.1.3.1.0

The HeaderHandler interface from release 10.1.2.0.2 cannot be ported to the 10.1.3.1.0 environment. The following change in the method signature is required:

From this in release 10.1.2.0.2:

```
public void invoke(CXPartnerLink partnerLink, String operationName, Map payload,
Map header, Map callProps)
```

To this in release 10.1.3.0.1:

```
public void invoke(CXPartnerLink cXPartnerLink, String string, Map map, List list,
Map map1)
```

8.2.8 Online Help for Invocation Pattern Operations in a Decide Activity

The Edit Decide window enables you to select the operation of the invocation pattern to perform. The operations available for selection are based on the invocation pattern you selected in the Select a Ruleset or a Function window of the Decision Service wizard. For descriptions of these operations, perform either of the following:

- Click **Help** on the Select a Ruleset or a Function window of the Decision Service wizard and go to the Invocation Pattern section.

- See the "Decide Activity" section in Chapter 18, "BPEL Process Integration with Business Rules" of *Oracle BPEL Process Manager Developer's Guide*.

8.2.9 WSIF Bindings Generated from Oracle JDeveloper Are Not Interoperable with Oracle BPEL Process Manager

Oracle BPEL Process Manager is not interoperable with Oracle JDeveloper-created WSIF bindings, and cannot support Java beans or XDK JAXB objects passed into Java binding services.

You can select RPC type for the SOAP and WSIF bindings options when generating a Java Web service. The resulting WSDL with Java bindings is interoperable with Oracle BPEL Process Manager. However, this works only if there are no complex type references in the Java code.

8.2.10 BPEL XPath Functions File and Console Link Location

For this release, the `xpath-functions.xml` file has been moved to the *`SOA_Oracle_Home`*`\bpel\system\config` directory. In addition, the console link to these functions now appears in the Oracle BPEL Admin Console (`http:\\`*`hostname:port`*`\BPELAdmin`) under the **XPath Library** link.

8.2.11 Schema Names Do Not Support Multibyte Characters

When you create a BPEL process, the XSD file name does not support multibyte characters.

8.2.12 Creating an Application Server Connection in Oracle JDeveloper with Non-oc4jadmin Users

By default, the `oc4jadmin` user contains the permissions for creating an application server connection in the **Connection Navigator** of Oracle JDeveloper and deploying a process to the `default` BPEL domain or any additional domains you create. If you want to use a different user account (for example, the `default` user account or a new user account) to create an application server connection in Oracle JDeveloper, you must perform the following procedures:

- Include the user account in the `oc4j-administrators` group.
- Provide the user account with permissions to the domain in which the user is to work.

See Also:

- The Oracle BPEL Process Manager Security chapter of *Oracle BPEL Process Manager Administrator's Guide* for instructions on creating new user accounts and groups to access BPEL domains and providing permissions to domains
- *Oracle Containers for J2EE Security Guide* for instructions on adding non-`oc4jadmin` users to the `oc4j-administrators` group

8.2.13 Running the Adapter Configuration Wizard in Edit Mode Removes Property Aliases in an Empty BPEL Process

Note the following behavior when running the Adapter Configuration Wizard in Edit Mode in an empty BPEL process in which property aliases have been defined.

1. Create an empty BPEL process.
2. Create a service with the Adapter Configuration Wizard.
3. Create a property alias in the Structure Window. The alias is defined in the adapter WSDL file.
4. Rerun the Adapter Configuration Wizard.

   This removes the property aliases created in Step 3 from the adapter WSDL file.

   As a workaround, do not rerun the Adapter Configuration Wizard in edit mode. Instead, directly edit the adapter WSDL file.

8.2.14 Java Class BPELProcessRevisionInfo Has Moved to BPELProcessMetaData

Java class `BPELProcessRevisionInfo` has moved to `BPELProcessMetaData`. You can get a handle to the object through `IBPELProcessHandle.getMetaData()`.

8.3 Deployment and Run-Time Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.3.1, "Missing ORMI Message"
- Section 8.3.2, "Directory Reference for File Adapter Not Updating Correctly"
- Section 8.3.3, "Reportees of the Topmost User in a Hierarchy Are Not Always Displayed"
- Section 8.3.4, "TaskManager Is Not Listed Under Deployed Processes in Oracle BPEL Control"
- Section 8.3.5, "Adapter-Based Application Deployment in OracleAS Integration InterConnect-Oracle BPEL Process Manager Environment Throws Exception"
- Section 8.3.6, "BPEL Compiler Error When No Partner Link Exists"
- Section 8.3.7, "Unit Test Does Not Support Iterative Partner Invocations"
- Section 8.3.8, "OBANT.SH Does Not Handle JSSO Login If the HW_Services Application is JSSO Enabled"
- Section 8.3.9, "ClassCastException Error Message with 10.1.2 Application Server Connections"
- Section 8.3.10, "Unique IP Address Is Needed to Create an Application Server Connection"
- Section 8.3.11, "Changing IP Requires Manual Deletion of tmp Directory"
- Section 8.3.12, "Enterprise Manager Control Does Not Provide Some Oracle BPEL Process Manager Functions"
- Section 8.3.13, "Changing Proxy Settings When Referring to an External WSDL When Using Linux"
- Section 8.3.14, "Starting Oracle BPEL Process Manager Through Oracle Enterprise Manager"

8.3.1 Missing ORMI Message

If the ORMI URL used for deployment in your network environment does not use the hostname, but rather uses the localhost (for example, in a DMZ network configuration), then you may see the following error:

```
...Missing ormi[s]://<host>:<port>
```

You may need to change the value of the property `hostname` to the localhost, in

SOA_Oracle_Home`/bpel/utilities/ant-orabpel.properties`

8.3.2 Directory Reference for File Adapter Not Updating Correctly

In a BPEL process that uses multiple file adapter ports (receives), using the Update Descriptor feature of Oracle BPEL Control to change directory reference information does not update the `bpel.xml` file correctly. For example, assume the file adapter uses a logical name for the directory path (rather than a physical path), and that after deploying your BPEL process, you want to change from the logical directory property value to the actual physical directory. The update process from Oracle BPEL Control adds a new property with the physical directory value, and the existing property for the logical name remains as well. At run time, the change does not take effect.

You must redeploy a BPEL process that uses multiple file adapter ports if you update directory information for the incoming files using the Update Descriptor feature of Oracle BPEL Control.

8.3.3 Reportees of the Topmost User in a Hierarchy Are Not Always Displayed

This note applies to the topmost user in any hierarchy. The user cdickens (the topmost user in the demo user community) is used in this discussion.

In the Identity lookup dialog, when you select **cdickens** from the **Search user** list and click **Hierarchy**, you see the message "No reportees for cdickens." This is incorrect because wfaulk reports to cdickens. However, when you select cdickens and click **Reportees**, wfaulk is correctly displayed.

8.3.4 TaskManager Is Not Listed Under Deployed Processes in Oracle BPEL Control

TaskActionHandler and TaskManager should appear as deployed processes in Oracle BPEL Control. If TaskManager does not appear, do the following:

1. Stop Oracle BPEL Control.
2. Copy `bpel_TaskActionHandler.jar` as follows:

   From *SOA_Oracle_Home*`/bpel/install/extensions`

   To *SOA_Oracle_Home*`/bpel/domains/default/deploy`
3. Restart Oracle BPEL Control.

8.3.5 Adapter-Based Application Deployment in OracleAS Integration InterConnect-Oracle BPEL Process Manager Environment Throws Exception

You may see the following error message when you deploy an application in an environment in which OracleAS Integration InterConnect publishes a message, using the AQ adapter, and Oracle BPEL Process Manager subscribes to that message.

```
<2006-09-25 04:10:36,421> <ERROR> <default.collaxa.cube.engine>
<DomainObserverRegistry::notify> Error while notifying observer class
```

```
com.collaxa.cube.ws.soap.oc4j.BPELOC4JServlet$1 with aspect class
com.collaxa.cube.engine.observer.ProcessInitAspect
oracle.webservices.provider.ProviderException: No service
@ {http://xmlns.oracle.com/pcbpel/adapter/ic/implement/Item/Is_Item_Available/OA
I/V1}Item defined in the WSDL at
oracle.j2ee.ws.server.provider.ProviderConfigImpl.getServiceName(ProviderConfigImp
l.java:312)
. . .
```

You can ignore the error message. The application deploys and the BPEL process executes successfully.

8.3.6 BPEL Compiler Error When No Partner Link Exists

If you create an empty BPEL process and start creating a partner link by invoking a Java Web service creation wizard, then you will get a compilation error when the partner link has not yet been created.

You can do one of the following instead:

- Create the Java Web service separate from and before creating the partner link. Use the Create Partner Link dialog box and the Service Explorer to get the WSDL file.
- Start with a synchronous or asynchronous template and create a partner link. You can subsequently delete the client partner.

8.3.7 Unit Test Does Not Support Iterative Partner Invocations

The generate unit test feature does not work correctly if the BPEL process contains invoke and receive activities in a loop.

8.3.8 OBANT.SH Does Not Handle JSSO Login If the HW_Services Application is JSSO Enabled

In JSSO mode, the `deployProcess` task (invoked by `obant`) gets a JSSO login form to fill out as a reply from Oracle HTTP Server. The task does not handle it. The task responds that the task was successfully deployed. However, the hw_services application cannot be JSSO enabled.

8.3.9 ClassCastException Error Message with 10.1.2 Application Server Connections

In release 10.1.2, the connection manager worked in standalone mode and communicated directly with Oracle BPEL Server without establishing an application server context. Consequently, you were prompted for your username and password at deployment.

In release 10.1.3.1.0, the connection manager gets username, password, URL and other information from the application server connection. Consequently, you must create an application server connection before an integration connection is built. The data stored in the application server connection is used by the connection manager to deploy business processes. Because the username and password are already known to the application server connection, the connection manager does not prompt you for a username or password at deployment.

Because of this change, 10.1.2 connections are invalid in 10.1.3.1.0 and will produce a ClassCastException error message.

8.3.10 Unique IP Address Is Needed to Create an Application Server Connection

In Oracle JDeveloper, when you create a connection to a 10.1.3 application server that has multiple IP addresses, the Test Connection function returns the following error message:

```
Error getting OC4J Process for: ... : Error connecting to OPMN (is it running?):
Connection refused: connect
```

You must specify a unique IP address when creating a connection to the server from Oracle JDeveloper.

8.3.11 Changing IP Requires Manual Deletion of tmp Directory

If you use the `chgiphost` command, you must also do the following:

1. Stop Oracle BPEL Server.
2. Remove the `tmp` directory, if present.

   SOA_Oracle_Home`/bpel/domains/`*domain_name*`/tmp/`

3. Restart Oracle BPEL Server and redeploy all processes.

In the case of remote cloning, also follow the preceding steps.

See *Oracle Application Server Administrator's Guide* for information about changing the hostname or domain name of a host that contains any of the middle-tier installation types. The section "Task 8: Redeploy Oracle BPEL Process Manager Applications" describes how to remove the Oracle BPEL Process Manager `tmp` directory, if it is exists in the cloned instance.

8.3.12 Enterprise Manager Control Does Not Provide Some Oracle BPEL Process Manager Functions

For this release, note the following:

- Enterprise Manager does not show a custom BPEL page. This is now tracked tracked through OC4J.
- Enterprise Manager does not show adapter metrics. This is now available in Oracle BPEL Control.
- Notification parameters are updated using properties. For example, if you want to change the notification service retry default of 3 (to 5, for example), you can add the following property in *SOA_Oracle_Home*`/bpel/system/services/config/wf_config.xml` and restart Oracle BPEL Server.

  ```
  <property name="oracle.bpel.services.notification.maxattempt" value="5" />
  ```

  See the chapter on notification service in *Oracle BPEL Process Manager Developer's Guide* for more information.

8.3.13 Changing Proxy Settings When Referring to an External WSDL When Using Linux

When using Linux, you may see an HTTP 502 error if your BPEL process includes a partner link that refers to an external WSDL. You must configure proxy server settings in `opmn.xml` as follows:

1. Run the following command:

```
prompt> Oracle_Home/opmn/bin/opmnctl stopall
```

2. To set the proxy server for BPEL, modify the following lines in the *SOA_Oracle_Home*/bpel/bin/obsetenv.sh file:

```
PROXY_SET="true"
...
if [ "${PROXY_SET}" = "true" ]
then
    OB_JAVA_PROPERTIES="-Dhttp.proxySet=true -Dhttp.proxyHost=proxy_server_
hostname -Dhttp.proxyPort=proxy_server_port -Dhttp.nonProxyHosts=localhost|non_
proxy_host|other_non_proxy_hosts"
```

3. To set the proxy server for OC4J, modify the following lines for the OC4J module in the *Oracle_Home*/opmn/config/opmn.xml file:

```
<process-type id="oc4j_instance_name" module-id="OC4J" status="enabled">
  <module-data>
    <category id="start-parameters">
      <data id="java-options" value= ...
        -Dhttp.proxySet=true -Dhttp.proxyHost=proxy_server_hostname
        -Dhttp.proxyPort=proxy_server_port
        -Dhttp.nonProxyHosts=localhost|non_proxy_host|other_non_proxy_hosts"/>
    </category>
```

4. Restart the OC4J application server:

```
prompt> Oracle_Home/opmn/bin/opmnctl startall
```

These instructions are also documented in *Oracle Application Server Installation Guide for Linux x86*.

8.3.14 Starting Oracle BPEL Process Manager Through Oracle Enterprise Manager

In this release, Oracle BPEL Process Manager is an application named orabpel that resides under the parent OC4J container instance (for example, named home or oc4j_soa). To restart Oracle BPEL Process Manager through Oracle Enterprise Manager 10*g* Application Server Control Console, you must restart either the parent OC4J container instance in which Oracle BPEL Process Manager is installed or the entire Oracle Application Server instance. This action ensures that all related applications are restarted (such as hw_services for human workflow) and that all deployed BPEL processes display in Oracle BPEL Control.

If you only restart the orabpel or hw_services application, not all BPEL processes are loaded and viewable through Oracle BPEL Control.

8.4 Workflow and Worklist Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.4.1, "Manually Configuring Oracle BPEL Process Manager on Oracle Application Server to Support Identity Management"
- Section 8.4.2, "Deploying BPEL Projects with Workflow from Oracle JDeveloper"
- Section 8.4.3, "Workflow Names Must Not Include Periods"
- Section 8.4.4, "Compilation Warning Messages That Can Be Ignored"
- Section 8.4.5, "Deleting an Entire User Task Activity"

- Section 8.4.6, "Using the Category List in Oracle BPEL Worklist Application"
- Section 8.4.7, "Getting Task Details with the getWorklistTaskDetails API"
- Section 8.4.8, "Adding Delays to Task Operations"
- Section 8.4.9, "Using the Custom Identity Service Provider Plug-in Sample on the Middle Tier"
- Section 8.4.10, "Configuring the TaskActionHandler and TaskManager Services to Support SSL"
- Section 8.4.11, "Full Path Name Needed for Task Attachment Stylesheet"
- Section 8.4.12, "Recovery from Internal Server Error in Worklist Application"
- Section 8.4.13, "Null Pointer Error During UpdateTaskOutcomeandRoute Call"
- Section 8.4.14, "Task Definition Within a Human Task Activity Is Not Created Correctly"
- Section 8.4.15, "Creation Dates Are Required for the Worklist Application Productivity Reports"
- Section 8.4.16, "The Worklist Application Does Not Support SSO or JSSO Authentication"
- Section 8.4.17, "High CPU Usage When Using a Human Task Activity"
- Section 8.4.18, "Use the Workflow Folder Context Menu (Especially for Form Generation Actions)"
- Section 8.4.19, "Human Task E-Mail Notification Does Not Support Multibyte Contents"
- Section 8.4.20, "Multibyte Human Task Name Produces File Not Found Error"
- Section 8.4.21, "Deployment Errors When the Application Server Connection OC4J Instance Name is Incorrect"
- Section 8.4.22, "Creating a Human Task Activity Inside a Switch Activity"
- Section 8.4.23, "Human Task Flex Field Mapping Restriction Related to BPEL Process Instances"
- Section 8.4.24, "Identity Service Structural Requirements"
- Section 8.4.25, "Searchable Attributes in LDAP Implementations"

8.4.1 Manually Configuring Oracle BPEL Process Manager on Oracle Application Server to Support Identity Management

If you want to install Oracle BPEL Process Manager on an Oracle Application Server to use an Identity Management and metadata repository, you must manually configure Oracle Internet Directory as a postinstallation step if the underlying Oracle Application Server is not configured with Identity Management.

If you are using an Oracle Application Server middle tier already configured with Identity Management, do *not* perform this postinstallation step; configuration is automatically performed during installation.

For example, since the Portal and Wireless middle-tier installation type requires Oracle Internet Directory, configuration is automatically performed during installation of Oracle BPEL Process Manager on this type of middle tier.

Replace the values shown in italics below with ones appropriate to your environment.

1. Ensure that *SOA_Oracle_Home*/j2ee/OC4J_BPEL/config/jazn.xml contains the following jazn provider element entries:

```
<jazn provider="LDAP" location="ldap://host:port" default-realm="us">
   <property name="ldap.user" value="cn=orcladmin"/>
   <property name="ldap.password" value="!welcome1"/>
</jazn>
```

2. Ensure that *SOA_Oracle_Home*\bpel\system\services\config\is_config.xml contains the following provider element entries:

```
<provider providerType="JAZN" name="oid">
   <connection url="ldap://host:port" binddn="cn=orcladmin"
                                      password="welcome1" encrypted="false"/>
</provider>
```

3. Ensure that *SOA_Oracle_Home*/j2ee/OC4J_BPEL/application-deployments/hw_services/orion-application.xml contains the following jazn provider element entries:

```
<jazn provider="LDAP" location="ldap://host:port" default-realm="us" >
   <jazn-web-app auth-method="SSO"/>
</jazn>
```

4. If the bpelportlet.ear Web provider is to be deployed through Oracle Enterprise Manager, manually configure *SOA_Oracle_Home*/j2ee/OC4J_BPEL/application-deployments/bpelPortlet/orion-application.xml as follows:

```
<jazn provider="LDAP" location="ldap://host:port" default-realm="us" >
   <jazn-web-app auth-method="SSO"/>
</jazn>
```

8.4.2 Deploying BPEL Projects with Workflow from Oracle JDeveloper

You must deploy BPEL projects with workflow from Oracle JDeveloper. Do not use a command line tool such as obant. JSP features such as the payload display do *not* work if command-line deployment is used.

8.4.3 Workflow Names Must Not Include Periods

Do *not* enter a name that includes periods in the **Workflow Name** field of the Workflow Pattern window of the Workflow wizard.

8.4.4 Compilation Warning Messages That Can Be Ignored

When you compile a BPEL process with a user task activity, you can ignore warnings similar to the following that appear in the log window of Oracle JDeveloper:

```
Warning(443):
[Error ORABPEL-10041]: Trying to assign incompatible types
[Description]: in line 443 of
"C:\apr20\integration\jdev\jdev\mywork\Application1\BPELProcess4\BPELProcess4.bpel
",<from> value type "{http://www.w3.org/2001/XMLSchema}anyType" is not compatible
 with
<to> value type "{http://www.example.org}book anonymous type".
```

This indicates that `anyType` is being assigned to an `anonymous` type. These warnings can be ignored. Ensure that the return value of the `from-spec` query is compatible with the `to-spec` query.

8.4.5 Deleting an Entire User Task Activity

If you want to delete and re-create a user task activity, perform the following steps:

1. Go into the diagram view of the BPEL project.
2. Delete the scope activity and switch activity of the user task activity. These activities were created in the project when you ran the Workflow wizard of the user task activity.
3. Delete the partner links.
4. Delete the WSDL/XSD files from the project (recommended, but not required).
5. Create a new user task activity in which to design the workflow.

8.4.6 Using the Category List in Oracle BPEL Worklist Application

The **Category** list of Oracle BPEL Worklist Application enables you to select the category of users, groups, or titles to search (**Group**, **Reportees**, and others). Note that the values of previous search results are also displayed. For example, assume that you first search on the **Group** category and that the results are displayed. If you next search on **Reportees**, then both the initial search results and the next search results are displayed. This is the expected behavior. Use **Check All** and **Uncheck All** to do a bulk select or unselect of the selections. Note that both these buttons only appear when there are two or more users in the selected list.

8.4.7 Getting Task Details with the getWorklistTaskDetails API

This issue applies only if you are still using the worklist 10.1.2 APIs.

When you get a task listing, each task object contains only summary information, and not detailed information such as payload, attachments, history, and so on. To get the details of a task, explicitly call the `getWorklistTaskDetails()` API inside a loop.

Note that looping while getting task details is a resource intensive action. You typically view details one task at a time. Call this method only for the task in which you are interested. Modify your `for` loop code as follows (adding one extra line to get the task details):

```
for (int i=0; i<tasks.size(); i++)
  {
      IWorklistTask thisTask = (IWorklistTask)tasks.get(i);
      if ( <condition> ) { // task matches some condition
          thisTask = wlSrvc.getWorklistTaskDetails(ctx, thisTask.getTaskId());
          ....
          Form form = null;
          form = PayloadFormGenerator.getMappingForm(thisTask);
          ....
      }
  }
```

8.4.8 Adding Delays to Task Operations

This issue applies only if you are still using the worklist 10.1.2 APIs.

In some cases, automated clients can perform task operations faster than Oracle BPEL Server. This can potentially result in messages being lost. While this issue is being addressed, the workaround is to add a small delay (about five seconds) between the task operations, as shown in the following example:

```
client.updateTask(ctx, task);
Thread.sleep(5000); // sleep for 5000 milliseconds
client.customTaskOperation(ctx, taskId, "DONE");
```

8.4.9 Using the Custom Identity Service Provider Plug-in Sample on the Middle Tier

To use the custom identity service provider plug-in sample on the Oracle Application Server middle tier, you must make the following edits to the `build.xml` file:

1. Open the *SOA_Oracle_Home*`/bpel/samples/hw/isplugin/db/build.xml` file.
2. Change line 15 from:

   ```
   <pathelement location="${classpath}" />
   ```

   to:

   ```
   <pathelement location="${client.classpath}" />
   ```

3. Change line 67 from:

   ```
   <sysproperty key="java.naming.provider.url" value="ormi://${hostname}"/>
   ```

   to:

   ```
   <sysproperty key="java.naming.provider.url" value="${jndi.url}"/>
   ```

8.4.10 Configuring the TaskActionHandler and TaskManager Services to Support SSL

If you configure Oracle BPEL Process Manager for Oracle Application Server Middle Tier with Secure Socket Layer (SSL) support, you must make the following changes to ensure that the TaskActionHandler and TaskManager services load correctly for BPEL processes.

1. Delete the `.bpel_TaskManager_1.0.jar` and `.bpel_TaskActionHandler_1.0.jar` directories under *SOA_Oracle_Home*`/bpel/domains/`*domain_name*`/tmp`.
2. Restart Oracle BPEL Server.

These steps recreate the correct service bindings and WSDL files for TaskManager and TaskActionHandler processes and make them available from HTTP/S-based endpoints.

> **Note:** If your Oracle BPEL Process Manager installation exists as part of a BPEL cluster, you must perform these steps on each BPEL cluster node after you create a BPEL cluster.

8.4.11 Full Path Name Needed for Task Attachment Stylesheet

In the advanced settings of the Task Editor, when you browse for an `XSL` file to specify for task attachment, the text field accepts the `.xsl` file name, but not the full directory path. However, without the full directory path, the file is not found at run time and a parsing error occurs.

To avoid a run-time error, first copy the stylesheet to the project workflow directory where the task file is located. Then browse for the stylesheet in the Task Editor.

8.4.12 Recovery from Internal Server Error in Worklist Application

While working in the Worklist Application, you may need to recover from an internal server error. For example, if you are redirected to the login page, but when you relog in, you get an "Internal Server Error" message asking you to click the **Back** button, then do the following to recover:

1. Open a Web browser (Internet Explorer 6.0 or Mozilla Firefox 1.0.4.).
2. Go to the Worklist Application URL:

   `http://`*`hostname`*`:`*`portnumber`*`/integration/worklistapp/Login`

   - *`hostname`* is the name of the host on which Oracle BPEL Process Manager is installed
   - The *`portnumber`* used at installation (typically 9700 or 8888) is noted in `bpelsetupinfo.txt`, at

     `SOA_Oracle_Home``/install`

   You can also select **Start**, then **All Programs**, then **Oracle -** ***Oracle_Home***, then **Oracle BPEL Process Manager**, and then **Worklist Application**.
3. Type the username and password, and click **Login**.
4. Continue with your transaction.

> **Note:** This recovery also works for internal server errors after OC4J failover occurs.

8.4.13 Null Pointer Error During UpdateTaskOutcomeandRoute Call

In a human workflow task, if the `updateTaskOutcomeAndRoute` flag set to false and the `updateTaskOutcomeAndRoute` method is called on the task, then the following null pointer error is thrown instead of displaying the appropriate error message:

```
[java] Error in evaluating routing slip.
[java] Error while evaluating the routing slip
@ http://hostname:portnumber/orabpel/default/wfsvc1/1.0/HumanTask1/HumanTask1.task
This routing slip is used by workflow default_wfsvc1_1.0_HumanTask1
[java] Please check the underlying exception and correct the error in the routing
slip. Contact oracle support if error is not fixable.
```

The `updateTaskOutcomeAndRoute` method is not permitted if the corresponding flag is set to false.

8.4.14 Task Definition Within a Human Task Activity Is Not Created Correctly

When you drag a human task activity into a scope activity that includes *one other activity* (for example, an assign), you may see that the information you supplied to create the task definition does not appear; that is, when expanded, the human task activity appears to be empty.

To get the correct results, do one of the following:

- Drag an empty activity (essentially a no-op) into the scope, either above or below the activity that is already inside the scope. Then add the human task activity. You can delete the empty activity later.
- Or, ensure that the human task activity is dropped into the scope *first*, before any other activities.

8.4.15 Creation Dates Are Required for the Worklist Application Productivity Reports

Although the interface does not indicate that a creation date is required to generate a Worklist Application productivity report, a report is not generated unless you supply a creation date.

8.4.16 The Worklist Application Does Not Support SSO or JSSO Authentication

The Worklist Application is a sample application that does not support SSO or JSSO.

To avoid exposing a non-SSO-compliant application such as the Worklist Application in a production environment, do the following:

1. Open the *SOA_Oracle_Home*`/j2ee/home/config/default-web-site.xml` file.
2. Comment out or delete the following line that refers to the application:

```
<web-app application="hw_services" name="worklistapp" load-on-startup="true"
root="/integration/worklistapp" />
```

3. Restart the server.

8.4.17 High CPU Usage When Using a Human Task Activity

In some cases, you may experience a high CPU usage at the database access level when using a human task activity in BPEL. This generally happens if you have a very uneven distribution of task load—say a large number of tasks were created in a short time. This affects the database index behavior. To resolve this issue, your DBA can analyze the relevant tables either periodically (once a day) or when this problem occurs, as follows:

```
analyze table orabpel.wftask compute statistics;
analyze table orabpel.wfassignee compute statistics;
```

8.4.18 Use the Workflow Folder Context Menu (Especially for Form Generation Actions)

Use the workflow folder context menu. The `.task` level context menus do not work.

8.4.19 Human Task E-Mail Notification Does Not Support Multibyte Contents

The contents of an e-mail notification cannot contain multibyte characters.

8.4.20 Multibyte Human Task Name Produces File Not Found Error

If you create a human task activity in a BPEL process and provide a non-ASCII string in the name field of the human task, then you will get a run-time error after the process is deployed and invoked.

Do not use non-ASCII strings for the human task name.

8.4.21 Deployment Errors When the Application Server Connection OC4J Instance Name is Incorrect

You receive a BPEL process deployment error if the OC4J instance name in the application server connection is incorrect. For example, assume the connection is configured to use the default OC4J instance of `home` created with the standalone Oracle BPEL Process Manager for Developers installation option and your SOA environment is actually using the `oc4j_soa` OC4J instance created with an advanced SOA installation option.

If you receive this error, perform the following steps:

1. Go to the **Connection Navigator** in Oracle JDeveloper.
2. Expand **Application Server**.
3. Double-click your application server connection. The Edit Application Server Connection window appears.
4. Click the **Connection** tab.
5. Change the **OC4J Instance Name** field from the default value of `home` to `oc4j_soa`.
6. Click the **Test** tab.
7. Click **Test Connection** to verify that your connection succeeds.
8. Click **OK**.
9. Redeploy your BPEL process.

8.4.22 Creating a Human Task Activity Inside a Switch Activity

If you create a BPEL process, add a switch activity at the top, then add a human task activity in a case branch of the switch activity, you receive an error during BPEL process compilation.

As a workaround, perform the following procedures:

1. Add a sequence activity in the case branch of the switch activity.
2. Add the human task activity inside the sequence.

8.4.23 Human Task Flex Field Mapping Restriction Related to BPEL Process Instances

For human task flex field functionality to work properly, you must perform flex field mapping to the human task payload *after* deploying the corresponding BPEL process and *definitely before* creating a process instance. If a BPEL process instance is created before the flex field mapping is performed, then the corresponding task instances do not contain the flex field data and therefore cannot be displayed or searched.

8.4.24 Identity Service Structural Requirements

The "User and Role Properties" section of *Oracle BPEL Process Manager Developer's Guide* identifies available identity service user properties and requirements for their use. Note the following additional user task escalation requirements for using the identity service.

- The user title attribute is optional for all types of identity service providers.
- The user title attribute can be used in an escalation policy to restrict escalations up to a specified manager title.

- If an escalation policy specifies a manager title at design time, the title must match the user manager title from the user management chain; otherwise, the full management chain for the given user is used.
- At design time, the wildcard character can be specified in the title pattern to find the first user in the management chain whose title matches the pattern. For example, if you want to escalate the task up to the manager whose title is either `Manager`, `Sr.Manager`, or `Dev.Manager`, you can specify `*Manager` in the escalation policy. The task is then escalated to the first manager in the chain whose title matches the `*Manager` pattern. However, if this title is not matched, the full management chain for the given user is used.

  See Also: Chapter 15, "Oracle BPEL Process Manager Workflow Services" of *Oracle BPEL Process Manager Developer's Guide* for additional details about the identity service

8.4.25 Searchable Attributes in LDAP Implementations

Each LDAP implementation defines a list of searchable attributes. This is usually done by creating an index on an attribute. See your third-party LDAP server documentation for additional details. In release 10.1.3.*x*, the mapping of a user's manager attribute is not supported. If you need to map such an attribute, you can use Oracle Virtual Directory (OVD).

8.5 Notification Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.5.1, "Some E-Mail Attachments Are Corrupted When Using ora:readFile"
- Section 8.5.2, "SMS Notification Requires workPhone Attribute"
- Section 8.5.3, "Notification Activity Contents Are Not Visible"
- Section 8.5.4, "Role of NotificationServiceFault in 10.1.3"

8.5.1 Some E-Mail Attachments Are Corrupted When Using ora:readFile

When sending attachments using `ora:readFile`, `.txt` and `.html` e-mail attachments are corrupted in the received e-mail. No problems occur with other attachment types such as `.pdf` and `.doc` attachments.

8.5.2 SMS Notification Requires workPhone Attribute

The SMS notification activity does not accept the `mobile` attribute of the user. Instead, use the `workPhone` attribute.

8.5.3 Notification Activity Contents Are Not Visible

If you create a notification activity (email, fax, pager, SMS, or voice) in the design view, and subsequently switch to the source view and return to the design view, then the notification activity, when expanded, appears empty. However, the details you supplied when you created the activity still exist. They appear in the source view, and the process will deploy correctly. If you are adding attachments to the email activity, for which you need to add assign statements inside the generated scope, then the contents of the scope are also not visible in the design view after switching to the source view.

To view the details of any notification or scope activity that appears empty when expanded, double-click the icon to display the activity dialog. To add attachments to an email activity, use the source view.

8.5.4 Role of NotificationServiceFault in 10.1.3

Starting with 10.1.3, a notification is sent to the e-mail server/messaging gateway asynchronously as follows:

1. The message is first persisted in the JMS queue and database tables.
2. The message is then asynchronously picked up from the JMS queue and delivered to the e-mail server/messaging gateway.

In case of an error:

1. The `NotificationServiceFault` is thrown to the BPEL process/human workflow only for errors that occur during message persistency into the JMS queue/database table.
2. The error that occurs while sending a message to the e-mail server/messaging gateway is caught and the notification is automatically retried.

Note that in case of an error while sending the message to the e-mail server/messaging gateway, the notification service by default tries to resend the message 3 times in 15 minute intervals. If the notification cannot be sent after 3 retries, the messages are marked as `ERROR` and message delivery is not attempted again.

Therefore, once the message is delivered to the notification service, the BPEL process/human workflow task can continue its operation without having to wait for actual message delivery to the e-mail server/messaging gateway.

8.6 Transformation Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.6.1, "Database Functions with JNDI Names Do Not Work Within a MapTest Window"

> **See Also:** Section 8.10.4, "Western European Number Format Issue in Transformations" for a transformation-related issue.

8.6.1 Database Functions with JNDI Names Do Not Work Within a MapTest Window

When you use JNDI names for database functions such as `query-database()`, `lookup-table()`, or `sequence-next-val()`, and try to test the map using the `MapTest` utility, no output is returned. The workaround is to use a JDBC string, instead of a JNDI name.

8.7 XPath Expression Builder Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.7.1, "Hyphens in XPath Expressions"
- Section 8.7.2, "Some Listed XPath Expressions Are Not Appropriate for Human Task Workflow"

- Section 8.7.3, "Null Pointer Error When Using a String Value in the XPath Expression Builder"

8.7.1 Hyphens in XPath Expressions

If you use the XPath Building Assistant to create an XPath expression with hyphens (for example, on the Create Copy Rule window of an assign activity), a blue line displays under the hyphenated element and an error message similar to the following appears:

```
(34) Message part of name xyz-pqr- xyz not found
```

If the hyphenated elements are nested, the XPath Building Assistant does not allow you to proceed with `bpws:getVariableData()`. For example:

```
bpws:getVariableData('ug_in_var','users-and-groups','')
```

This error is most likely encountered when using the Native Format Builder wizard with the file adapter, where the element name defaults to the hyphenated name of `Root-Element`.

In addition, if elements have long names that wrap such as `root = "publicKeyInfrastructureCertificateAuthorities"` and element = `"publicKeyInfrastructureCertificateAuthority"`, XPath expression building also fails. You receive the following error message:

```
"publicKeyInfrastructureCertificateAuthorities" not found
```

Instead, click the **Expression Builder** icon on the Create Copy Rule window to display the XPath Expression Builder window. This window enables you to create an expression that includes hyphens in elements and enables long names to wrap. For example, for hyphens:

```
bpws:getVariableData('ug_in_var','users-and-groups','/ns2:users-and-groups/ns2
:user-or-group/ns2:name')
```

8.7.2 Some Listed XPath Expressions Are Not Appropriate for Human Task Workflow

The XPath Expression Builder does not prevent you from selecting a contextually inappropriate XPath expression. For example, if you try to use `bpws:getVariableData()` within a task definition (to set early task expiration, for example), rather than the correct XPath expression, `hwf:getNumberOfTaskApprovals()`, the interface allows you to proceed until you eventually get an error message such as "Failed to initialize the XPath Expression Builder."

8.7.3 Null Pointer Error When Using a String Value in the XPath Expression Builder

When you use a string value in the XPath Expression Builder during a copy operation within an assign activity, the stack trace will show errors. However, the errors can be ignored. There is no loss of functionality.

8.8 Oracle BPEL Control and Oracle BPEL Server Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.8.1, "Domain Names Must Be in Lower Case"

- Section 8.8.2, "Safari Browser Is Not Supported"
- Section 8.8.3, "Oracle BPEL Control Reports"
- Section 8.8.4, "Unable to Delete a Domain or Recreate a Domain with the Same Name"
- Section 8.8.5, "Error in Oracle BPEL Server Window When Reloading a BPEL Process Can Be Ignored"
- Section 8.8.6, "Oracle BPEL Control Displays an Out-of-Memory Error and Oracle BPEL Server Restarts"
- Section 8.8.7, "Logging In to Oracle BPEL Control Using Oracle Access Manager"
- Section 8.8.8, "Creating BPEL Test Reports in Junit Format"
- Section 8.8.9, "Error Messages Returned by Oracle Web Services Manager to Oracle BPEL Process Manager"

8.8.1 Domain Names Must Be in Lower Case

When you create domains in Oracle BPEL Admin Console, ensure that you *only* specify names in lower case.

8.8.2 Safari Browser Is Not Supported

Do not use the Safari browser to access Oracle BPEL Control. This browser is not supported. See *Oracle BPEL Process Manager Developer's Guide* or *Oracle BPEL Process Manager Installation Guide* for a list of supported browsers.

8.8.3 Oracle BPEL Control Reports

Note the following issues when using Oracle BPEL Control reports:

- The **End Date** field format in the **Query** section is **mm/dd/yy** for *all* languages.
- Activity sensor reports show only variables of type number (for example, integer, double, decimal, and float). Nonnumeric types are not supported for this release. In addition, data is only shown for activity sensors with **Evaluation Time** set to **All** in the Create Activity Sensor window of Oracle JDeveloper.
- If Albany fonts are not installed, fonts may not display properly for Asian languages in graphs (appear as squares). Albany fonts are automatically installed if you select the proper Asian language during installation.
- When clicking a bar in the performance report graph, the Instances page that appears sometimes does not display the correct list of instances. This is because the service level agreement (SLA) value in decimals is rounded off to the nearest integer. For example, assume there are two instances: one completes in three seconds and the other completes in two seconds. The SLA value is 2.6 seconds. The graph displays one instance in the green portion (indicating that the SLA value was satisfied) and the other in the red portion (indicating that the SLA value was not satisfied). Clicking the red portion does not show any instances. This is because the SLA value is rounded off to three seconds and therefore becomes equal to the completion time of the first instance.
- The default SLA value is shown in performance reports only when at least one instance of the business process is created.
- The **End Hour** field is used only for hourly reports, and *not* daily or weekly reports. For example, if you enter **07/29/05** as the end date, **22:00** as the end hour,

Weekly as the time interval, and **3** as the time interval, the report is generated between **07/08/05** and **07/29/05**. Instances in any hour (even at 23:00 or 0:00) are also considered even though the end hour is 22:00. The same case exists for daily reports. Only with hourly intervals is report generation stopped at 22:00 hours.

8.8.4 Unable to Delete a Domain or Recreate a Domain with the Same Name

If you are unable to delete a domain or recreate a deleted domain with the same name in Oracle BPEL Admin Console (a message indicates the domain already exists), perform the following steps:

1. Go to Oracle BPEL Control.
2. Select the **BPEL Processes** tab, then select **Clear WSDL Cache**.

8.8.5 Error in Oracle BPEL Server Window When Reloading a BPEL Process Can Be Ignored

If you can ignore the following error. The class referred to is not being loaded.

```
***Unable to find class oracle.tip.tools.ide.pm.addin.BPELOptions.
***This object will be loaded as null.
```

8.8.6 Oracle BPEL Control Displays an Out-of-Memory Error and Oracle BPEL Server Restarts

From Oracle BPEL Control, you may see the following error message, followed by the server apparently restarting and the errors disappearing:

```
500 Internal Server Error java.lang.OutOfMemoryError: PermGen space" ...
```

Try changing the `MaxPermSize` JVM parameter in `opmn.xml` to a higher value, as in

```
<data id="java-options" value="-server -XX:MaxPermSize=128M
-ms512M -mx1024M -XX:AppendRatio=3
-Djava.security.policy=$ORACLE_HOME/j2ee/oc4j_soa/config/
java2.policy -Djava.awt.headless=true -Dhttp.webdir.enable=false -D
oraesb.home=/scratch/rxvenkat/soa/atsoa0701/integration/esb
-Dhttp.proxySet=false
-Doc4j.userThreads=true -Doracle.mdb.fastUndeploy=60
-Dorabpel.home=/scratch/rxvenkat/soa/atsoa0701/bpel
-Xbootclasspath^/p:/scratch/rxvenkat/soa/atsoa0701/bpel/lib/orabpel-boot.jar
-Dhttp.proxySet=false"/>
```

8.8.7 Logging In to Oracle BPEL Control Using Oracle Access Manager

Oracle BPEL Control uses the permission grants for users and roles that are provided in `system-jazn-data.xml`. If you log in to Oracle BPEL Control using Oracle Access Manager (formerly COREid), then the JAZN users and roles must be mapped to users recognized by COREid. The following example uses the OracleAS JAAS Provider Admintool to accomplish this. (The example assumes that the principal name is `orcladmin`.)

```
% java -jar jazn.jar -grantperm oracle.security.jazn.realm.CoreIDPrincipal\
orcladmin com.evermind.server.rmi.RMIPermission login
```

This results in the following configuration in the `system-jazn-data.xml` file.

```
<jazn-policy>
```

```
  <grant>
    <grantee>
      <principals>
        <principal>
          <class>oracle.security.jazn.realm.CoreIDPrincipal</class>
          <name>orcladmin</name>
        </principal>
      </principals>
    </grantee>
    ...
    <permissions>
      <permission>
        <class>com.evermind.server.rmi.RMIPermission</class>
        <name>login</name>
      </permission>
      ...
    </permissions>
    ...
  </grant>
  ...
</jazn-policy>
```

See *Oracle Containers for J2EE Security Guide* for more information on Oracle Access Manager and on granting RMI permission to Oracle Access Manager principals.

8.8.8 Creating BPEL Test Reports in Junit Format

To run BPEL tests, download the following Apache-licensed JAR files.

> **Note:** You must rename the downloaded JAR files as described in these steps.

1. Go to `http://www.apache.org/dyn/closer.cgi/xml/xalan-j`
2. Download `xalan-j_2_7_0-bin.zip` from the recommended mirror site.
3. Unzip the file.
4. Copy *unzip_dir*`/xalan-j_2_7_0/`**`serializer.jar`** to *SOA_Oracle_Home*`/bpel/lib/`**`serializer_2.7.0.jar`**.
5. Copy *unzip_dir*`/xalan-j_2_7_0/`**`xalan.jar`** to *SOA_Oracle_Home*`/bpel/lib/`**`xalan_2.7.0.jar`**.

8.8.9 Error Messages Returned by Oracle Web Services Manager to Oracle BPEL Process Manager

When Oracle BPEL Process Manager services are integrated and authenticated through Oracle Web Services Manager (OWSM), and an authentication or authorization error occurs in OWSM, a generic exception message is returned to the Oracle BPEL Process Manager instance. This message may not adequately describe the error.

8.9 Oracle BPEL Portlets Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.9.1, "Oracle BPEL Control Report Portlets"

- Section 8.9.2, "Oracle BPEL Worklist Application Portlets"

8.9.1 Oracle BPEL Control Report Portlets

Note the following issues when using Oracle BPEL Control report portlets:

- To use Oracle BPEL Control report portlets, move the `uix2.jar` file from *SOA_Oracle_Home*`\bpel\lib` to a different directory (for example, `C:\OraMidTier\bpel\temp-lib`) and include this library path in the *SOA_Oracle_Home*`\j2ee\OC4J_BPEL\config\application.xml` file:

  ```
  <library path="C:\OraMidTier\bpel\temp-lib"/>
  ```

- If you want to map portlet parameters with page parameters in Oracle Application Server Portal, the default value for the Oracle BPEL Control report portlet page parameter **Time Interval** parameter must always be in capital letters (for example, **DAILY**, **WEEKLY**, or **HOURLY**). Mapping portlet parameters with page parameters is described in section "Step 5: Mapping Portlet Parameters with Page Parameters" of the chapter "Oracle BPEL Portlets" of the *Oracle BPEL Process Manager Developer's Guide*.

8.9.2 Oracle BPEL Worklist Application Portlets

Note the following issues when using Oracle BPEL Worklist Application portlets:

- First deploy the Oracle BPEL Portlets through `dcmctl` or Enterprise Manager, and then run the following script:

  ```
  /SOA_Oracle_Home/bpel/system/services/install/ant-tasks/configure_oid.sh
  ```

  Next manually include the entry `<jazn provider="LDAP" jaas-mode="doAsPrivileged"/>` in the following file:

  ```
  SOA_Oracle_Home/j2ee/OC4J_BPEL/application-deployments/
  provider-name/orion-application.xml
  ```

  See the *Oracle BPEL Process Manager Developer's Guide* for instructions on deploying the Oracle BPEL Portlets with `dcmctl`.

- To use the Oracle BPEL Worklist Application portlets, move the `uix2.jar` file from *SOA_Oracle_Home*`\bpel\lib` to a different directory (for example, `C:\OraMidTier\bpel\temp-lib`) and include this library path in the *SOA_Oracle_Home*`\j2ee\OC4J_BPEL\config\application.xml` file:

  ```
  <library path="C:\OraMidTier\bpel\temp-lib"/>
  ```

- To use the Oracle BPEL Worklist Application portlets, move the `uix2.jar` file from *SOA_Oracle_Home*`/bpel/lib` to a different directory (for example, `SOA_Oracle_home/bpel/temp-lib`) and include this library path in the *SOA_Oracle_Home*`/j2ee/oc4j_soa/config/application.xml` file:

  ```
  <library path="SOA_Oracle_Home/bpel/temp-lib"/>
  ```

- Long strings of more than 360 characters in portlet titles are not handled properly

  When specifying parameter values in the BPEL Worklist Portlet and BPEL Worklist Analysis Portlet, do not use long titles such as URL addresses in the **Title** field of the **Display Customization** sections. Long titles can disturb the portlet layout and cause the **Personalize** link in the upper right corner to not work.

- Worklist portlet title bar does not display the first time

When you initially install Oracle Application Server Portal, register the Web provider, create an initial page group, and add the Oracle BPEL Worklist Application portlets to the page group, the title bar does not appear. This means you cannot access the Personalize link that appears in the upper right corner of the title bar. As a workaround, create a second page group and add the Oracle BPEL Worklist Application portlets to the group. This group, and all subsequent groups you create, display the title bar and the Personalize link.

- All task states display in BPEL Worklist Portlet

  When you select **All** or **Previous** in the **Category** list and **Assigned** in the **Status** list of the **Task Customization** sections of the BPEL Worklist Portlet, you see the state of *all* tasks, not just those identified as **Assigned**.

8.10 Globalization/Multibyte Character Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.10.1, "Ruler Scale Is Not Multibyte-Compliant in the Native Format Builder Wizard"
- Section 8.10.2, "Encoding Issue for ora:readFile"
- Section 8.10.3, "Installing Oracle BPEL Process Manager for Traditional Chinese"
- Section 8.10.4, "Western European Number Format Issue in Transformations"

8.10.1 Ruler Scale Is Not Multibyte-Compliant in the Native Format Builder Wizard

If you select the fixed length file type in the Native Format Builder wizard, the ruler on the Field Lengths window that enables you to specify field length for each record is not multibyte-compliant.

8.10.2 Encoding Issue for ora:readFile

The extended XPath function `ora:readFile` requires a file directory path as the first parameter. These functions read the specified file by using OS-default encoding. This is not an issue if the specified file is in the local file system. However, if the specified path is a URL, the target file is not always encoded in OS-default encoding.

8.10.3 Installing Oracle BPEL Process Manager for Traditional Chinese

If you want to install Oracle BPEL Process Manager for use in Traditional Chinese, then you must use `zh_TW.big5` instead of `zh_TW.eucTW`.

8.10.4 Western European Number Format Issue in Transformations

In many Western European locales such as German or French, the default decimal point is a comma (,) instead of the dot (.). In that case, the mathematical function in a transform activity, such as `ADD` and `SUBTRACT`, gives an output using the comma as a decimal point, although the input numbers of the function are using a dot.

To work around this issue, add a decimal-format function to overwrite the default format. The following is an example for `ADDITION`.

```
<xsl:decimal-format name="usa" decimal-separator="."/>
<xsl:template match="/">
   <tns:Root-Element>
      <tns:Price>
```

```
            <tns:price1>
               <xsl:value-of select="/tns:Root-Element/tns:Price/tns:price1"/>
            </tns:price1>
            <tns:price2>
               <xsl:value-of select="/tns:Root-Element/tns:Price/tns:price2"/>
            </tns:price2>
            <tns:price3>
               <xsl:value-of
                   select="format-number((/tns:Root-Element/tns:Price/tns:price1 -
                   /tns:Root-Element/tns:Price/tns:price2), '#.00', 'usa')"/>
            </tns:price3>
         </tns:Price>
      </tns:Root-Element>
   </xsl:template>
```

8.11 Sample Demos and Tutorials Issues and Workarounds

This section describes the following issues and workarounds:

- Section 8.11.1, "Missing Content in the readme.txt file for the XAInsert Sample"
- Section 8.11.2, "Further Explanation About the BankTransferFlow and BankTransferFlowWith Compensation Demos"
- Section 8.11.3, "No Audit Trail for the BankTransferFlow and BankTransferFlowWith Compensation Demos"

8.11.1 Missing Content in the readme.txt file for the XAInsert Sample

The following content is missing from the end of the `readme.txt` file for the XAInsert sample, found at

SOA_Oracle_Home`/bpel/samples/tutorials/122.DBAdapter/advanced/dmlInvoke/XAInsert`

After "The only way to debug the instance is to switch from using an XA data source to using a non-XA data source," add the following:

However, to set-up a nontransactional data source, if you have

```
xADataSourceName=""
dataSourceName="loc/BPELSamplesDataSource"
```

Also, configure the corresponding data source to have `tx-level="local"` in `data-sources.xml`, as in the following example:

```
<managed-data-source name="DBSamplesDataSource2"
connection-pool-name="dbSample_CONNECTION_POOL2"
jndi-name="jdbc/DBConnection2DataSource" tx-level="local"/>
```

8.11.2 Further Explanation About the BankTransferFlow and BankTransferFlowWith Compensation Demos

When you deploy the BankTransferFlow or BankTransferFlowWithCompensation demos, and initiate the deployed process from Oracle BPEL Control, you may not find a BPEL instance; rather, the process may appear as a recoverable process. The process was rolled back because the partner link is marked as participating in an XA transaction. Therefore, this is the correct behavior.

8.11.3 No Audit Trail for the BankTransferFlow and BankTransferFlowWith Compensation Demos

After executing the BankTransferFlow and BankTransferFlowWithCompensation demos, no audit trail is available from the Oracle BPEL Control **Audit** link.

The following error message appears:

```
Workitem binary deserialization failed. An attempt to deserialize the workitem
"40015-BpAss5-BpSeq3.3-5" from binary format failed. The exception reported is:
Scope not found. The scope "BpSeq3.3" has not been defined in the current
instance.
```

8.12 Javadoc Errata

This section describes the following issues and workarounds:

- Section 8.12.1, "ASSIGNMENT_FILTER_ALL Is Not Supported"
- Section 8.12.2, "Correct Argument for oracle.bpel.services.workflow.query.ITaskQueryService.queryViewTasks"
- Section 8.12.3, "Classes Not Included in the Javadoc"

8.12.1 ASSIGNMENT_FILTER_ALL Is Not Supported

The following option is not supported in release 10.1.3.1.0 and beyond:

```
oracle.bpel.services.workflow.query.ITaskQueryService.ASSIGNMENT_FILTER_ALL
```

The Java documentation lists `ASSIGNMENT_FILTER_ALL` as one of the filters, but the service does not support this filter.

To fetch all tasks that you can view, you must fetch tasks using each of the applicable filter options repeatedly; for example, use `ASSIGNMENT_FILTER_MY_AND_GROUP`, then `ASSIGNMENT_FILTER_REPORTEES`, then `ASSIGNMENT_FILTER_CREATOR`, then `ASSIGNMENT_FILTER_OWNER`, and so on.

8.12.2 Correct Argument for oracle.bpel.services.workflow.query.ITaskQueryService.queryViewTasks

The Java documentation for the following method is incorrect:

```
oracle.bpel.services.workflow.query.ITaskQueryService.queryViewTasks
```

Incorrect second argument:

```
oracle.bpel.services.workflow.user.model.UserViewDetailType userViewDetail
```

Correct second argument:

```
java.lang.String viewId
```

The `viewId` is the ID of the view for which the tasks need to be retrieved.

8.12.3 Classes Not Included in the Javadoc

The following classes are not included in the Oracle BPEL Process Manager Workflow Services API Reference Javadoc:

- `oracle.bpel.services.workflow.metadata.taskattributes.TaskAttributesUtil`
- `oracle.bpel.services.workflow.query.ITaskQueryService.ITaskQueryService.TASK_ACTIONS_TYPE_GROUP_ACTIONS`
- `oracle.bpel.services.workflow.user.impl.UserMetadataUtil`
- `oracle.bpel.services.workflow.worklist.*`

8.13 Documentation Errata

This section describes documentation errata.

- Section 8.13.1, "Deploying BPEL Processes in a Cluster"
- Section 8.13.2, "Setting up BPEL in a High Availability Configuration"
- Section 8.13.3, "Creating Users and Groups to Access New and Existing BPEL Domains"
- Section 8.13.4, "Password Entry Required in User Credentials File"
- Section 8.13.5, "Explicitly Setting optSoapShortcut in the domain.xml File"
- Section 8.13.6, "Updated syncMaxWaitTime Property Definition"
- Section 8.13.7, "Incorrect Names in Developer's Guide for ROUND_ROBIN, MOST_PRODUCTIVE, and LEAST_BUSY Dynamic Assignment Functions"
- Section 8.13.8, "Online Help for Property Tab of Partner Link Window is Incorrect"
- Section 8.13.9, "Invalid Namespace Prefix for getFaultAsString Function"

8.13.1 Deploying BPEL Processes in a Cluster

Section "Compiling and Deploying a BPEL Process" of Chapter 19, "BPEL Process Deployment and Domain Management" of the *Oracle BPEL Process Manager Developer's Guide* includes the following note:

You must wait for deployment of one BPEL process to complete before attempting to deploy another process. Attempting to deploy a second process while the first process is still deploying can cause problems.

This statement is incorrect and should be ignored when deploying BPEL processes in a cluster. Instead, you must explicitly deploy the BPEL process to all nodes in the BPEL cluster environment, as described in section Section 8.1.8, "Deploying BPEL Processes to All Nodes in a Cluster" of these release notes.

8.13.2 Setting up BPEL in a High Availability Configuration

Chapter 5, "Oracle BPEL Process Manager Clustering" in *Oracle BPEL Process Manager Installation Guide 10g Release 3 (10.1.3.1.0) for UNIX and Microsoft Windows* describes only a subset of the recommended steps for setting up BPEL in a high availability configuration. Refer to *Oracle Application Server Enterprise Deployment Guide 10g Release 3 (10.1.3.3.0)* for the complete steps.

8.13.3 Creating Users and Groups to Access New and Existing BPEL Domains

Section "Oracle BPEL Control and Oracle BPEL Admin Console Users and Roles" of the *Oracle BPEL Process Manager Administrator's Guide* provides syntax examples of

how to create users and groups to access new and existing BPEL domains. Several syntax examples are provided, including the following:

```
java -Xbootclasspath/a:/home/oc4j/bpel/lib/orabpel-boot.jar -jar jazn.jar
-shell -grantperm jazn.com -user soaAdmin com.collaxa.security.DomainPermission
soaAdmin all
```

These syntax examples should be entered in several steps, and not on one single line. For example:

1. Enter the syntax portion up through the `-shell` option.

   ```
   java -Xbootclasspath/a:/home/oc4j/bpel/lib/orabpel-boot.jar -jar jazn.jar
   -shell
   ```

   The `-shell` option opens the Admintool shell.

2. Enter the remaining syntax in the shell prompt, noting that a dash (`-`) in front of `grantperm` is not required.

   ```
   JAZN:> grantperm jazn.com -user soaAdmin com.collaxa.security.DomainPermission
   soaAdmin all
   ```

3. Enter `exit` when done to close the Admintool shell and return to the operating system command prompt.

   ```
   JAZN:> exit
   ```

See Also: Appendix C of the *Oracle Containers for J2EE Security Guide* for instructions on using the Admintool shell.

8.13.4 Password Entry Required in User Credentials File

Section "How to Set Up a File with User Credentials" in Chapter "Securing the System" of the *Oracle SOA Suite Developer's Guide* describes how to create a file with user credentials by using a text editor such as Notepad or vi. This section says to create a single user name entry in the file. For example:

```
bill:
```

This is incorrect. You must also enter a user password in this file. For example:

```
bill:oracle
```

8.13.5 Explicitly Setting optSoapShortcut in the domain.xml File

Oracle BPEL Process Manager Developer's Guide incorrectly states that the optSoapShortcut property can be set in Oracle BPEL Control. This property no longer displays in Oracle BPEL Control. Instead, it is implicitly set to `true` in the *`SOA_Oracle_Home`*`\bpel\domains\`*`domain_name`*`\config\domain.xml` file. If you need to change this property to another value, you must add the following syntax to the `domain.xml` file. For example:

```
<property id="optSoapShortcut">
   <value=false</value>
</property>
```

See Also: *Oracle Application Server Performance Guide* for additional details about the `optSoapShortcut` property

8.13.6 Updated syncMaxWaitTime Property Definition

The definition for the `syncMaxWaitTime` property in section "syncMaxWaitTime BPEL Property" of chapter "Oracle BPEL Process Manager Performance Tuning" of the *Oracle Application Server Performance Guide* should read as follows:

This property sets the maximum time the process result receiver waits for a result before returning. Results from synchronous durable BPEL processes are retrieved synchronously by a receiver that waits for a result. Synchronous, transient BPEL processes are not subject to this property, as the same thread that processes the process is used to return the result. If the BPEL process is durable, a portion of the process must be performed asynchronously. Therefore, the client thread must wait for the result from the background thread.

8.13.7 Incorrect Names in Developer's Guide for ROUND_ROBIN, MOST_PRODUCTIVE, and LEAST_BUSY Dynamic Assignment Functions

In some places in Chapter 15, "Oracle BPEL Process Manager Workflow Services" of *Oracle BPEL Process Manager Developer's Guide*, the dynamic assignment function names contain incorrect case sensitivity and use a dash instead of an underscore. The correct names to use are as follows:

- `ROUND_ROBIN`
- `MOST_PRODUCTIVE`
- `LEAST_BUSY`

8.13.8 Online Help for Property Tab of Partner Link Window is Incorrect

The online help for the **Property** tab of the Create Partner Link or Edit Partner Link window states that partner link properties are simple name-value pair properties that are defined and can be accessed at runtime by the BPEL process. The value of a property can be changed from Oracle BPEL Console at runtime without having to redeploy the BPEL process.

This statement is not correct. You can only change activation agent properties at runtime. There are two kinds of partner links:

- Those associated with a receive activity (inbound, activation)
- Those associated with an invoke activity (outbound, Web services invoke)

Only the polling process properties associated with the receive activity can be changed at runtime.

8.13.9 Invalid Namespace Prefix for getFaultAsString Function

Section "Getting Fault Details with the getFaultAsString XPath Extension Function" of Chapter "Fault Handling" of *Oracle BPEL Process Manager Developer's Guide* shows the following code sample:

```
<assign>
   <from expression="bpelx:getFaultAsString()"/>
   <to variable="faultVar" part="message"/>
</assign>
```

The correct namespace prefix for `getFaultAsString` is `ora`, and not `bpelx`.

9 Oracle Web Services Manager

This chapter describes issues associated with Oracle Web Services Manager (Oracle WSM). It includes the following topics:

- Section 9.1, "General Issues and Workarounds"
- Section 9.2, "Configuration Issues and Workarounds"
- Section 9.3, "Documentation Errata"

9.1 General Issues and Workarounds

This section describes general issues and workaround. It includes the following topics:

- Section 9.1.1, "Basic Standalone Installation Cannot be Migrated"
- Section 9.1.2, "Starting the Oracle WSM Server"
- Section 9.1.3, "Error on Import Services Page"
- Section 9.1.4, "Step Instance Creates One or More Long-Lived Connection to the Directory"
- Section 9.1.5, "Deploying Oracle Web Services Manager Monitor"
- Section 9.1.6, "Accessing a Virtualized Web Service"
- Section 9.1.7, "Valid User Names and Passwords"
- Section 9.1.8, "Multibyte User Names and Passwords"
- Section 9.1.9, "Date and Time Format"
- Section 9.1.10, "Using Non-Unicode Character Sets in the Database"
- Section 9.1.11, "BouncyCastle is the Supported Security Provider for PKCS #12 Certificates"
- Section 9.1.12, "Securing Oracle WSM Components over SSL"

9.1.1 Basic Standalone Installation Cannot be Migrated

The Basic standalone installation is a compact deployment that is suitable for training, proof-of-concept, and pre-production development and testing, but it is not intended for full-scale production. Standalone installations of Oracle Web Services Manager, installed in Basic mode, cannot be migrated to production environments.

9.1.2 Starting the Oracle WSM Server

There are two Readme files in the ORACLE_HOME directory: Readme.txt and OC4J_Readme.txt. There are instructions in the OC4J_Readme.txt file for starting the Oracle Application Server. If you have installed Oracle WSM as a standalone installation, these instructions will not start the Oracle WSM Server correctly.

For the standalone Oracle WSM installation, follow the instructions for starting the Oracle WSM Server in the file named Readme.txt, and refer to the *Oracle Web Services Manager Administrator's Guide* for additional information.

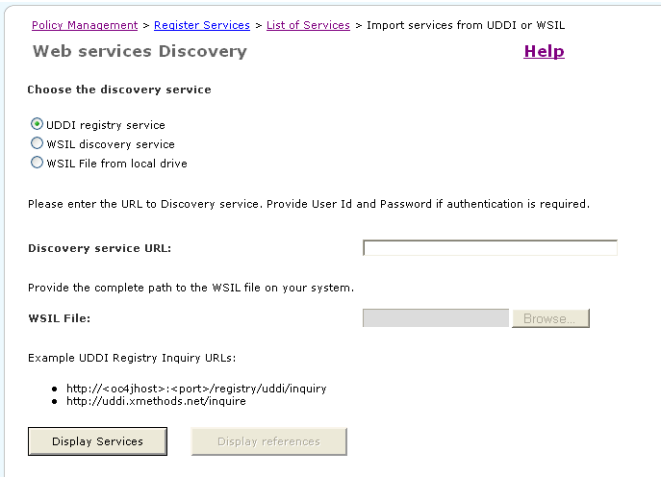
9.1.3 Error on Import Services Page

There is no User ID or Password field on the Web services Discovery page. However, you will see the following instruction on this page (Figure 9–1):

Please enter the URL to Discovery service. Provide User Id and Password if authentication is required.

Ignore the second sentence referring to the user ID and password.

Figure 9–1 Import Services Page



9.1.4 Step Instance Creates One or More Long-Lived Connection to the Directory

Each policy step instance creates one or two long-lived connection to the Active Directory or LDAP directory. In a production environment, this may cause connection overloading during user authentication against an LDAP or Active Directory server.

The default value of the connection lifetime parameter, 0 milliseconds, ensures that the connection is never timed out.

To provide a workaround for this behavior, you need to tune the connection lifetime parameter as follows:

1. Open the following file:

   ORACLE_HOME/opmn/conf/opmn.xml

2. Find the `process-type id` whose value is the name of the instance in which Oracle Web Services Manager is installed. This may be `"home"`, or it could be another instance name. For example:

   ```
   ...
   ```

```
<ias-component id="default_group">
   <process-type id="home" module-id="OC4J" status="enabled">
...
```

3. Find the `data id="java-options"` in the `category id="start-parameters"` section of the file.

```
...
<category id="start-parameters">
   <data id="java-options" value="-server -XX:MaxPermSize=128M .../>
</category>
...
```

4. Add the connection lifetime parameter under java-options. For example:

   `-Doracle.wsm.directory.timeout=3600000`

   Talk to your Active Directory or LDAP system administrator for the value for timing out the connection.

5. Restart the server for the configuration changes to take effect.

9.1.5 Deploying Oracle Web Services Manager Monitor

When you deploy the Oracle Web Services Manager Monitor on Linux, you get the following error: "Target 'install.deployCoreman' does not exist in this project. " The cause for this error is a typographical error in the Linux version of the Configuration Assistant (wsmadmin.sh). Edit the *ORACLE_HOME*`/owsm/bin/wsmadmin.sh` file, and replace both occurrences of the string "install.deployCoreman" with "install.deployMonitor". These should appear on lines 169 and 170 of the script.

This problem does not exist with the Windows version of the Configuration Assistant (wsmadmin.bat).

9.1.6 Accessing a Virtualized Web Service

When you try to access the WSDL for a Web service that has been virtualized by the Oracle Web Services Manager Gateway, you may get a "500 internal server error." This problem occurs if the gateway application is deployed with a new component ID. To correct this problem, restart the application server.

9.1.7 Valid User Names and Passwords

Using non-alphanumeric characters in user names, user passwords, and group IDs may cause errors. For example, backslashes (\) and single quotes (') are invalid characters. Therefore, Oracle recommends using only alphanumeric characters in user name, user passwords, and group IDs.

9.1.8 Multibyte User Names and Passwords

There is a limitation on the character set encoding of characters in the property files. You may use characters that belong to the ISO 8859-1 character set in the property files. If you want to use characters that belong to any other character set, you must convert them to escaped UTF-8 characters. For example, to use a multibyte character in a user name or password, you must convert the multibyte character to an escaped UTF-8 character. If you do not convert characters, you will not get the intended result.

9.1.9 Date and Time Format

Date and time format are not localized on the following pages of the Web Services Manager Control Console:

- Alarm List
- Stress Report
- Flow Detail
- My Views

Date and time always appear in the U.S. English locale. There is no workaround for this.

9.1.10 Using Non-Unicode Character Sets in the Database

Oracle WSM encodes data in the UTF-8 character set, and it supports UTF-8 as the character set for the database. If you are using another character set for the database, you may encounter some problems with data conversion between the database character set and UTF-8. For example, if the character set of the database is Big 5 (Traditional Chinese), there is a known problem when you use spaces in the name of a component (that is, the name of an agent or a gateway). The space is converted to its XML encoding ( ). Therefore, if you enter *Acme Gateway*, it is stored in the database as *Acme Gateway*. However, when the data is retrieved, it does not get correctly converted to *Acme Gateway.* Instead you will see *Acme?Gateway.* There is no workaround that allows you to use spaces. If you are using the Big 5 character set, Oracle recommends that you do not use spaces in the component names to avoid unintended results.

9.1.11 BouncyCastle is the Supported Security Provider for PKCS #12 Certificates

Oracle WSM supports the use of PKCS #12 (PKCS12) certificates for message confidentiality and message integrity. Oracle WSM 10*g* Release 3 (10.1.3.1.0) supports PKCS12 only with BouncyCastle as the security provider.

The following procedure describes how to create a keystore with BouncyCastle as the security provider.

1. On the computer where Oracle WSM is installed, locate the following file.

   ORACLE_HOME/jdk/lib/security/java.security

2. Find the section of the file with the heading, "List of providers and their preference orders."

   Add the following entry:

   ```
   security.provider.preference_
   order=org.bouncycastle.jce.provider.BouncyCastleProvider
   ```

   above the following line:

   ```
   security.provider.preference_order_+1=com.sun.net.ssl.internal.ssl.Provider
   ```

   The variable, *preference_order*, is the order in which providers are searched for requested algorithms when no specific provider is requested.

   The entries in the file should look similar to the following:

   ```
   security.provider.1=sun.security.provider.Sun
   security.provider.2=sun.security.rsa.SunRsaSign
   ```

```
security.provider.3=org.bouncycastle.jce.provider.BouncyCastleProvider
security.provider.4=com.sun.net.ssl.internal.ssl.Provider
security.provider.5=com.sun.crypto.provider.SunJCE
security.provider.6=sun.security.jgss.SunProvider
security.provider.7=com.sun.security.sasl.Provider
```

3. Copy the following file
ORACLE_HOME/owsm/lib/extlib/bcprov-jdk14-119.jar\owsm\lib\extlib\bcprov-jdk14-119.jar
to the
ORACLE_HOME/jdk/jre/lib/ext directory.

4. From the *ORACLE_HOME*/jdk/jre/bin directory, execute the following command:

```
keytool -genkey -alias private_key -keyalg RSA -keystore apkcs12keystore.p12
 -storepass password -storetype pcks12 -v -provider
 org.bouncycastle.jce.provider.BouncyCastleProvider
```

The variable *private_key* is the alias for the key, and *password* is the password for the alias. For more information on how to use this tool, refer to Java JDK documentation on Security Tools (http://java.sun.com/j2se/1.5.0/docs/tooldocs/index.html#security).

9.1.12 Securing Oracle WSM Components over SSL

There is a known problem when securing OC4J components (Web Services Manager Control and Oracle WSM Policy Manager) using SSL. The components are redeployed in order to register the port that listens for the HTTPS connections. However, because of a limitation, when you redeploy the components, the settings that specify which components are secured using SSL revert to the default settings. The components stop communicating with Oracle WSM Policy Manager because of a mismatch in port settings. The workaround is to follow these steps:

1. Decide which port will be used for your HTTPS connections.

2. Configure the truststore using keytool, a Java key and certificate management tool.

```
keytool -genkey -keyalg algorithm -alias server_alias
-keystore  keystore_file
```

For more information on how to use this tool, refer to Java JDK documentation on Security Tools (http://java.sun.com/j2se/1.5.0/docs/tooldocs/index.html#security).

3. In the following file: *ORACLE_HOME*/owsm/config/gateway/gateway-config-installer.properties

find the gateway.policymanagerURL property, and enter the following value:

```
gateway.policymanagerURL=https://hostname:SSL_port/policymanager
```

The variable, *hostname*, is the host on which the Oracle Policy Manager resides, and *SSL_port* is the port to which SSL connections are made.

4. In the following file: *ORACLE_HOME*/owsm/config/ccore/ui-config-installer.properties

find the following properties, and set them as shown:

```
ui.pm.server.httpScheme=https
ui.pm.server.httpPort=SSL_port
```

The variable, *SSL_port*, is the port to which SSL connections are made.

5. Then redeploy the Web Services Control application and the Oracle WSM Gateway application.

```
wsmadmin deploy password gateway
wsmadmin deploy password ccore
```

For more information on deploying Oracle WSM components, see *Oracle Web Services Manager Deployment Guide*.

Note: Because of the known limitation, the Web Services Manager Control and the Oracle WSM Gateway will temporarily be unable to connect to the Oracle WSM Policy Manager. You must complete the remaining steps. After you complete the last step, that is, you restart the Oracle Application Server, the components will be properly configured to communicate over the HTTPS ports.

---

6. Secure the OC4J components using SSL. Follow the instructions in *Oracle Web Services Manager Deployment Guide*, Chapter 4, "Securing Oracle Web Services Manager Components over SSL," in the section, "Securing OC4J Using SSL."

7. Secure the communication between the OC4J components. Follow the instructions in *Oracle Web Services Manager Deployment Guide*, Chapter 4, "Securing Oracle Web Services Manager Components over SSL," in the section, "Configuring the Truststore in SSL Connections." Depending on whether your deployment an OPMN-managed deployment or it is a standalone OC4J deployment, you will performing one of the two procedures documented in this section.

   In addition, there is one additional step that you must perform:

   - If you are performing the procedure in the "OPMN-Managed Deployments" section, then add the following trustore properties in step 2. These properties are in addition to the properties already mentioned in step 2.

     ```
     -Djavax.net.ssl.keyStore=keystore_location
     -Djavax.net.keyStorePassword=password
     ```

     The variable, *keystore_location*, is the path to the location of the keystore, and *password* is the password to the keystore.

   - If you are performing the procedure in the "Standalone OC4J Server Deployments" section, then add the following truststore properties as part of step 2. These properties are in addition to the properties already mentioned. in step 2.

     ```
     <sysproperty key="javax.net.ssl.keyStore" value="keystore_location"/>
     <sysproperty key="javax.net.ssl.keyStorePassword" value="password"/>
     ```

     The variable, *keystore_location*, is the path to the location of the keystore, and *password* is the password to the keystore.

8. Restart Oracle Application Server.

9.2 Configuration Issues and Workarounds

This section describes configuration issues and their workarounds. It includes the following topics:

- Section 9.2.1, "NFS-Mounted Installations"
- Section 9.2.2, "XE DB Settings"
- Section 9.2.3, "Out of Memory Exception"
- Section 9.2.4, "Web Browser Times Out"
- Section 9.2.5, "Oracle Access Manager SDK Path"
- Section 9.2.6, "Invoking Service from a Proxy Server"

9.2.1 NFS-Mounted Installations

You may encounter an error when installing Oracle WSM on an NFS-mounted device. This error is the result of a timing problem on NFS-mounted devices and occurs during the running of the Oracle WSM Configuration Assistant. The error you see will be similar to the following:

```
dataload-clean;
delete] Deleting directory ORACLE_HOME/product/instance_name/owsm/db
BUILD FAILED
ORACLE_HOME/product/instance_name/owsm/scripts/install.xml:1971:
The following error occurred while executing this line:
ORACLE_HOME/product/instance_name/owsm/scripts/dataload.xml:159:
Unable to delete directory
ORACLE_HOME/product/instance_name/owsm/db
...
```

To work around this problem, complete the following procedure:

1. Edit the *ORACLE_HOME*/owsm/scripts/dataload.xml file.
2. Edit the following line:

   ```
   <delete dir="${dataload.generateSql.rootDirectory}" />
   ```

   Add the text in bold to this line:

   ```
   <delete quiet="true"
   dir="${dataload.generateSql.rootDirectory}" />
   ```

3. Click **Retry** to continue configuring Oracle WSM.
4. After you have successfully configured Oracle WSM, delete the following directory: *ORACLE_HOME*/owsm/db.

9.2.2 XE DB Settings

Using an Oracle XE database with Oracle WSM may present connection problems. This is a known error that sometimes occurs with Oracle XE database client, but presents an intermittent problem for Oracle WSM.

To work around this limitation you may need to increase the value of the database parameter PROCESSES. The default value for this parameter setting is 40, but you may try to increase the value to 64. If required, you can further increase the value of this parameter.

9.2.3 Out of Memory Exception

You may get an out of memory exception if the Oracle WSM is configured so that its runtime memory requirements exceed the JVM default configuration. One known situation where this can occur is if you patch Oracle WSM 10.1.3 to 10.1.3.1.

To avoid this error, you need to increase the size of the Java heap.

To change the values of the Java heap

1. Log in to Oracle Enterprise Manager 10*g* Application Server Control.
2. In the Cluster Topology page, locate the Members section, and click **home.**
3. Click **Administration.**
4. Find Server Properties in the Task Name list, and click the **Go to Task** icon.
5. Edit the values for **Maximum heap size** (1024 Mb) and **Initial heap size** (512 Mb).
6. Add a row for the -XX:MaxPermSize (256 Mb) and -XX:PermSize (128 Mb) parameters and provide a value.
7. Click **Apply.**
8. Restart the server.

Note: The values in parentheses are provided as an example only. These values were derived assuming that all components in the Oracle Application Server 10*g* Release 3 (10.1.3.1.0), also known as the Oracle SOA Suite (10.1.3.1.0), are installed. Consult your OC4J administrator and the *Oracle Application Server Performance Guide* for the appropriate settings for your environment.

9.2.4 Web Browser Times Out

In situations where there is high network latency between Oracle WSM and Oracle Database, the Web browser may time out before it can retrieve the data from the database.

To prevent the browser from timing out, modify the browser time out setting.

For Internet Explorer

1. Edit the following registry key:

   HKEY_CURRENT_
   USER/Software/Microsoft/Windows/CurrentVersion/Internet Settings

2. Add the DWORD KeepAliveTimeout, and set the value in milliseconds.

For all other supported Web browsers, please consult the product documentation for the browser for information on setting the browser time out.

9.2.5 Oracle Access Manager SDK Path

When you configure the Oracle Access Manager Authenticate Authorize policy step, and you reconfigure the path to the Oracle Access Manager SDK, the new path does not take effect until you restart any agents or gateways that use this SDK.

Note: Oracle Access Manager SDK is the same as what has previously been referred to as Access Server SDK.

9.2.6 Invoking Service from a Proxy Server

You may experience problems when invoking a service, located on the nonproxy host, from a proxy server even though you have configured the settings correctly. This may occur with a standalone installation of Oracle WSM or when Oracle WSM is installed as part of the Oracle SOA Suite.

To work around this limitation, delete the proxy.host and nonproxy.host settings in the properties files.

- If you have a standalone installation of Oracle WSM, delete the settings in the *ORACLE_HOME*/owsm/bin/coresv.properties file.
- If Oracle WSM is installed as part of the Oracle SOA Suite, delete the settings in the *ORACLE_HOME*/opmn/conf/opmn.xml file.

For more information about setting these properties, see the *Oracle Web Services Manager Deployment Guide*.

9.3 Documentation Errata

This section describes documentation errata. It includes the following topic:

- Section 9.3.1, "One Oracle WSM Gateway Per Oracle WSM Instance"
- Section 9.3.2, "Jar Files Required for Tibco JMS"
- Section 9.3.3, "WSMADMIN Commands on UNIX Systems"
- Section 9.3.4, "Correction to Command Syntax"
- Section 9.3.5, "Correction to Proxy Server Settings Syntax"
- Section 9.3.6, "Correction to Extract Credentials Policy Step"
- Section 9.3.7, "AXIS Client Support"
- Section 9.3.8, "Changing Database Passwords"
- Section 9.3.9, "Authentication Using Active Directory"

9.3.1 One Oracle WSM Gateway Per Oracle WSM Instance

A clarification is required in *Oracle Web Services Manager Deployment Guide*, Chapter 2, "Implementing Your Oracle WSM Deployment," in the section titled "Configuring Oracle WSM in a Clustered Environment." In Figure 2-1, there are three Oracle WSM instances on vhost1, vhost2, and vhost3. There is one Oracle WSM Gateway in the instances on vhost1 and vhost2. It is implied by the figure, but not stated explicitly, that you can install only one Oracle WSM Gateway in an Oracle WSM instance. It is because you can only install one gateway per Oracle WSM instance that load balancing may be required

9.3.2 Jar Files Required for Tibco JMS

A clarification is required in *Oracle Web Services Manager Deployment Guide*, Chapter 5, "Deploying Oracle WSM Gateways," in the section titled "Enabling Oracle Web Services Manager to use JMS." This section contains the following instruction:

- Copy the `tibjms.jar` and `tibcrypt.jar` files to the correct location in your Oracle WSM installation, for example, to *`ORACLE_HOME`*`/10.1.3.1/OracleAS_1/owsm/lib/custom`. Unless you perform this task, the JMS feature will not work.

You must complete this task *only* if you are using Tibco JMS. Oracle JMS does *not* require these Jar files.

9.3.3 WSMADMIN Commands on UNIX Systems

When using the Oracle WSM WSMADMIN commands on UNIX operating systems, the command must be specified as `wsmadmin.sh`. The Oracle WSM documentation uses the syntax for Microsoft Windows operating systems (that is, `wsmadmin`) for all WSMADMIN commands. If you are using the commands on a UNIX system, replace `wsmadmin` with `wsmadmin.sh`.

9.3.4 Correction to Command Syntax

There is an error in *Oracle Web Services Manager Administrator's Guide*, Chapter 6, "Monitoring Oracle Web Services Manager," in the section titled "Configuring Metrics Data Persistence."

In step 3 of the procedure, the correct command to redeploy the application is `wsmadmin deploy` *`application_server_password`* `monitor`.

9.3.5 Correction to Proxy Server Settings Syntax

There is an error in *Oracle Web Services Manager Administrator's Guide*, Chapter 10, "Troubleshooting, " in the "Error When Importing WSDL" section. The error occurs in the second procedure, titled "For Oracle WSM when it is installed as part of Oracle Application Server 10*g* Release 3 (10.1.3.1.0)."

Replace step 4 in the procedure with the following step:

4. Add the `-Dhttp.proxySet, -Dhttp.proxyHost, -Dhttp.proxyPort,` and `-Dhttp.nonproxyHosts` parameters to the `java-options` attribute of the `data_ id` tag:

```
<data_id="java-options" value="-server -XX:MaxPermSize=128M -Dhttp.proxySet=true
 -Dhttp.proxyHost=proxy_server -Dhttp.proxyPort=listen_port
 -Dhttp.nonproxyHosts=host_name .../>
```

Parameter Value	Description of Value
`true/false`	The value `true` enables the proxy server.
`proxy_server`	Name of the proxy server. For example, `www-proxy.us.oracle.com`.
`listen_port`	The port number on the proxy server where you wish to connect. For example, 80
`host_name`	Hosts that connect directly without intervention from the proxy server. This value can be a list of host names separated by a vertical bar (`|`) or an asterisk (`*`). For example, `localhosts|*oracle.com`

9.3.6 Correction to Extract Credentials Policy Step

There is a correction to Appendix A, "Oracle Web Services Manager Policy Steps," in the *Oracle Web Services Manager Administrator's Guide*. The following corrections are to the Extract Credentials policy step.

- There are four possible locations for the **Credentials location** property, one of which is XPath. The example XPath location given in the book is incorrect. The *incorrect* example is:

  /soap:Header/soap:Envelope/wsse:Security/wsse:UsernameToken/

  The *correct* example is:

  /soap:Envelope/soap:Header/wsse:Security/wsse:UsernameToken/

- The Namespaces property is described, in part as follows:

  Comma-delimited list of prefix and namespace Uniform Resource Identifier (URI) pairs for the prefixes used in the User ID xpath and Password xpath properties.

  This is incorrect; the URI pairs must be separated by spaces, not by commas. Furthermore, if there are spaces in the URI itself, the space character must be replaced by the characters *%20*.

9.3.7 AXIS Client Support

There is an error in Chapter 6, "Installing Agents" in *Oracle Web Services Manager Deployment Guide*. The documentation provides instructions for installing AXIS client agents. This is an error; Oracle Web Services Manager 10*g* Release 3 (10.1.3.1.0 and 10.1.3.3) does *not* support AXIS client agents. Oracle does plan to support AXIS client agents. Refer to the *Oracle Application Server Patch Set Notes Addendum 10g (10.1.3) Patch Set 3 (10.1.3.3.0)* for the most current information on the availability of this support.

9.3.8 Changing Database Passwords

There is a correction to Appendix D, "Database Maintenance," in *Oracle Web Services Manager Deployment Guide*. The procedures for changing the database password in the section, "Changing Passwords," should be replaced with the procedures that follow.

To change a password for a single database instance

1. Change the password for the OWSM schema in the Oracle Database.
2. Restart the Oracle Application Server on which the Oracle WSM components are deployed.
3. Edit the `ORACLE_HOME\owsm\bin\coresv.properties` file, and update the `dataload.messagelog.db.password` property with the new database password.
4. Encode the password in the `coresv.properties` file.

   ```
   wsmadmin encodePasswords coresv.properties dataload.messagelog.db.password
   ```

5. Copy the database configuration properties to the configuration directory property files.

   ```
   wsmadmin copyDBConfig
   ```

6. Redeploy the Oracle WSM applications either individually or using the `all` parameter.

   ```
   wsmadmin deploy oc4j_admin_password all
   ```

7. Restart the Oracle Application Server instance.

Complete the procedure in Section 9.3.8.1, "Updating the Database Configuration Properties."

To update and reconcile a password for multiple database instances

1. Change the password for the OWSM schema in the Oracle Database.
2. Restart the Oracle Application Server on which the Oracle WSM components are deployed.
3. Update the relevant attribute in the application properties file for each application. These files are located in *ORACLE_HOME*\owsm\config*application_name*.
4. Encode the password for each property that was changed in step 3.

   ```
   wsmadmin encodePasswords file_name property_name
   ```

5. Redeploy the Oracle WSM components that connect to the database.

   ```
   wsmadmin deploy oc4j_admin_password component
   ```

6. Restart the Oracle Application Server instance.
7. Repeat this procedure for each Oracle Database that is used by an Oracle WSM component.

Complete the procedure in Section 9.3.8.1, "Updating the Database Configuration Properties."

9.3.8.1 Updating the Database Configuration Properties

When you update the database password for Oracle WSM components, the database configuration properties for the Oracle WSM Agents and Gateways do not get updated. Therefore, you will not be able to access the message logs for these components. The workaround for this problem is to manually edit the properties for the components with the new password.

1. Log in to Web Services Manager Control.
2. In the navigation pane, select **Policy Management.**
3. Click **Edit** for the Oracle WSM Agent or Gateway.
4. Edit the `cfluent.messagelog.db.password` with the new database password, and save this change.

9.3.9 Authentication Using Active Directory

This is a correction to Appendix E, "Authentication Sources," in *Oracle Web Services Manager Deployment Guide*. In the section, "Active Directory," there are contradictory statements about which users can be authenticated against Active Directory. The correct statement is that Active Directory can be used to authenticate Oracle WSM system users as well as end users.

10

Oracle Business Activity Monitoring

This chapter describes issues associated with Oracle Business Activity Monitoring. It includes the following topics:

- Section 10.1, "General Issues and Workarounds"
- Section 10.2, "General Active Studio Issues and Workarounds"
- Section 10.3, "List View Issues and Workarounds"
- Section 10.4, "Chart View Issues and Workarounds"
- Section 10.5, "Miscellaneous View Issues and Workarounds"
- Section 10.6, "Filter Issues and Workarounds"
- Section 10.7, "Calculated Field Issues and Workarounds"
- Section 10.8, "Alert Issues and Workarounds"
- Section 10.9, "Administrator and Architect Issues and Workarounds"
- Section 10.10, "Enterprise Link Issues and Workarounds"
- Section 10.11, "BPEL-BAM Integration Issues and Workarounds"

10.1 General Issues and Workarounds

This section describes general Oracle Business Activity Monitoring issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.1.1, "Some Product Features Previews Only"
- Section 10.1.2, "Some Product Features Not Supported"
- Section 10.1.3, "DateAdd Function in Filters Can Produce Incorrect Active Data"
- Section 10.1.4, "Logging In Using "Run as" Not Supported"
- Section 10.1.5, "Install Complete IIS When MS Cluster Service Installed"
- Section 10.1.6, "The Oracle BAM Active Data Cache Service May Fail to Start"
- Section 10.1.7, "Testing a BAM Server Connection in JDeveloper"
- Section 10.1.8, "ICommand: Exporting Reports with Background Images"
- Section 10.1.9, "ICommand: Special Character in Parameter Value Causes Export Failure"
- Section 10.1.10, "Restricting BAM Web Services to BAM Users"
- Section 10.1.11, "Web Service Calls May Not Be Logged"

- Section 10.1.12, "Globalization and Localization Support Limitations"
- Section 10.1.13, "Accessibility Compliance Limitation"
- Section 10.1.14, "Performance Improvement for Microsoft Internet Explorer 6 Users"

10.1.1 Some Product Features Previews Only

Preview features are for evaluation only.

ICommand Web Service is a preview feature.

Saving reports in MHT format is a preview feature. Save Offline, emailing rendered reports, and emailing a report in Alerts save the report in the MHT format.

The following report views are preview versions: Funnel Chart, P-Chart, R-Chart, S-Chart, Columnar, Crosstab, Summary Crosstab, Matrix, Excel, Column Group, and Row Group.

10.1.2 Some Product Features Not Supported

Active Messenger and Collaboration Server are not supported as of 10*g* Release 2 (10.1.2), and they will be removed in future releases. Instead, use email accounts for alerting.

The Spreadsheet view is not supported, and it will be removed from future releases.

Enterprise Link VBA is not supported.

Enterprise Link Repositories are only supported on Oracle databases. All other database types for Enterprise Link Repositories are not supported.

Enterprise Link integrates with all enterprise message sources that adhere to the JMS 1.1 specification. Enterprise Link does not support the following enterprise message sources that appear in the Architect user interface: See Beyond JMS Intelligent Queue, Sonic MQ, Tibco Rendezvous, and WebMethods.

10.1.3 DateAdd Function in Filters Can Produce Incorrect Active Data

The `DateAdd()` function in filters produces incorrect active data with the last day of the month.

10.1.4 Logging In Using "Run as" Not Supported

Logging into an Oracle Business Activity Monitoring application using "Run as" with a different user name than the currently logged-on user is not supported.

10.1.5 Install Complete IIS When MS Cluster Service Installed

If MS Cluster service is installed on a system some components of IIS get installed with it, this makes the BAM installer give a false result on IIS prerequisite check, that is it will say PASSED, even though IIS is not fully installed. Before installing Oracle Business Activity Monitoring, make sure to install IIS as detailed in section 2.2.2 "Installing Microsoft Internet Information Services" of the *Oracle Business Activity Monitoring Installation Guide*.

10.1.6 The Oracle BAM Active Data Cache Service May Fail to Start

You may encounter the following error when starting the Active Data Cache:

```
The Oracle BAM Active Data Cache service failed to start.
Oracle.BAM.ActiveDataCache.Common.Exceptions.CacheException: ADC Data Object
could not be loaded ---> System.NullReferenceException: Object reference not set
to an instance of an object.
```

If you have some rows of data in a data object, then attempt to change one of the populated fields to a non-nullable datatype (auto-incrementing or timestamp), it will throw an error saying "table must be empty."At that point, you will not be able to restart the ADC. If you do not restart the ADC everything continues to work without the changes to the data object. If you restart the ADC, it will not work, and there is no way to recover except to re-create the ADC or bring back the BAM schema from a database backup.

10.1.7 Testing a BAM Server Connection in JDeveloper

When creating an Oracle BAM Server connection in JDeveloper, select **Use secure HTTP protocol** check box only if you want to use secure HTTP (HTTPS) to connect to the Oracle BAM Server running on HTTPS. If this box is selected by mistake when Oracle Business Activity Monitoring is running on HTTP on port 80, Test Connection hangs.

When creating an Oracle BAM Server connection in JDeveloper on Windows XP, a message "Basic realm does not match with *'host.domain.com*'" can occur when you use Test Connection. There are domain and Realm options under Basic Authentication under Directory Security tab on IIS. When Oracle Business Activity Monitoring is installed, by default Realm is set to the domain name of the administrator who installed Oracle Business Activity Monitoring. To work around this issue, set Realm to an empty string.

10.1.8 ICommand: Exporting Reports with Background Images

Exporting reports with background images exports the name of the internal images file, and also imports it. If the original report still exists, then both reports are cross-linked to the same image. If the original report is not there, then the image is lost.

10.1.9 ICommand: Special Character in Parameter Value Causes Export Failure

ICommand export fails when exporting a parameterized alert with a special character in the parameter value.

10.1.10 Restricting BAM Web Services to BAM Users

Disable Automatic Addition of Users in order to prevent any authenticated user from invoking BAM web services. See "Disabling the Automatic Addition of Users" in Chapter 3 of the *Oracle Business Activity Monitoring Installation Guide* for more information.

10.1.11 Web Service Calls May Not Be Logged

Web service log entries are missing from WebApps.txt under certain scenarios. To enable logging do the following steps:

1. Exit all Oracle BAM browser windows, and stop all of the Oracle BAM services.
2. Optionally, edit web.config and set log level to debug: `<priority value="DEBUG" />`

3. Run `iisreset / kill aspnet_wp.exe`.
4. Do not open any Oracle BAM browser windows.
5. Invoke the Web services code.
6. Now open the Oracle BAM start page and any other browser windows.

It is very important to do step 5 before step 6, otherwise you will only see the Web applications entries in WebApps.txt, and the Web services entries never appear.

10.1.12 Globalization and Localization Support Limitations

Full globalization support of Oracle Business Activity Monitoring is not available in this release.

- All servers and clients running Oracle Business Activity Monitoring components should be set to the same locale.
- The Oracle Business Activity Monitoring applications will obey the globalization culture setting from the web.config file on the server, but not the client browser locale.
- This version of Oracle Business Activity Monitoring is not fully localized. Only Active Viewer is localized for the following languages: French, German, Italian, Portuguese(Brazil), Spanish, Japanese, Korean, Simplified Chinese, and Traditional Chinese.
- Render for e-mailing uses the time zone of the Web server. If a report has time zones set to client time zone, when viewing a report from a browser, the browser time zone is sent to the Report Server and used when formatting the datetime fields. There is no equivalent for the Event Engine's render for email, so it defaults to the Web server time zone.
- The Calculation Legend does not support multibyte characters. This field name is limited to 30 or fewer letters, numbers, and underscores. Spaces are not allowed.
- Report fields like View Titles may not correctly display Western European multibyte characters.
- Report names that include Western European multibyte characters may not appear correctly in the Select Report dialog. The Report may still be selected and opened in Active Viewer and Active Studio.

10.1.13 Accessibility Compliance Limitation

This version of Oracle Business Activity Monitoring does not comply with accessibility standards provided in other Oracle products. Future versions plan to comply with these standards.

10.1.14 Performance Improvement for Microsoft Internet Explorer 6 Users

For improved performance when using Oracle BAM user interfaces, install the following Microsoft fixes on the client side.

Windows Script 5.7 for Windows XP:

http://www.microsoft.com/downloads/details.aspx?FamilyID=47809025-D896-482E-A0D6-524E7E844D81&displaylang=en

Windows Script 5.7 for Windows 2000:

http://www.microsoft.com/downloads/details.aspx?familyid=C03D3E49-B40E-

4CA1-A0C7-CC135EC4D2BE&displaylang=en

Windows Script 5.7 for Windows Server 2003:

http://www.microsoft.com/downloads/details.aspx?FamilyID=f00cb8c0-32e9-411d-a896-f2cd5ef21eb4&DisplayLang=en

10.2 General Active Studio Issues and Workarounds

This section describes general Active Studio issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.2.1, "Possible Active Studio Issues When Using Non-Default Windows DPI Settings"
- Section 10.2.2, "Save As Dialog Box May Appear Inappropriately"
- Section 10.2.3, "Save Prompt Not Displayed When Closing Report After Deleting a View"
- Section 10.2.4, "ADC Exception on Adding Timestamp to a Non-Empty Data Object"
- Section 10.2.5, "BLANK Selection Not Supported in Oracle Database"
- Section 10.2.6, "Drill-through Fields Grayed Out After Editing Drill-through"
- Section 10.2.7, "Rank Column Not Available in Some Views"
- Section 10.2.8, "Use Global Change Data Object to Fix Reports Using Deleted Data Objects"
- Section 10.2.9, "Pause/Resume Active Data Does Not Work After Viewset Expires"
- Section 10.2.10, "Changing Data Types in Data Object Can Break Reports"
- Section 10.2.11, "Using Default Report Name Can Generate an Error"
- Section 10.2.12, "Active Data May Fail On Simultaneous Report Loading"
- Section 10.2.13, "Use Field IDs Instead of Field Names in Shortcut Report URL"
- Section 10.2.14, "Active Lookups Do Not Work With Deletes"
- Section 10.2.15, "Multi-level Calculations in Combination with Other Data Manipulation"
- Section 10.2.16, "Errors When Fields Hidden or Revealed After View Design"
- Section 10.2.17, "Error When Group-by Data Crosses Year Boundary"
- Section 10.2.18, "String Parameters Not Supported in Calculator"
- Section 10.2.19, "Error When Changing View Type"
- Section 10.2.20, "Save Offline Limitations"

10.2.1 Possible Active Studio Issues When Using Non-Default Windows DPI Settings

You may encounter incorrectly sized or rendered Views when using Windows non-default Dots Per Inch (DPI) settings. The default is typically 96 DPI. These issues are most likely for Chart and KPI Views, when using large display resolution settings. The work-around is to set the DPI back to the default. Go to Control Panel, Display, Settings, Advanced.

10.2.2 Save As Dialog Box May Appear Inappropriately

An additional Save as dialog box displays after clicking **Cancel** on the original Save as dialog box.

10.2.3 Save Prompt Not Displayed When Closing Report After Deleting a View

Users are not prompted to save after deleting a view in a report. Save changes after deleting views.

10.2.4 ADC Exception on Adding Timestamp to a Non-Empty Data Object

Attempting to add a timestamp to a data object after a previous failure throws an Active Data Cache exception.

If you try to add timestamps when the data object is not empty and receive an error, use ICommand to export the data object, delete it, import it back in (as empty), and add the non-nullable column. Only add timestamps as non-nullable columns, and only when the data object is empty.

10.2.5 BLANK Selection Not Supported in Oracle Database

Several places in the user interface, such as the Prompt and Parameters Wizard, allow BLANK as a valid selection. Oracle databases do not support empty strings and users should not enter BLANK.

10.2.6 Drill-through Fields Grayed Out After Editing Drill-through

Drill-through fields appear disabled (grayed out) even though the **Enable drill through to detail** check box is selected. To remove fields or change the order of the fields, uncheck the **Enable drill through to detail** check box and then check it again. The fields are accessible again.

10.2.7 Rank Column Not Available in Some Views

For OpenURL, ViewReport, and Insert action types, the **Rank** column cannot be used in an action or be formatted as links.

10.2.8 Use Global Change Data Object to Fix Reports Using Deleted Data Objects

Reports based on a data object that has been completely deleted can no longer be used or edited. You can use the Global Change Data Object action in the View Editor to assign a new data object to the views in the report.

10.2.9 Pause/Resume Active Data Does Not Work After Viewset Expires

When viewing multiple reports, pause/resume active data after the viewset expires does not work.

10.2.10 Changing Data Types in Data Object Can Break Reports

Reports can become unusable if you change the data type of columns used by the reports.

10.2.11 Using Default Report Name Can Generate an Error

Sometimes when saving a report as the default name, a message displays that incorrectly indicates that the report already exists. Specify a different name and save the report.

10.2.12 Active Data May Fail On Simultaneous Report Loading

If two Reports are opened on the same host and they both load at the same time, Active Data may fail to work. Note that it does not matter how the two separate Reports are hosted. It can be with any combination of Active Viewer, Active Studio, or portals and custom pages that host Reports.

10.2.13 Use Field IDs Instead of Field Names in Shortcut Report URL

Copy Shortcut requires a Field ID instead of a Field Name when using Field Parameters in a Report URL. You can look up the Field ID for any field in a data object in the Layout page for data objects in Architect.

10.2.14 Active Lookups Do Not Work With Deletes

If you create a report on a data object with a lookup and clear the source data object, no active data will appear. The lookup values will not change to NULL.

10.2.15 Multi-level Calculations in Combination with Other Data Manipulation

Aggregate values used at the detail level, also known as multi-level calculations, in lists and columnar reports cannot be combined with sorting, filters, groups, or Top N. This combination can display an error or prevent active data from displaying.

10.2.16 Errors When Fields Hidden or Revealed After View Design

Issues can occur when using a view, such as a Crosstab, Range Gauge, or Updating Ordered List, that contains fields that are hidden or unhidden after the design of the view. If the user wants to hide information in the view, first remove the field from the list of fields being shown in the view and then use Architect and make the field private.

10.2.17 Error When Group-by Data Crosses Year Boundary

Error while creating a report with group by data fields and group on Week-Month and Week-Quarter and data crosses the year boundary.

10.2.18 String Parameters Not Supported in Calculator

String fields are supported in the Calculator, but string parameters are not supported in the Calculator.

10.2.19 Error When Changing View Type

When changing the view type of an existing view, errors can occur.

10.2.20 Save Offline Limitations

- Users who only have Active Studio and report creation permissions assigned can also save reports offline. Only e-mailing rendered reports is managed as a separate permission.
- Saving a report offline closes the Active Studio in some cases. This is affected by a known issue using Internet Explorer on Microsoft XP Service Pack 2. For more information, see http://support.microsoft.com/kb/896017.
- When viewing saved offline reports, the report loading icon may sometimes not disappear; this can be ignored.
- Save Offline does not work if the report name has a semicolon.
- After you click Save Offline, a dialog box appears asking whether you want to Open, Save, or Cancel. Choose Save. When you return to the view, it appears empty. If you want to see data in the view again, close the report and reopen it.
- When saved offline, the Range Gauge can appear small in MHT format because it has a legend, and it is rendering into a fixed area.
- External Content views cannot always display images when saved offline or sent by email in MHT format.
- When Oracle Business Activity Monitoring is installed on the D: drive, an error can occur when attempting to open a report in MHT format sent in an Alert email. The error does not occur if the report is sent from Active Studio using **Email Report page**.

10.3 List View Issues and Workarounds

This section describes List view issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.3.1, "Streaming List Range Buttons May Not Appear at Times"
- Section 10.3.2, "Updating Ordered List: Cancel Button Not Functional with Top N"
- Section 10.3.3, "Heading Text Cannot Be Removed"
- Section 10.3.4, "Special Characters Affect Sort Order in Updating Ordered Lists"

10.3.1 Streaming List Range Buttons May Not Appear at Times

Due to an Internet Explorer issue, sometimes the range buttons in a Streaming List do not display and an error can occur. A fix for Internet Explorer is available from Microsoft by referencing the article "Internet Explorer May Appear to Stop Responding When Requesting Many Objects" at the following URL:

http://support.microsoft.com/kb/818506

10.3.2 Updating Ordered List: Cancel Button Not Functional with Top N

Updating Ordered List views require a sort if Top N is applied. If you create an Updating Ordered List and apply Top N without sorting, and then click Cancel, an error displays when you save and view the report.

10.3.3 Heading Text Cannot Be Removed

In List views, you cannot remove heading text once it was specified. You can enter new text to replace the existing text.

10.3.4 Special Characters Affect Sort Order in Updating Ordered Lists

Updating Ordered Lists are not sorted correctly when the data contains specials characters.

10.4 Chart View Issues and Workarounds

This section describes Chart view issues and, where applicable, their workarounds. Funnel Chart and SPC Chart views are previews and should only be used for evaluation. It includes the following topics:

- Section 10.4.1, "Timestamp on Axis Label Causes ADC Error"
- Section 10.4.2, "Data Labels Cut Off with Active Data"
- Section 10.4.3, "Null Values Incorrect When Grouping in Charts"
- Section 10.4.4, "Labels May Overlap in Charts"
- Section 10.4.5, "Charts Using Top N May Fail with Active Data"
- Section 10.4.6, "Grouping Can Cause Error"
- Section 10.4.7, "Time Groups in Charts Must Use Default Date Format"
- Section 10.4.8, "X-Axis May Not Clear Appropriately in Continuous Time Series"
- Section 10.4.9, "Stacked Bar Chart Legend May Be Obscured by Negative Values"
- Section 10.4.10, "Target Lines Work Only in Bar Chart"
- Section 10.4.11, "Funnel Chart Limitations"
- Section 10.4.12, "SPC Chart Limitations"

10.4.1 Timestamp on Axis Label Causes ADC Error

An error occurs in the Active Data Cache internal data access system when timestamp is selected in the axis label.

10.4.2 Data Labels Cut Off with Active Data

In charts with all three data label types displayed, the data labels can appear cut off when viewing the report with live data.

10.4.3 Null Values Incorrect When Grouping in Charts

When grouping in Charts, null values are not represented correctly.

10.4.4 Labels May Overlap in Charts

Under certain conditions, labels can overlap in charts.

10.4.5 Charts Using Top N May Fail with Active Data

Charts using Top N may fail with an error when using Active Data.

10.4.6 Grouping Can Cause Error

When working with Charts, the message, "If you group by field, you can only choose one summary function for one chart value" can display. Remove the group manually and click Apply to continue working.

10.4.7 Time Groups in Charts Must Use Default Date Format

When using Time Groups in Charts, overriding the default formatting for the date field does not work.

10.4.8 X-Axis May Not Clear Appropriately in Continuous Time Series

When you view a continuous time series chart and clear the underlying data, there are times when the x axis should clear and times when it should not. If the left edge and right edge of the x axis values are well-defined (using filters on both edges, or Active Now, or Time Groups), the data always clears correctly. If the left and right edge of the x axis are *not* well-defined (no filters, left filter only, or right filter only), it may result in just the labels being removed.

10.4.9 Stacked Bar Chart Legend May Be Obscured by Negative Values

Negative values can overlap in the legend in Stacked Bar Charts.

10.4.10 Target Lines Work Only in Bar Chart

Target lines are broken with Active Data for charts other than the Bar Chart.

10.4.11 Funnel Chart Limitations

- The Funnel Chart view is a preview feature in this release. Preview features are for evaluation only.
- Timestamp or datetime as a group field in Funnel Charts is displayed incorrectly.
- Funnel charts do not scale down to small screens well.
- Funnel charts do not support adding and removing groups or clearing the data while being viewed. You can close and reopen the report after any of these data conditions.

10.4.12 SPC Chart Limitations

- The SPC Chart views (S-Chart, R-Chart, and P-Chart) are preview features in this release. Preview features are for evaluation only.
- A field name including spaces in a Pass Filter will not pass. For SPC Charts, you must enclose a field name that contains spaces in quotes.
- The X-bar value for the S-Chart is calculated incorrectly.
- In an R-Chart combined with surface prompts, Active Data may reset the value displayed in the surface prompt to its default value, even though the last value submitted through the surface prompt is still in effect.

10.5 Miscellaneous View Issues and Workarounds

This section describes miscellaneous view issues and their workarounds. It includes the following topics:

- Section 10.5.1, "Active Now May Show Wrong Results with KPI View in Report"
- Section 10.5.2, "Faulty View Report Hyperlink in Action Form View"
- Section 10.5.3, "Surface Prompts View Does Not Render for Email"
- Section 10.5.4, "Resizing Column Group Moves Entire Group View"
- Section 10.5.5, "Crosstab, Summary Crosstab, and Matrix View Limitations"
- Section 10.5.6, "Excel View Limitations"
- Section 10.5.7, "Columnar Report and View Limitations"

10.5.1 Active Now May Show Wrong Results with KPI View in Report

When a report with a KPI view using an Active Now filter is opened in two Active Viewer browser windows, older data is not removed from the report, and reprompting and restarting the report does not correct the view. Close both Active Viewer browser windows and start only one Active Viewer to display the correct report results.

10.5.2 Faulty View Report Hyperlink in Action Form View

The View Report hyperlink in Action Forms returns an empty report if passing a parameter value with special characters. As a workaround, use Action Buttons instead of Action Links.

10.5.3 Surface Prompts View Does Not Render for Email

For Surface Prompts, the view does not render for email.

10.5.4 Resizing Column Group Moves Entire Group View

Using the view handle to resize a Column Group view causes the view to move around in the report. In order to properly resize a column group you need to select a view that is inside the Column Group view and then attempt to resize it.

10.5.5 Crosstab, Summary Crosstab, and Matrix View Limitations

The Crosstab, Summary Crosstab, and Matrix views are preview features in this release. Preview features are for evaluation only.

- Working with a continuous series when a category has a value of zero includes issues, such as an error if the user selects a time unit quantity other than 1, issues with the Crosstab view, and with filters. For Crosstabs, issues include continuous series handling where active data inserts, group ordering, and formatting might work incorrectly.
- For Crosstabs, when working in the View Editor to select columns and rows, the Script error "tdAddRemoveButtons.parentElement" displays if the data object has more than one datetime field. You can ignore the error and continue working in the View Editor.
- The Crosstab view type does not support e-mailing the report page.
- When a Matrix conditional formatting condition is set to **Is not equal to**, the color display is incorrectly applied.

10.5.6 Excel View Limitations

The Excel view is a preview feature in this release. Preview features are for evaluation only.

- Excel views do not support E-mailing and Save Offline.
- Double-clicking an XLS file in Windows Explorer while an Excel View is open in Active Studio causes Excel to hang. Excel will start working if you close the report in Active Studio. Excel does not hang if you open Excel, then select File > Open to open the XLS file.
- After data is in an Excel view, users can apply sorting using the Excel sorting functions. Excel does not resort data on each update. Because of this, sorted data compared between OWC Spreadsheet and Excel views will not match when data is first displayed.
- If you want to use Save As for an Excel view in Active Studio, view the report and then select File > Save As. Using Save As while the report is being edited can cause an error to display.

10.5.7 Columnar Report and View Limitations

The Columnar report and view are preview features in this release. Preview features are for evaluation only.

- Columnar reports and views support active data updates only, and only under the following conditions: the updates do not change the grouping of a record, and the report does not span multiple pages or frames.
- Aggregates and their labels are not listed in the lists on the Alignment and Fonts tabs in the View Editor. Use the toolbar buttons to format summaries and their labels.
- If you create a calculated field and apply formatting and then create an aggregate on the field, the formatting is removed.
- To apply a sort, use the toolbar buttons for sorting selecting fields, instead of the View Editor.
- You cannot apply borders or shading to header or footer fields.
- When you create a summary, you cannot delete the label, but you can delete the text with the cursor or Backspace key from the label.
- Using the alignment toolbar buttons on selected fields does not always behave as expected. Align things manually by selecting and dragging.
- If you manually move text fields and items in a header, and then open the View Editor and delete a summary field, the items move back to their original positions.
- When viewing a Columnar report or view that accesses 150,000 records, and clicking the Next Page button, an error may occur.
- Special characters in the data can interfere with sorting.
- Grouping on calculated fields can cause duplicate headers to display.
- Selecting a field and clicking the Group button can sometimes remove the field from the report. Add grouping by using the View Editor.
- If you create an aggregate field, and then delete the aggregate field and add another aggregate field, on the Formatting tab, both aggregates display.
- An error displays when grouping on all fields.

- An error can occur after applying a calculation, including it in a grouping and then renaming the calculated field.
- On the Text & Align tab, applying a width to detail and column headings has no effect. Instead, set the column width one column at a time.
- An error may occur when highlighting text.
- Script errors may occur after moving the Report Title and then loading more data.
- When using the Group Sort and Value Suppress tool bar button, value suppress on fields may incorrectly remove data. As a workaround, apply grouping in the View Editor and then using the Value Suppress toolbar button.
- Columnar reports and views do not support Emailing and Save Offline.

10.6 Filter Issues and Workarounds

This section describes data filter issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.6.1, "BLANK Value in Prompt Causes Error"
- Section 10.6.2, ""Is Like" Filter on Datetime Fields Does Not Work"
- Section 10.6.3, "Incorrect Daylight Savings Time May Be Displayed"
- Section 10.6.4, "Cannot Create Filter When Field Changed to Lookup Field in Data Object"

10.6.1 BLANK Value in Prompt Causes Error

Creating a filter with a boolean data type and a prompt value displays an error if BLANK is allowed in the prompt and selected by the prompt user. In a filter with a datetime prompt that allows a BLANK value, clicking OK with no value displays an error. BLANK values should be disabled for all types besides strings.

10.6.2 "Is Like" Filter on Datetime Fields Does Not Work

In filters on datetime field types, you are unable to type a value for "is like" filters. You can create filters by selecting a specific date from the calendar, but you cannot type values or indicate wildcard characters.

10.6.3 Incorrect Daylight Savings Time May Be Displayed

If you are viewing filters using datetime fields, you may see discrepancies in the time selected during daylight savings changes. This can happen only if you are viewing a report when daylight savings change happens. The workaround is to reopen the report.

10.6.4 Cannot Create Filter When Field Changed to Lookup Field in Data Object

If you update a data object (change a normal field to a lookup field) which has a report based on it, you cannot create a filter that report.

10.7 Calculated Field Issues and Workarounds

This section describes calculated field issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.7.1, "In Some Cases Calculated Field Cannot Be Deleted"
- Section 10.7.2, "Prompts and Parameters Wizard Does Not Include Calculated Fields"
- Section 10.7.3, "Multi-level Calculation with Max or Min and Boolean Do Not Work"
- Section 10.7.4, "ADC Error on Division with Two Calculated Fields"

10.7.1 In Some Cases Calculated Field Cannot Be Deleted

In some cases when the user has saved and edited the view, a calculated field cannot be deleted even if it is not used in the view.

10.7.2 Prompts and Parameters Wizard Does Not Include Calculated Fields

Calculated fields are not listed in the **From list** step in the Prompts and Parameters Wizard. However, the parameter and type in the prompt works fine with a calculated field.

10.7.3 Multi-level Calculation with Max or Min and Boolean Do Not Work

Multi-level calculated fields with Max() or Min() and Boolean do not work.

10.7.4 ADC Error on Division with Two Calculated Fields

Creating a calculated field to perform a division operation on two calculated fields, both of which use `CountDistinct`, can cause an Active Data Cache error.

The workaround is to create a calculated field such as:

```
CountDistinct({Recent Account Touch SID})/CountDistinct({Account SID})
```

The problem only exists when a calculated field does operations on other aggregate calculated fields.

10.8 Alert Issues and Workarounds

This section describes Alert issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.8.1, "Time Change Requires BAM Services Restart"
- Section 10.8.2, "Special Characters Can Cause Error When Editing Alerts"
- Section 10.8.3, "Changing Event Type in Parameterized Alert Causes Exception in Event Engine"
- Section 10.8.4, "Calculated Fields Do Not Appear in Alert Filters"
- Section 10.8.5, "Filter Items May Appear Misaligned"
- Section 10.8.6, "Alerts Not Deleted with Parent Reports"
- Section 10.8.7, "Cancel Does Not Work on Clear Alert History"
- Section 10.8.8, "Invalid Windows File Name Characters in Report Name"
- Section 10.8.9, "Alerts Still Launch After Report Is Deleted"
- Section 10.8.10, "Orphaned Alert Not Marked"

- Section 10.8.11, "Unique Naming Not Enforced on Alert Parameters"
- Section 10.8.12, "Row-level Security Not Supported for Alerts on Data Change"
- Section 10.8.13, "Non-applicable Aggregates Included in Select Data Field Dialog"
- Section 10.8.14, "Duplicate Fields May Appear in Field Lists"
- Section 10.8.15, "Alerts on Aggregates May Misfire"
- Section 10.8.16, "Calling .NET Web Service Directly Using External Action"
- Section 10.8.17, "Alert Actions Ignored if Previous Action Fails"

10.8.1 Time Change Requires BAM Services Restart

In order for alerts to fire at the correct time, the Oracle BAM services need to be restarted after a time change, such as an adjustment for Daylight Savings Time.

10.8.2 Special Characters Can Cause Error When Editing Alerts

An error displays when editing an alert when a parameter value to pass to a plan has a special character.

10.8.3 Changing Event Type in Parameterized Alert Causes Exception in Event Engine

Changing to another event type does not remove the field parameters from a parameterized plan. You must manually remove the parameter if you change the event type.

10.8.4 Calculated Fields Do Not Appear in Alert Filters

You cannot create a row or group filter alert on a calculated field. See the Oracle BAM 10.1.3.1 Tech Notes on the Oracle Technology Network pages for information on designing predictive alerts.

`http://www.oracle.com/technology/products/integration/bam/10.1.3/TechNotes/`

10.8.5 Filter Items May Appear Misaligned

Alignment issues occur for the Row and Group Filter tab in Alerts.

10.8.6 Alerts Not Deleted with Parent Reports

Alerts are not deleted when they are based on a report that has been deleted.

10.8.7 Cancel Does Not Work on Clear Alert History

If you click the **Clear alert history** link and then click **Cancel**, when you click the **Activate** checkbox for an alert, the alert history is cleared. Write alert history to the Event log to avoid mistakenly clearing it.

10.8.8 Invalid Windows File Name Characters in Report Name

Alerts do not launch if you select a report name that contains any of the invalid Windows file name characters such as \ / : * ? " < > |.

10.8.9 Alerts Still Launch After Report Is Deleted

Launched alerts that reference deleted reports behave inconsistently. Make sure the reports used by alerts still exist.

10.8.10 Orphaned Alert Not Marked

An alert is not marked as orphaned if a prompts or parameters is later created in a view other than the first view in a multi-view report.

10.8.11 Unique Naming Not Enforced on Alert Parameters

The Alert Parameter dialog incorrectly allows you to create two parameters with the same name.

10.8.12 Row-level Security Not Supported for Alerts on Data Change

Row level security is not respected for alerts on data changing in a data object. Also, the row level security of the alert owner is applied and not the message recipient.

10.8.13 Non-applicable Aggregates Included in Select Data Field Dialog

The Select Data Field dialog in Alert Rule Editor incorrectly allows users to select non-applicable aggregates. Select valid functions for data fields.

10.8.14 Duplicate Fields May Appear in Field Lists

When creating and editing alerts with groups and filters, duplicate fields may appear in the lists of fields.

10.8.15 Alerts on Aggregates May Misfire

Alerts on aggregates sometimes fire when they should not. For example, **alert me when SUM(Sales) changes** may fire when SUM(Sales) has not changed.

10.8.16 Calling .NET Web Service Directly Using External Action

When defining an External Action for Alerts in Architect, you can call a .NET web service if all of the following conditions are true:

- The namespace is the same as the one used in the proxy in Event Engine code: http://mahamoti-djinn/ActionService
- The method name is the same as `execute`
- The argument to the method `execute` is `ActionData`

A BPEL service does not have tight binding with namespaces and therefore can be called with just the method name, for example, `execute` or `initiate`. As long as the signature is the same (variable name can be different), XML data will go into the BPEL process.

10.8.17 Alert Actions Ignored if Previous Action Fails

If an Alert is configured with multiple actions, and one action fails, no other actions will be executed.

10.9 Administrator and Architect Issues and Workarounds

This section describes Administrator and Architect issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.9.1, "Plan Setting Check May Take a Long Time"
- Section 10.9.2, "Plan Does Not Restart When Plan Monitor Service Loses ADC Connection"
- Section 10.9.3, "Cannot Edit Data Objects with Some Alerts"
- Section 10.9.4, "Permission Changes May Not Propagate to Lookup Objects"
- Section 10.9.5, "Invalid Lookups Prevent Deletes From Being Sent to the View"
- Section 10.9.6, "Non-administrators Cannot Clear Data Objects with Joins"
- Section 10.9.7, "Lookups That Return Multiple Rows Not Supported"
- Section 10.9.8, "Decimal with Scale 10 Allows Seven Digits Left of Decimal Point"
- Section 10.9.9, "Error May Occur When Deleting Row from Lookup Table"

10.9.1 Plan Setting Check May Take a Long Time

When requesting a Plan settings check in Administrator, it may take a long time to determine if the monitoring settings for Plans have been changed.

10.9.2 Plan Does Not Restart When Plan Monitor Service Loses ADC Connection

When the Plan Monitor Service loses connectivity to the Active Data Cache, a Plan does not restart. Restart the Plan Monitor Service.

10.9.3 Cannot Edit Data Objects with Some Alerts

If a data object has an alert using **When this data field has a condition of x**, a message displays that the data object is in use if you try to edit the data object. To edit a data object that has alerts based on it, you must stop the Oracle BAM Event Service, make the edits, and restart it.

10.9.4 Permission Changes May Not Propagate to Lookup Objects

When you change permissions on a data object that has lookups written against it, you may also need to change permissions on the other data objects that are looking up against this data object. If a user builds a lookup field against a data object where they do not have read access, data will still be returned.

10.9.5 Invalid Lookups Prevent Deletes From Being Sent to the View

The Active Data Cache only supports lookups as inner joins that only match one value. No matches are invalid, and two or more matches are invalid. Ensure that a lookup matches one and only one row in the foreign table. If this is not true, then lookups on active data can include values that should be deleted.

10.9.6 Non-administrators Cannot Clear Data Objects with Joins

Logging on as a non-administrator user and trying to clear a data object containing joins results in an error. The Administrator must log on and clear the data object.

10.9.7 Lookups That Return Multiple Rows Not Supported

Active Data Cache lookups do not support returning multiple rows. However, it is not prevented, and when it does happen, the behavior is undefined.

10.9.8 Decimal with Scale 10 Allows Seven Digits Left of Decimal Point

The default scale setting for decimals is 10 which allows seven digits to the left of the decimal point and ten to the right for a precision total of 17. To increase the number of digits allowed to the left of the decimal point, decrease the scale value. For example, if scale is 3, you will have 14 digits left of the decimal.

10.9.9 Error May Occur When Deleting Row from Lookup Table

An error can occur when deleting a row from a lookup data object (that is not an external data object) when a report using a lookup field from the lookup data object is open. Close the error and refresh the contents. The row is deleted.

10.10 Enterprise Link Issues and Workarounds

This section describes Enterprise Link issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.10.1, "Nonexistent Alert Does Not Cause Plan to Fail"
- Section 10.10.2, "GET Method Not Working in Enterprise Link Web Service"
- Section 10.10.3, ".NET Framework 2.0 Causes Error When Running Enterprise Link Plans"

10.10.1 Nonexistent Alert Does Not Cause Plan to Fail

A Plan does not fail if the Alert Transform is set to an alert that does not exist.

10.10.2 GET Method Not Working in Enterprise Link Web Service

Enterprise Link Web Service is not working with the GET method of sending data to the Enterprise Link Web service. HTTP Post and HTTP Get are disabled by default. For more information, see:

`http://support.microsoft.com/kb/819267/en-us`

10.10.3 .NET Framework 2.0 Causes Error When Running Enterprise Link Plans

Various errors including "Unhandled Exception: System.ArgumentOutOfRangeException: Ticks must be between DateTime.MinValue.Ticks and DateTime.MaxValue.Ticks. Parameter name: ticks" can occur when .NET 2.0 is installed on an Oracle Business Activity Monitoring host. This is a known Microsoft issue and requires a Microsoft hotfix. Documentation on this issue is available at the following URL:
`http://support.microsoft.com/kb/907262/en-us`

10.11 BPEL-BAM Integration Issues and Workarounds

This section describes BPEL-BAM integration issues and, where applicable, their workarounds. It includes the following topics:

- Section 10.11.1, "10.1.3.1.0 BPEL and JDeveloper BPEL Plugin Must be Used"

- Section 10.11.2, "Changing BAM Server From BPEL Console Takes No Effect at Runtime"
- Section 10.11.3, "Batched Messages Lost On Restart"
- Section 10.11.4, "Data Object Read Permission Required for Updates/Upserts or Deletes"
- Section 10.11.5, "Duplicate Messages on IIS Restart"
- Section 10.11.6, "Sensor Actions Order is Not Guaranteed When Using Batch Mode"
- Section 10.11.7, "Western European Number Format Issue in Transforms"

10.11.1 10.1.3.1.0 BPEL and JDeveloper BPEL Plugin Must be Used

Oracle Business Activity Monitoring 10.1.3.1.0 needs to run with Oracle BPEL 10.1.3.1.0 and vice versa. Oracle JDeveloper must have the 10.1.3.1.0 BPEL plugin.

10.11.2 Changing BAM Server From BPEL Console Takes No Effect at Runtime

Changing the Oracle BAM server details under the descriptor tab for deployed process through BPEL Console does not take effect at runtime, even after restarting the BPEL Server, and it continues to refer to the old Oracle BAM server at runtime. If you must modify the oracle BAM server details, you must do it at design time by loading the data object from the BAM sensor action pane, or change it manually in the bpel.xml file and deploy the process.

10.11.3 Batched Messages Lost On Restart

If you restart Oracle BPEL Server, any messages currently being batched are lost. Ensure that all messages have successfully published to Oracle Business Activity Monitoring Active Data Cache before restarting Oracle BPEL Server.

10.11.4 Data Object Read Permission Required for Updates/Upserts or Deletes

Read permission should be given with Update or Delete permissions on a data object for a given user, otherwise errors occur when attempting to update/upsert/delete into Oracle Business Activity Monitoring Active Data Cache data object using BPEL-BAM integration, and operation fails.

10.11.5 Duplicate Messages on IIS Restart

If Microsoft IIS restarts on the BAM server while messages are being published from BPEL, duplicate messages can show up in BAM. To avoid this issue, use non-batch mode for BAM sensor actions, and using Oracle BAM Architect, create an index on the **BPEL InstanceID** column in the database table to where messages are being written.

10.11.6 Sensor Actions Order is Not Guaranteed When Using Batch Mode

If you enabled batching on a BAM sensor action on the Create Sensor Action window, when a single BPEL process has a BAM Sensor Action with an Insert operation, followed by another BAM Sensor Action with an Update operation, Oracle Business Activity Monitoring may change the order in which these operations are executed. This can cause the updates to be lost. To work around, select only one type of sensor operation per BPEL process, such as Upsert. Also, using Oracle BAM Architect, make

sure that the target data object **InstanceID** column is of type `Integer`, and create an index on the **InstanceID** column.

10.11.7 Western European Number Format Issue in Transforms

In many Western European locales such as German or French, the default decimal point is a comma (,) instead of the dot (.). In that case the mathematical function in a transform activity, such as `ADD` and `SUBTRACT`, will give an output using the comma as decimal point, although the input numbers of the function are using dot.

To work around this issue, add a decimal-format function to overwrite the default format. The following is an example for `ADDITION`.

```
<xsl:decimal-format name="usa" decimal-separator="."/>
<xsl:template match="/">
  <tns:Root-Element>
    <tns:Price>
      <tns:price1>
        <xsl:value-of select="/tns:Root-Element/tns:Price/tns:price1"/>
      </tns:price1>
      <tns:price2>
        <xsl:value-of select="/tns:Root-Element/tns:Price/tns:price2"/>
      </tns:price2>
      <tns:price3>
        <xsl:value-of
select="format-number((/tns:Root-Element/tns:Price/tns:price1 -
 /tns:Root-Element/tns:Price/tns:price2), '#.00', 'usa')"/>
      </tns:price3>
    </tns:Price>
  </tns:Root-Element>
</xsl:template>
```

11 Oracle Sensor Edge Server

This chapter describes issues with Oracle Sensor Edge Server. It includes the following topics:

- Section 11.1, "Installation and Configuration Issues"
- Section 11.2, "General Issues"
- Section 11.3, "Documentation Issues"

11.1 Installation and Configuration Issues

This section describes installation and configuration issues regarding Oracle Sensor Edge Server. It includes the following topics:

- Section 11.1.1, "OC4J 10.1.2 Must be Stopped if Installing Against It"
- Section 11.1.2, "Default Database Tablespaces"
- Section 11.1.3, "DBMS Lock Problem"
- Section 11.1.4, "Unable to Create a JMX Connection"
- Section 11.1.5, "Restart Server for Changes to Take Effect"
- Section 11.1.6, "Oracle Sensor Edge Server Installation Fails"
- Section 11.1.7, "Resolving the Reboot Issue for XML Configuration"

11.1.1 OC4J 10.1.2 Must be Stopped if Installing Against It

As noted in *Oracle Sensor Edge Server Guide*, you can install Oracle Sensor Edge Server along with OC4J 10.1.2 (versus the current 10.1.3 version). If you choose to install Oracle Sensor Edge Server with OC4J 10.1.2, ensure that OC4J is not running at the time. If OC4J 10.1.2 is running when you try to install Oracle Sensor Edge Server against it, the installation fails.

OC4J 10.1.3 standalone is also deployed in this release (it is in an ear file, and not deployed through Oracle Installed).

11.1.2 Default Database Tablespaces

The scripts included with Oracle Sensor Edge Server are for a simple, generic installations. Our testing is accomplished against such generic installations.

However, in enterprise environments, there may be many custom requirements and configurations that customers must design and implement themselves.

For this reason, please ensure that you are familiar with tablespace creation. To learn about database tablespace creation, see the *Oracle SQL Reference* and *Oracle Database Concepts* guides for your particular release.

Once you have set up your database (including the server, datafiles, and tablespaces across datafiles), you can modify Oracle Sensor Edge Server install scripts as needed.

`create_edg_user.sql` is used for SDS, and `create_edg_sda_user.sql`is used for SDR.

These scripts must be modified to use newly-created tablespaces for specific customer requirements.

Under the create user command where you specify which tablespace the user is to use, change the line containing 'create user' in the .sql scripts, according to the manual.

11.1.3 DBMS Lock Problem

In rare circumstances when Oracle Universal Installer is attempting to install the SDS into a database that already has an SDR installed, an error occurs. This happens due to a conflict in privileges for the components (you can see the specifics in `createedgeuser_SDS.log`). To resolve the problem, shut down any other Oracle Sensor Edge Server-related DBMS jobs, then try the installation again.

11.1.4 Unable to Create a JMX Connection

An error was reported in which users were not able to create a JMX connection. The error was caused by the client code trying to access an invalid OC4J instance. To avoid this problem, ensure that your code is connecting to a valid OC4J instance (verify that the name is correct).

11.1.5 Restart Server for Changes to Take Effect

OC4J Enterprise Manager does not automatically warn that the server must be restarted in order for changes to take effect. In order for your server changes to take effect, you must restart the server.

11.1.6 Oracle Sensor Edge Server Installation Fails

When installing the Oracle Sensor Edge Server, do not select the Oracle Containers for J2EE 10.1.3.0.0 option from the companion CD Oracle Universal Installer (OUI); selecting this option along with the SES option causes the Oracle Sensor Edge Server installation to fail. The valid OC4J instance is installed using the Oracle Application Server CD-ROM (or DVD-ROM), not the companion CD OUI. For more information, see the *Oracle Application Server Installation Guide* appropriate to your platform.

11.1.7 Resolving the Reboot Issue for XML Configuration

Error messages regarding invalid jms.xml typically occur because of an abnormal termination of OC4J, an OC4J crash, or the IP address of the server running OC4J changes.

If you encounter OC4J JMS Server startup problems after an abnormal shutdown, first check that no other OC4J JMS Server is running and using the same persistence files. Remove any.lock files from the ORACLE_HOME/j2ee/instance_name/persistence directory and then try restarting again.

If problems persist, confirm that the jms.xml file is valid.

If problems still persist, remove the jms.state file from the persistence directory and try again. Removing this file may result in the loss of transaction information. See also the section entitled "Abnormal Termination", located in the "Resource Providers" in "Chapter 3: Oracle Enterprise Messaging Service (OEMS)" of *Oracle Containers for J2EE Services Guide*.

In rare instances, one may be able to log in to Oracle Sensor Edge Server, but not into Oracle Enterprise Manager. If you encounter this problem, try to log in repeatedly (4-6 times); this will clear the error.

11.2 General Issues

This section describes general issues encountered in Oracle Sensor Edge Server. It includes the following topics:

- Section 11.2.1, "Using UTL_EDG.REMOVE_RULE Displays an Error"
- Section 11.2.2, "Adding a Rule Displays an Error"
- Section 11.2.3, "Localization -- Navigation Tree in the SES Console Renders as the Server Locale-Defined Character Set"
- Section 11.2.4, "Reassignment of Audio Event Type (207)"

11.2.1 Using UTL_EDG.REMOVE_RULE Displays an Error

When using the `API UTL_EDG.REMOVE_RULE`, an error may be encountered. This API only works if your rule was created through other Oracle Sensor Edge Server APIs.

11.2.2 Adding a Rule Displays an Error

In this release, be sure to use the syntax `':event'` instead of `'TAB.USER_DATA'`.

11.2.3 Localization -- Navigation Tree in the SES Console Renders as the Server Locale-Defined Character Set

The character set defined in the Server Locale overrides the characters set in the browser locale even when you switch the browser locale. For example, if you switch the browser locale to *Japanese*, the Server Locale is defined as traditional Chinese, the strings in the Navigation Tree of the SES Console (such as the *`Available Extensions`*, filters, devices, and device group nodes) and the error and confirmation messages render in traditional Chinese rather than in Japanese. To correct this problem, reset the Server Locale, or override the Server Locale-defined character set by overloading *`MsgTranslator`* methods to take locale. String literals in the SESConfig tree control must be non-static and fetched using *`Locale`* on each page request.

11.2.4 Reassignment of Audio Event Type (207)

The Audio Event Type (which is the event supported by the Simple Audio Driver) has been reassigned from *207* to *104*, and is now included in the group Generic Instructions to Devices (Event Types 100 - 199). Its Subtype remains *1* (*`Play audio jobs in the .xml file in the Datafield`*).

11.3 Documentation Issues

This section describes documentation issues regarding Oracle Sensor Edge Server. It includes the following topic:

- Section 11.3.1, "Documentation for Oracle Sensor Edge Server Extensions"
- Section 11.3.2, "Manually Deploying Sensor Data Streams Against an Existing Sensor Data Repository"

11.3.1 Documentation for Oracle Sensor Edge Server Extensions

Once the server is installed, you can see documentation for extensions at: *http://<host on which SES is installed>:<oc4j port>/edge/extensions*. Or, see Oracle Sensor Edge Server information on Oracle Technology Network at:

(http://www.oracle.com/technology/products/sensor_edge_server/extensions.html)

11.3.2 Manually Deploying Sensor Data Streams Against an Existing Sensor Data Repository

Oracle Sensor Edge Server Guide omits a step in describing how to manually deploy Sensor Data Streams if you have already created a Sensor Data Repository. The procedure for manually deploying Sensor Data Streams if the Sensor Data Repository exists is as follows:

1. Use SQL*Plus to connect to the database as *sysdba*, by running `sqlplus /nolog`.
2. Run sqlplus; connect as *`sys/your_pwd@your_db as sysdba`*.
3. Run the script `grant_edg_user.sql`, located in `Oracle_Home /edge/stage/sql/10.1.3`.
4. Disconnect as *sys* and then reconnect to the database as the *edge user*.
5. Run the script `edg_create_streams.sql`, located in `Oracle_Home /edge/stage/sql/10.1.3`.
6. Follow the procedure described in "Connecting Oracle Sensor Edge Server to Sensor Data Streams".

   When installing the SDS on an Oracle 10g database, this privilege must be granted to the EDGE database user. This step is not necessary on an Oracle 9i database. If you do it on an Oracle 9i database, you receive an error during user creation, but you may ignore the error message.

12

Oracle HTTP Server

This chapter describes issues associated with Oracle HTTP Server. It includes the following topics:

- Section 12.1, "Issues and Workarounds"
- Section 12.2, "Documentation Errata"

12.1 Issues and Workarounds

This section contains the following topics:

- Section 12.1.1, "Configuring Weighted Routing for AJP13 Destinations"
- Section 12.1.2, "Changing the Location of the PID File Requires a Change in apachectl"
- Section 12.1.3, "Routing Requests to Different Middle Tiers Based on the URL of the Request"

12.1.1 Configuring Weighted Routing for AJP13 Destinations

In the `Oc4jMount` directive, weighted load balancing works only when the destinations are instances or clusters. Weighted load balancing does not work for AJP13 destinations. For AJP13 destinations, the load is distributed evenly in a round-robin manner. For example, if your `mod_oc4j.conf` file contains the following lines, Host_A and Host_B will get an equal number of requests despite the settings in the `Oc4jRoutingWeight` directives.

```
Oc4jSelectMethod roundrobin:weighted
Oc4jRoutingWeight Host_A 1
Oc4jRoutingWeight Host_B 25
Oc4jMount /j2ee   ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>
Oc4jMount /j2ee/* ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>
# Instance weighted routing work as expected
#Oc4jMount /j2ee   instance://Host_A:home,Host_B:home
#Oc4jMount /j2ee/* instance://Host_A:home,Host_B:home
```

A possible workaround to achieve weighted load balancing for AJP13 destinations is to specify the same host multiple times in the `Oc4jMount` directive. The following example specifies Host_B twice.

```
Oc4jMount /j2ee ajp13://Host_A:<AJP Port>,Host_B:<AJP Port>,Host_B:<AJP Port>
```

12.1.2 Changing the Location of the PID File Requires a Change in apachectl

The `PidFile` directive specifies the location of the PID file. When Oracle HTTP Server starts up, it writes its process ID in the PID file.

If you edit the `PidFile` directive to change the location of the PID file, you must also make a corresponding change in the `ORACLE_HOME/Apache/Apache/bin/apachectl` file.

12.1.3 Routing Requests to Different Middle Tiers Based on the URL of the Request

It is not possible to configure two separate Oracle HTTP Servers using the same virtual hostname and port, where the proxy server routes the requests based upon the URL path, and also have them participate as partners in the same SSO configuration.

For example: You configure your load balancer or Oracle Web Cache on the web tier to route requests to applications that use Oracle Single Sign-On to the appropriate middle tier, based on the URLs.

- You have an Oracle HTTP Server configured to handle requests for `http://wwww.mycompany.com`.
- You have an Oracle Web Cache configured to route requests for `http://www.mycompany.com/app1` to midtier1.
- You have an Oracle Web Cache configured to route requests for `http://www.mycompany.com/app2` to midtier2.

`app1` and `app2` are applications that use Oracle Single Sign-On.

When a user issues a request for `/app1`, the request is redirected to midtier1. mod_osso on midtier1 redirects the request to the SSO server for authentication. After authentication, the SSO server calls the success URL, which is always `www.mycompany.com/osso_login_success` regardless of which application the request was for, and this success URL is handled by the Oracle HTTP Server for `www.mycompany.com`. Because the success URL does not specify which application the request is for, the Oracle HTTP Server for `www.mycompany.com` does not know where to redirect the request (whether to redirect it to midtier1 or midtier2). The load balancer or Oracle Web Cache cannot be configured to redirect the success URL correctly as there is no application information in the success URL.

A possible solution to this issue is described in MetaLink note 390358.1, which can be obtained from Oracle Customer Services via a Service Request.

12.2 Documentation Errata

This section describes documentation errata. It includes the following topic:

- Section 12.2.1, "Oracle HTTP Server Apache Version Number"
- Section 12.2.2, "Log Level Choices for Configuring IIS Listener for Single Sign-On are Incorrect"
- Section 12.2.3, "Correction to SSLCARevocationFile Directive Description"
- Section 12.2.4, "Correction to SSLCARevocationPath Directive Description"
- Section 12.2.5, "Incorrect Tags Listed for 40-Bit and 56-Bit Export Ciphers"
- Section 12.2.6, "Incorrect Web Address for mod_php Extensions Information"
- Section 12.2.7, "Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File"

12.2.1 Oracle HTTP Server Apache Version Number

Oracle HTTP Server is based on Apache version 1.3.34.

12.2.2 Log Level Choices for Configuring IIS Listener for Single Sign-On are Incorrect

The "Configuring IIS Listener for Single Sign-On" section in *Oracle HTTP Server Administrator's Guide* incorrectly states that the valid log levels are `debug`, `inform`, `error`, and `emergency`.

The valid log levels are `debug`, `inform`, `error`, and `emerg`.

12.2.3 Correction to SSLCARevocationFile Directive Description

The description for the `SSLCARevocationFile` directive in *Oracle HTTP Server Administrator's Guide*, Chapter 10, "Enabling SSL for Oracle HTTP Server," should be corrected as follows:

Specifies the file where you can assemble the Certificate RevocationLists (CRLs) from CAs (Certificate Authorities) that you accept certificates from. These are used for client authentication. Such a file is the concatenation of various PEM-encoded CRL files in order of preference. CRL files should be from a single issuer. Files specified by `SSLCARevocationFile` should not be hashed. There should be only one `SSLCARevocationFile` entry; if there are multiple entries, then the last one will be used. `SSLCARevocationFile` can be used alternatively and/or additionally to `SSLCARevocationPath`.

12.2.4 Correction to SSLCARevocationPath Directive Description

The description for the `SSLCARevocationPath` directive in *Oracle HTTP Server Administrator's Guide*, Chapter 10, "Enabling SSL for Oracle HTTP Server," should be corrected as follows:

Specifies the directory where PEM-encoded Certificate Revocation Lists (CRLs) are stored. These CRLs come from the CAs (Certificate Authorities) that you accept certificates from. If a client attempts to authenticate itself with a certificate that is on one of these CRLs, then the certificate is revoked and the client cannot authenticate itself with your server.

CRL files in the `SSLCARevocationPath` directory must be hashed. You can find the instructions to hash a CRL in *Oracle Application Server Administrator's Guide*, Section 11.2.5.2.1, "Renaming CRLs with a Hash Value for Certificate Validation." Note that `orapki` creates a file with a "`.rN`" extension. `SSLCARevocationPath` will not work with this extension and it is still possible to access with a revoked certificate. To get it to work with Oracle HTTP Server, change the extension from "`.rN`" to "`.r0`".

`SSLCARevocationPath` can be used alternatively and/or additionally to `SSLCARevocationFile`.

12.2.5 Incorrect Tags Listed for 40-Bit and 56-Bit Export Ciphers

Table 10-1, "SSLCipher Suite Tags", in the *Oracle HTTP Server Administrator's Guide* listed incorrectly the aliases for the 40-bit and the 56-bit export ciphers.

For 40-bit export cipher, do not use `EXP40`. Use `EXPORT40` instead.

For 56-bit export cipher, do not use `EXP56`. Use `EXPORT56` instead.

12.2.6 Incorrect Web Address for mod_php Extensions Information

The Web site provided for additional information on mod_php extensions was incorrect. The correct Web site is

http://www.php.net/manual/en/funcref.php

12.2.7 Clarification for the Name of the Oracle Application Server Proxy Plug-In Definition File

The "Using Oracle Application Server Proxy Plug-In" appendix in the *Oracle HTTP Server Administrator's Guide* mentions the proxy definition file without mentioning the actual filename. This is because the definition file can have any name.

If you are using the Oracle Application Server Proxy Plug-In with Microsoft IIS, you specify the full path to the definition file in the `server_defs` entry in the Windows registry. See the "Using Oracle Application Server Proxy Plug-In" appendix in the *Oracle HTTP Server Administrator's Guide* for the specific location in the registry.

If you are using the Oracle Application Server Proxy Plug-In with Sun Java System listener, you specify the full path to the definition file using the `server_defs` parameter on the `Init` line in the `magnus.conf` (or `obj.conf`, depending on the version of your Sun Java System listener) configuration file. In the following example, /oracle/proxyplugin/proxydefs is the definition file:

```
Init fn="op_init" server_defs="/oracle/proxyplugin/proxydefs" log_
file="/oracle/proxyplugin/oproxy.log" log_level=error
```

13

Oracle Containers for J2EE

This chapter discusses release notes for Oracle Containers for J2EE (OC4J) for 10.1.3.1.0. It includes the following topics:

- Section 13.1, "Configuration, Deployment, and Administration Issues and Workarounds"
- Section 13.2, "Servlet Issues and Workarounds"
- Section 13.3, "JavaServer Pages (JSP) Issues and Workarounds"
- Section 13.4, "EJB Issues and Workarounds"
- Section 13.5, "Web Services Issues and Workarounds"
- Section 13.6, "OC4J Services Issues and Workarounds"
- Section 13.7, "J2EE Connector Architecture (J2CA) Issues and Workarounds"
- Section 13.8, "Release Notes for OracleAS JAAS Provider and Security"
- Section 13.9, "General OC4J Issues and Workarounds"
- Section 13.10, "Documentation Errata"

You can access Oracle manuals mentioned in this document at the following URL:

`http://www.oracle.com/technology/index.html`

13.1 Configuration, Deployment, and Administration Issues and Workarounds

This section describes configuration, deployment, and administration issues for Oracle Application Server Containers for J2EE (OC4J). This section covers the following topics:

- Section 13.1.1, "Remove the Tomcat Examples"
- Section 13.1.2, "Deprecated Environment Variables KeepWrapperCode, WrapperCodeDir, and DoNotReGenerateWrapperCode"
- Section 13.1.3, "Deprecated System Property ejb.batch.compile"
- Section 13.1.4, "Desupported orion-ejb-jar.xml Attributes"
- Section 13.1.5, "System Property for File Information Cache Size"
- Section 13.1.6, "OC4J Memory Error"
- Section 13.1.7, "Use of '/' for Context Root"
- Section 13.1.8, "Allowed Format for Version Numbers in MANIFEST.MF File"

- Section 13.1.9, "Having the AJP Listener Use the Loopback Interface Only"
- Section 13.1.10, "Determining JVM, OC4J Instance, or Application Server Instance"
- Section 13.1.11, "Use of the http.file.allowAlias Property"
- Section 13.1.12, "Starting OC4J Using JDK 1.4.2 for a Headless Console"
- Section 13.1.13, "Invocation by Servlet Name without Mapping Is Disabled by Default"
- Section 13.1.14, "Warning Regarding Maximum Concurrent Timers"
- Section 13.1.15, "New Wait Option for Sequential Redeployment to a Cluster"
- Section 13.1.16, "Job Scheduler Redeployment"
- Section 13.1.17, "Incompatible ONS Versions"
- Section 13.1.18, "How to Specify Ports for State Replication in OPMN"
- Section 13.1.19, "Incorporating Ant Tasks Using Ant 1.6.5 Outside OC4J with the OC4J Administrative Client"
- Section 13.1.20, "Specifying the Mapping Attribute"
- Section 13.1.21, "Using opmn Settings for OC4J home Instance As Template for New Instance"
- Section 13.1.22, "OC4J Instances in a Group Must Have Same Version"
- Section 13.1.23, "Same Destination for Trace Output from Two OC4J Instances Not Supported"

For information on configuring OC4J, see the *Oracle Containers for J2EE Configuration and Administration Guide* for OC4J at:

`http://www.oracle.com/technology/index.html`

13.1.1 Remove the Tomcat Examples

OC4J ships the Tomcat examples by default. Many of the Tomcat examples do not conform to the Oracle Secure Coding Standards. Oracle recommends that you remove the Tomcat examples except when used in demonstration and testing environments.

13.1.2 Deprecated Environment Variables KeepWrapperCode, WrapperCodeDir, and DoNotReGenerateWrapperCode

System properties `KeepWrapperCode`, `WrapperCodeDir`, and `DoNotReGenerateWrapperCode` are deprecated.

These options apply only to EJB 2.1 CMP entity beans; they do not apply to session beans, message-driven beans, or EJB 3.0 entities. OC4J generates only one file per EJB 2.1 CMP entity bean. OC4J does not generate any artifacts if you use only EJB 3.0 entities. Because wrappers contain very little content, debugging them is not useful.

For more information, see "Debugging Generated Wrapper Code" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*.

13.1.3 Deprecated System Property ejb.batch.compile

System property `ejb.batch.compile` is deprecated.

To enable or disable batch compilation, use the `orion-application.xml` file `<orion-application>` element `batch-compile` attribute.

13.1.4 Desupported orion-ejb-jar.xml Attributes

The following `orion-ejb-jar.xml` file attributes are desupported:

- `max-instances-per-pk`
- `min-instances-per-pk`
- `disable-wrapper-cache`
- `instance-cache-timeout`
- `locking-mode="old_pessimistic"`

> **Note:** Do not use these attributes in this release. Doing so will lead to deployment failure.

13.1.5 System Property for File Information Cache Size

When a client accesses an application using path information, OC4J looks for files as applicable and stores related file information into a cache. Previously, OC4J did not free objects from this cache, resulting in memory loss.

There is now a system property, `http.maxFileInfoCacheEntries`, to control the cache, as follows:

- `http.maxFileInfoCacheEntries < 0` to never cache
- `http.maxFileInfoCacheEntries == 0` to not change the previous behavior
- `http.maxFileInfoCacheEntries > 0` to set the maximum number of cached entries

The default value is 2000.

13.1.6 OC4J Memory Error

When compiling large jsp page, the following memory error is displayed along with `JspCompileException:`

```
[ **Out of memory, aborting** ]
[ ]
[ *** panic: JVMST018: Cannot allocate memory for
initializeMarkAndAllocBits(allocbits1)*** ]
```

To workaround this issue, lower the maximum heap size by adding `-Dbuild.compiler.options=-J-Xmx750M` option to the OC4J home java-options in the opmn.xml file.

For example,

```
<process-type id="home" module-id="OC4J">
value="-Dbuild.compiler.options=-J-Xmx750M
-Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
-Djava.awt.headless=true -Xmx256m "/>
```

13.1.7 Use of '/' for Context Root

Specification of "/" for the context root when deploying an application to OC4J is supported now. This includes support by Application Server Control and `admin_client.jar`.

Background: The 10.1.3.1 release of the *Oracle Containers for J2EE Configuration and Administration Guide* states that "Specifying a `root` setting of "`/`" will override the OC4J default Web application. This setting or a null setting is not allowed by the `admin_client.jar` utility when binding a Web application to the Web site."

Now, however, a `root` setting of "`/`" *is* allowed. You can use this as the context root when deploying an application. The following example uses `admin_client.jar` to deploy a WAR file and bind to "`/`".

```
% java -jar admin_client.jar deployer:oc4j:localhost oc4jadmin welcome1 \
-deploy -file d:how-to-rolling-upgrade-web-v1.war -deploymentName h2ru_2 \
-bindAllWebApps -contextRoot "/"
```

Be aware that if an EAR file includes an `application.xml` file that has the context root set to "`/`", such as in the following example, then "`/`" will be the default context root when the application is deployed using either Application Server Control or `admin_client.jar`.

```
<application>
<display-name>How-To Rolling Upgrade</display-name>
 <module>
    <web>
      <web-uri>how-to-rolling-upgrade-web.war</web-uri>
      <context-root>/</context-root>
    </web>
  </module>
</application>
```

Note: Because the default ping URL for Oracle HTTP Server is also "`/`", using "`/`" as the context root when you deploy an application may result in the following issues:

- Pings intended for Oracle HTTP Server go directly to OC4J instead.
- Extraneous `HEAD` requests appear in the `*-web-access.log` file.

You can avoid these issues by placing the following directive:

```
Oc4jMountCopy off
```

Into the following file:

ORACLE_HOME`/Apache/Apache/conf/dms.conf`

13.1.8 Allowed Format for Version Numbers in MANIFEST.MF File

Previously, version numbers in the `Specification-Version` and `Implementation-Version` attributes of a `MANIFEST.MF` file were limited to five elements: `n1.n2.n3.n4.n5`. (OC4J would not start if there were more than five elements in a `Specification-Version` or `Implementation-Version` value.)

Now, version numbers of up to eight elements are allowed: `n1.n2.n3.n4.n5.n6.n7.n8`.

The maximum allowed value for an element is `99999999`.

13.1.9 Having the AJP Listener Use the Loopback Interface Only

There may be situations where you are concerned about AJP security but do not need to run AJP over a network (such as when OC4J and Oracle HTTP Server are on the same system) and would prefer not to configure AJP over SSL.

If you specify "127.0.0.1" as host in `default-web-site.xml`, as in the following example, the AJP listener will listen only on the "loopback interface". This allows you to use TCP/IP facilities without actually accessing any network hardware or drivers. The connection just loops back to `localhost`.

```
<web-site host="127.0.0.1" protocol="ajp13" port="..." ... >
   ...
</web-site>
```

13.1.10 Determining JVM, OC4J Instance, or Application Server Instance

Developers, when debugging in a cluster, frequently need to determine what JVM, what application server instance (in a multi-instance cluster), or what OC4J instance they are running on within the cluster. This is useful for debugging as well as building management utilities on top of Oracle Application Server.

In Oracle Application Server 10.1.3.x, there are several properties that developers can access programmatically through `System.getProperty()` calls to obtain this kind of information. Specifically:

- `oracle.home`: a string containing the physical directory in which Oracle Application Server is installed
- `oracle.oc4j.instancename`: a string containing the name of the OC4J instance
- `oracle.ons.instancename`: a string containing the name of the Oracle Application Server instance
- `oracle.ons.indexid`: a string containing a combination of the OC4J instance name, the group it belongs to, and the JVM executing it, in the following format:

  oc4j_instance_name.oc4j_groupname.jvm_number

  For example: `java_ee1.javaee_group.2`

In a Java process running on OC4J you could print this information to the system console as follows:

```
System.out.println("Oracle home name: " + System.getProperty("oracle.home"));
System.out.println("OC4J Instance name: " +
                   System.getProperty("oracle.oc4j.instancename"));
System.out.println("AS Instance name: " +
                   System.getProperty("oracle.ons.instancename"));
System.out.println("Instance:Group:JVM PID: " +
                   System.getProperty("oracle.ons.indexid"));
```

13.1.11 Use of the http.file.allowAlias Property

By default, OC4J now ships with the `http.file.allowAlias` property set to `false`. This setting prevents the use of symbolic links. Oracle strongly recommends that this setting not be changed to `true`, which might allow JSP source code to be visible to end users in some circumstances.

Instead of changing the property setting, you can use one of the following workarounds:

- Temporarily switch from using the OC4J lightweight HTTP listener to front ending the OC4J application through Oracle HTTP Server, so that browsers access the pages indirectly through MOD_OC4J and Apache JServ Protocol (AJP), rather than directly through HTTP.
- Replace all symbolic links in an application with the names of the real files they represent.

  You can use a shell script to automate the replacement of symbolic links. For example:

```
#!/bin/ksh

PROGNAME="${0##*/}"
LN_EXTN="ln"

function displaySyntax
{
echo "${PROGNAME}! SYNTAX: ${PROGNAME} <some_dir_path>"
exit 1
}

if [[ $# < 0 ]]
then
displaySyntax
fi

DIR="$1"

if [[ ! -d ${DIR} ]]
then
displaySyntax
fi

find ${DIR} -type l|while read filepath
do
echo "FIXING: ${filepath} (=> ${filepath}.${LN_EXTN})"
mv ${filepath} ${filepath}.${LN_EXTN}
cp -L ${filepath}.${LN_EXTN} ${filepath}
done
```

This example KSH script would be invoked as follows:

```
$ fixLinks <web_module_root>
```

The script will recurse through any directory and, for any file it finds that is a symbolic link, will rename each link with an additional `.ln` extension and then place a copy of the link target in the original location where the link was found.

13.1.12 Starting OC4J Using JDK 1.4.2 for a Headless Console

For a headless console, the `-Djava.awt.headless=true` parameter is necessary for starting OC4J using JDK 1.4.2 in an Oracle Application Server 10.1.3.1 or later 10.1.3.*x* release.

If you are using JDK 1.5, the default JDK for 10.1.3.*x* releases, you do not need this option to start OC4J applications from headless consoles.

Here is a sample `opmn.xml` section for an OC4J component with `-Djava.awt.headless=true` added:

```
<ias-component id="default_group">
<process-type id="home" module-id="OC4J" status="enabled">
<module-data>
<category id="start-parameters">
<data id="java-options" value="-server
-Dcom.sun.management.jmxremote
-Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
-Djava.awt.headless=true -Dhttp.webdir.enable=false"/>
</category>
<category id="stop-parameters">
<data id="java-options"
value="-Djava.security.policy=$ORACLE_HOME/j2ee/home/config/java2.policy
-Djava.awt.headless=true -Dhttp.webdir.enable=false"/>
</category>
</module-data>
```

The *Oracle Containers for J2EE Configuration and Administration Guide*, Version 10.1.3.1, describes the `java.awt.headless` system property under "Overview of General System Properties" in Chapter 4, "OC4J Runtime Configuration."

13.1.13 Invocation by Servlet Name without Mapping Is Disabled by Default

The 10.1.3.x *Oracle Containers for J2EE Servlet Developer's Guide* notes that by default, servlet invocation by class name is now disabled, but can be enabled through the property setting `-Dhttp.webdir.enable=true`. (Servlet invocation by class name was enabled by default in versions 10.1.2.x and prior.)

What is similar, but undocumented, is that this also applies to invoking a servlet through its `<servlet-name>` value when there is no corresponding `<servlet-mapping>` entry. Invoking a servlet through its servlet name in this way was enabled by default in 10.1.2.x and prior, but requires the setting `-Dhttp.webdir.enable=true` in 10.1.3.x versions.

For example, consider the following `web.xml` entry, with no corresponding `<servlet-mapping>` entry:

```
<servlet>
   <servlet-name>TestIt</servlet-name>
   <servlet-class>mypackage.TestIt</servlet-class>
</servlet>
```

In 10.1.2.x, you could access this servlet using `/servlet/TestIt` without any property setting. In 10.1.3.x, you must set `-Dhttp.webdir.enable=true` to access the servlet in this way with the given configuration.

13.1.14 Warning Regarding Maximum Concurrent Timers

This release note provides background information and workarounds for warnings, such as the following examples, that occur when the number of concurrent timers exceeds the maximum.

```
WARNING J2EE OJR-10002

The number of concurrent Timers has reached the maximum limit
```

By default in 10.1.3.1 and 10.1.3.2, OC4J allows only eight concurrent timers. (A timer can be triggered through an EJB timer, the timer service, or the scheduler.) This limit is low by default because we expect each timer to be of short duration. When the number of timers is at the limit, such as if timers are running longer for any reason, timers are

no longer executed; when a new timer occurs, you will see the warning messages. There are two OC4J flags you can use in this circumstance:

- `timer.service.debug`: Determines whether to output additional diagnostic information for the timer service, including information about the current number of running timers. For example: `-Dtimer.service.debug=true`
- `executor.concurrent.tasks`: Specifies the number of concurrent tasks for the Executor Service. Through this flag you can increase the maximum number of concurrent timers allowed by OC4J. For example: `-Dexecutor.concurrent.tasks=12`

> **Note:** Each timer executes in a separate thread. If the maximum is set too high, resulting in numerous timers executing, then many threads will be used. It is advisable to recycle threads once they finish executing.

13.1.15 New Wait Option for Sequential Redeployment to a Cluster

When an application is deployed to a group using the `sequential` option, the deployment operation is serialized, with deployment done to one OC4J instance at a time so that the target application is never entirely in a stopped state. In a sequential deployment, the deployment manager immediately commences deployment on the next instance as soon as the deployment operation completes on the current instance. The result is that the system may not be able to stabilize itself so that the new application is fully active before the next deployment commences, which introduces the following possible side effects:

- The application can become inaccessible while it is stopped on one instance and before `mod_oc4j` is notified that the application is available on another instance.
- Session replication activities may not have had an opportunity to execute.

In some circumstances the session state of an application may be lost when you redeploy an application to a cluster using the `admin_client.jar` command or the `redeploy` Ant task, even if you specify the `sequential` and `keepsettings` options.

In Oracle Containers for J2EE release 10.1.3.2 or 10.1.3.1, you can use either the `waitsec` parameter of the `admin_client.jar -sequential` *`waitsec`* subswitch or the `sequentialDelay` property of the `redeploy` Ant task to specify a number of seconds between redeployments to different OC4J instances in a cluster. This delay can provide enough time for replication of session state.

With the introduction of the optional *`waitsec`* or sequentialDelay value, the deployment manager will wait for the prescribed period between deployment operations on OC4J instances within a group. This delay enhances the ability of administrators to perform a group redeployment operation that enables the system to stabilize as redeployment operations occur across a group, reducing the opportunities for applications to be inaccessible or session state to be lost.

The new syntax of the `admin_client.jar` command for redeployment to a cluster follows:

```
java -jar admin_client.jar uri adminId adminPassword -redeploy -file path/filename
-deploymentName appName [-keepSettings] [-sequential [waitsec
-removeArchive
```

For example, the following `admin_client.jar` command specifies a wait time of 15 seconds between redeployments to different OC4J instances:

```
java -jar admin_client.jar deployer:cluster:opmn://host:port/home oc4jadmin
password -redeploy -file "myapp.ear" -deploymentName rolling -sequential 15
-keepsettings
```

The new *`waitsec`* parameter also applies to the `-sequential` subswitch of the `admin_client.jar deploy` command.

An example of the `redeploy` Ant task with the new `sequentialDelay`property follows:

```
<oracle:redeploy
deployerUri="${deployer.uri}"
userid="${oc4j.admin.user}"
password="${oc4j.admin.password}"
file="${lib.dir}/${app.name}.archiveType"
deploymentName="${app.name}"
keepsettings="true"
sequential="true"
sequentialDelay="15"
logfile="${log.dir}/deploy-ear.log"/>
```

The new `sequentialDelay` option also applies to the `deploy` Ant task.

For more information on the `admin_client.jar` command or on the `redeploy` or `deploy` Ant task, see the *Oracle Containers for J2EE Deployment Guide.*

13.1.16 Job Scheduler Redeployment

If you redeploy an application with scheduled jobs, the scheduled jobs will not run after the application is redeployed.

When redeploying an application with scheduled jobs, you should:

1. Remove all scheduled jobs.
2. Redeploy the application.
3. Resubmit all the jobs.

13.1.17 Incompatible ONS Versions

The Oracle Notification Service (ONS) that is included with the Oracle Application Server 10.1.3.x releases is incompatible with the ONS version included with the Database 10.1.0.x releases. The following error is received when the two versions attempt a connection:

```
invalid connect server IP format
...
Terminating connection
...
```

The incompatibility causes RAC features, such as Fast Connection Failover, to fail. The workaround is to install the 10.1.0.6 patch set for the Oracle Database Server. The patch set includes an updated ONS. The patch can be downloaded from https://metalink.oracle.com.

13.1.18 How to Specify Ports for State Replication in OPMN

When you deploy an application utilizing state replication in a managed Oracle Application Server, OPMN dynamically allocates the ports that are used to propagate state across the cluster. You can restrict this allocation to a range of ports for an application that has peer-to-peer replication enabled. Specifying ports for state replication might be necessary in an installation with a firewall or network that uses a well-defined port range.

To specify a range of ports for peer-to-peer state replication

1. Add a `<port>` element to an OC4J instance configuration in the `opmn.xml` file.
2. Specify the name of an application that has peer-to-peer replication enabled as the value of the `id` attribute of the `<port>` element.
3. Specify a range of ports in the `range` attribute of the `<port>` element.

For example, for deployment of an application named `rac-web` that is set up for peer-to-peer replication, the line labeled `<port id=rac-web .../>` in the following OC4J instance configuration tells OPMN to use ports 15213 to 15214 for state replication:

```
<port id="default-web-site" range="80-100" protocol="http"/>
<port id="rmi" range="12401-12500"/>
<port id="rmis" range="12701-12800"/>
<port id="jms" range="12601-12700"/>
<port id="rac-web" range="15213-15214"/>
```

For more information about state replication, see Chapter 9, "Application Clustering in OC4J," in the *Oracle Containers for J2EE Configuration and Administration Guide*.

13.1.19 Incorporating Ant Tasks Using Ant 1.6.5 Outside OC4J with the OC4J Administrative Client

You can use the OC4J Administrative Client Utility for incorporating Ant tasks using Ant 1.6.5 outside OC4J. *Oracle Containers for J2EE Deployment Guide* describes how to incorporate Ant tasks outside OC4J without the Administrative Client Utility in Chapter 10, "Using OC4J Ant Tasks for Deployment," available from the Oracle Technology Network at

`http://download.oracle.com/docs/cd/B31017_01/web.1013/b28951/anttasks.htm#CHDGHFIE`

The Administrative Client Utility enables you to use OC4J Ant tasks for configuration and deployment.

To incorporate Ant tasks using Ant 1.6.5 Outside OC4J with the OC4J Administrative Client Utility:

1. Download the `oc4j_admin_client_`*`release_number`*`.zip` file from the Oracle Technology Network at

   `http://www.oracle.com/technology/software/products/ias/htdocs/utilsoft.html`

   For information about the Administrative Client Utility and how to use it, see "Downloading and Extracting the Remote Administration Client" in *Oracle Containers for J2EE Configuration and Administration Guide*, Chapter 6, "Using the admin_client.jar Utility," available from the Oracle Technology Network at

http://download.oracle.com/docs/cd/B31017_01/web.1013/b28950/adminclient.htm#CHDBEBHD

2. Extract the contents of `oc4j_admin_client_release_number.zip` into a local directory of your choice, such as `oc4j_admin_client`.
3. Copy the *ORACLE_HOME*`/ant/lib/ant-oracle.jar` file from your Oracle Application Server 10*g* Release 3 (10.1.3.1.0) home directory to *OC4J_ADMIN_CLIENT_DIR*`\ant\lib`, in the local directory to which you extracted the contents of `oc4j_admin_client_`*release_number*.
4. Set the `ORACLE_HOME` environment variable to the *OC4J_ADMIN_CLIENT_DIR* directory.
5. Add *ANT_HOME*`/ant/bin` to the system `PATH` environment variable.
6. Set the `ANT_HOME` environment variable to point to your Ant installation and the `JAVA_HOME` environment variable to point to the location of the Java 2 Standard Edition SDK.

   The common ANT installation directory is *ORACLE_HOME*`/ant`.
7. Declare the `oracle` namespace in the `<project>` element in the Ant build file (`build.xml`).

   ```
   <project name="test" default="all" basedir="."
     xmlns:oracle="antlib:oracle">
   ```

   References to the OC4J Ant tasks in `build.xml` will use this namespace.
8. Copy the `ant-oracle.properties` file from the *ORACLE_HOME*`/j2ee/utilities` directory to the directory containing your build file (`build.xml`).

   Although you can modify the file in *ORACLE_HOME*`/j2ee/utilities` and reference it from your build scripts, it is better to maintain the original file as a template.
9. Set the values for arguments to pass to the Ant tasks in the `ant-oracle.properties` file.

   The properties within the file are set to the OC4J default values. The file also reads in environment variable settings, such as for `ORACLE_HOME` and `JAVA_HOME`. You can edit any of these properties as necessary to reflect the configuration of the target OC4J instance or instances.
10. Copy the `ant-oracle.xml` file from the *ORACLE_HOME*`/j2ee/utilities` directory to the directory containing your build file (`build.xml`).
11. At the top level of your build file, add this `<import>` element:

    ```
    <import file="ant-oracle.xml"/>
    ```

13.1.20 Specifying the Mapping Attribute

For X.509 Certificate Authentication (X509Certificate), JAZN sets the mapping attribute for the Oracle Internet Directory (OID) provider to `"DN"` by default.

To change the default value, you can configure the value of the `mapping.attribute` property:

1. Locate the `$Oracle_Home/j2ee/<oc4j_inst>/config/jazn.xml` file.

2. Add the `mapping.attribute` property configuration to the <jazn> tag. For example:

```
<jazn provider... >
...
   <property name = "mapping.attribute" value="cn"/>
...
</jazn>
```

3. Restart the OC4J instance.

Likewise, other login modules now rely on the `mapping.attribute` property in the `jazn.xml` file, including:

- WS-Security Username token with no password (`WSSLoginModule`)
- SAML (`SAMLLoginModule`)

  `SAMLLoginModule` first looks at the `SubjectNameIdentifier` to determine the mapping. If blank, then the `mapping.attribute` is used.
- X.509 client certificate authentication (`X509LoginModule`)
- Third party login module (`LDAPLoginModule`)

The mapping attribute for these login modules must be set in the `jazn.xml` file as described here.

13.1.21 Using opmn Settings for OC4J home Instance As Template for New Instance

When you create an OC4J instance, a new `<process-type>` element containing the instance configuration is added to the `opmn.xml` configuration file. The `<process-type>` element for the OC4J `home` instance serves as a template for the new instance, which is created with the same settings as the `home` instance.

You can change the configuration for the new instance by changing settings such as `heapsize`, `numprocs`, and `timeout` in the `<process-type>` element for the instance in the `opmn.xml` file. If you change the configuration for an OC4J instance, you need to restart it for the changes to take effect.

13.1.22 OC4J Instances in a Group Must Have Same Version

All OC4J instances in a group within an Oracle Application Server cluster must have the same version, such as 10.1.3.1.0. For more information about groups of OC4J instances, see Chapter 8, "Configuring and Managing Clusters and OC4J Groups," in *Oracle Containers for J2EE Configuration and Administration Guide*.

13.1.23 Same Destination for Trace Output from Two OC4J Instances Not Supported

Through the `oc4j.properties` file, you can configure an OC4J instance to generate trace files to a specific debug destination instead of the default destination. Oracle does not support the configuration of two different OC4J instances to generate trace output to the same destination, even if the instances are in the same group. Each OC4J instance manages its own trace files.

For more information about default locations of component loggers for trace output, see Chapter 11, "Logging in OC4J", in *Oracle Containers for J2EE Configuration and Administration Guide*.

13.2 Servlet Issues and Workarounds

This section describes release notes for servlets. It covers the following topic(s):

- Section 13.2.1, "Servlet Invocation by Classname Disabled by Default"
- Section 13.2.2, "Enabling Access Logging for Web Applications"
- Section 13.2.3, "OC4J 10.1.3.1.0 Honors Session id Value Differently"
- Section 13.2.4, "Exception and Stack Trace No Longer Displayed in HTML Error Page"
- Section 13.2.5, "Disabling Servlet Reloading"

13.2.1 Servlet Invocation by Classname Disabled by Default

In the 10.1.3.x implementation, servlet invocation by class name is not enabled by default. Therefore, in default mode, you must use standard servlet configuration in `web.xml` before a servlet can be invoked. For example:

```
<servlet>
   <servlet-name>mytest</servlet-name>
   <servlet-class>mypackage.MyTestClass</servlet-class>
</servlet>
...
<servlet-mapping>
   <servlet-name>mytest</servlet-name>
   <url-pattern>/servlet/mytest</url-pattern>
</servlet-mapping>
```

Without this configuration, attempts to invoke the servlet will result in a `404 NOT FOUND` error. This differs from the default behavior in previous releases, where invocation by class name was enabled.

Alternatively, you can choose to enable invocation by class name when they start OC4J, by setting the `http.webdir.enable` property as follows:

```
-Dhttp.webdir.enable=true
```

13.2.2 Enabling Access Logging for Web Applications

In releases previous to 10.1.3.1.0, the default value of the `access-log` attribute of the `<web-app>` element of `*-web-site.xml` files was `true`. As of 10.1.3.1.0, the default value of `access-log` is `false`.

If you want to enable access logging, then set `access-log` to `true` in the appropriate `<web-app>` elements.

13.2.3 OC4J 10.1.3.1.0 Honors Session id Value Differently

In 10.1.2.x, If SSL is enabled and a session cookie (a cookie with the name `JSESSIONID`) is present in the request from the browser, OC4J will honor the value from the cookie over the session id embedded in the SSL stream. In 10.1.3.x, the behavior is reversed, so that OC4J will attempt to honor the value from the SSL stream first.

13.2.4 Exception and Stack Trace No Longer Displayed in HTML Error Page

In previous releases of OC4J, the default behavior when an error occurred in a Web application was to display both the exception and the stack trace in the HTML error page returned to the client.

This default behavior has changed and these details are no longer displayed by default; instead, a generic error message is displayed in the HTML error page. The exception and stack trace details are sent to the log file of the relevant application.

The previous behavior can be restored by setting the `development` attribute of the `<orion-web-app>` element to a value of "`true`" in the `orion-web.xml` file for the Web application, as in the following example:

```
<orion-web-app
    jsp-cache-directory="./persistence"
    jsp-cache-tlds="standard"
    temporary-directory="./temp"
    context-root="/myapp"
    development="true">
  ...
</orion-web-app>
```

See the "Web Module Configuration Files" appendix in the *Oracle Containers for J2EE Servlet Developer's Guide* for more information about the `development` attribute.

13.2.5 Disabling Servlet Reloading

In the `global-web-application.xml` file, you can force OC4J to not reload a specific servlet if the servlet is modified. This feature is enabled by setting the undocumented `auto-reload` attribute of the `<servlet>` element to `false`.

`auto-reload="false">`.

This parameter is not documented in the OC4J 10.1.3.x Servlet documentation.

The following example shows that this can be done for a single servlet.

In `global-web-application.xml`:

```
 ...
   <servlet auto-reload="false">
      <servlet-name>nlservlet</servlet-name>
        <servlet-class>com.netledger.core.requesthandler.NLServlet
        </servlet-class>
   </servlet>
```

13.3 JavaServer Pages (JSP) Issues and Workarounds

This section describes release notes for JavaServer Pages. It covers the following topic(s):

- Section 13.3.1, "Workaround to View JSP Demo Files"
- Section 13.3.2, "Deprecated JSP Configuration Parameters"
- Section 13.3.3, "ojsp Tag Libraries Deprecated"
- Section 13.3.4, "Specifying justrun for Production Environment Efficiency"
- Section 13.3.5, "Using a Tag Library with the ojspc Utility"

13.3.1 Workaround to View JSP Demo Files

When you are running the JSP demos, if you receive a "Resource not found" exception when you attempt to view .jsp or .java files of the demo, then use the following workaround:

1. Add the following to the `web.xml` file located at `j2ee/ojspdemos/applications/ojspdemos/ojspdemos-web/WEB-INF/web.xml`.

```
<servlet-mapping>
   <servlet-name>viewsrc</servlet-name>
   <url-pattern>/servlet/ViewSrc/*</url-pattern>
</servlet-mapping>
```

2. Then, restart the OC4J server.

13.3.2 Deprecated JSP Configuration Parameters

The following JSP configuration parameters of the `<init-param>` element of the `global-web-application.xml` and `orion-web.xml` files are deprecated in release 10.1.3.1.0.

- `external_resource`
- `extra_imports`
- `forgive_dup_dir_attr`
- `old_include_from_top`
- `setproperty_onerr_continue`
- `jsp-print-null`

In addition, Oracle plans to remove the following JSP configuration parameters of the `<init-param>` element of the `global-web-application.xml` and `orion-web.xml` files in a future release. These parameters are the only way to implement their behaviors in release 10.1.3.1.0. If you implement their behaviors, you will have to modify your code when you upgrade to a release where these parameters are removed.

- `xml_validate`
- `no_tld_xml_validate`

13.3.3 ojsp Tag Libraries Deprecated

Oracle-proprietary ojsp tag libraries are deprecated in OC4J 10.1.3.x releases. They will be desupported in OC4J release 11g.

13.3.4 Specifying justrun for Production Environment Efficiency

For efficiency in the production environment, the `sample-web.war` that is to be precompiled using `ojspc` should include the following declaration in its `sample-web.war\WEB-INF\web.xml` just after the `<web-app>` element:

```
<servlet>
  <servlet-name>jsp</servlet-name>
  <servlet-class>oracle.jsp.runtimev2.JspServlet</servlet-class>
  <init-param>
     <param-name>main_mode</param-name>
     <param-value>justrun</param-value>
```

```
    </init-param>
  </servlet>
```

The settings of the `main_mode` parameter, including `justrun`, are described in Chapter 3, Configuring the OC4J JSP Environment, of the *Oracle Containers for J2EE Support for JavaServer Pages Developer's Guide* .

13.3.5 Using a Tag Library with the ojspc Utility

To use your own tag library with `ojspc`, the best method is to put your tag library under `WEB-INF/lib` in a WAR that contains a JSP page and then precompile the archive, which can be either a standalone WAR or an EAR that contains the WAR.

For example, `mytaglib.war` contains these files:

```
jsp/mytaglib_example.jsp
WEB-INF/web.xml
WEB-INF/orion-web.xml
WEB-INF/lib/mytaglib.jar
```

The `mytaglib.jar` file contains `META-INF/mytaglib.tld` as well as the class files for all tags declared in that tag library descriptor (`mytaglib.tld`).

In this example, the WAR (`mytaglib.war`) is inside an EAR file along with `META-INF/application.xml`.

The following `ojspc` command precompiles the EAR file:

```
ojspc -output out/mytaglib.ear mytaglib.ear
```

After the precompilation, the EAR file will be in `out/mytaglib.ear` and will contain a WAR file with the precompiled JSP page under `WEB-INF/lib`, `__oracle_jsp_mytaglib_web.jar mytaglib.jar`, as well as the original `mytaglib.jar` file.

You could deploy this EAR file to OC4, and if you set the `<ojsp-init>` attribute `main-mode` to the value `justrun` in the `orion-web.xml` deployment descriptor, the precompiled version in `WEB-INF/lib` will be used. Alternatively, you could set the `main_mode` parameter to `justrun` in an `<init-param>` element of the `jsp` servlet configuration for the OC4J instance in `$J2EE_HOME/config/global-web-applications.xml`.

13.4 EJB Issues and Workarounds

This section describes release notes for EJBs. It covers the following topics:

- Section 13.4.1, "EJB 3.0 Support"
- Section 13.4.2, "EJB 3.0 Interceptors Supported in JDK 1.5 Only"
- Section 13.4.3, "Remote EJB 3.0 Stateful Session Bean Does Not Failover When Using Extended Persistence"
- Section 13.4.4, "Orion CMP Is Deprecated"
- Section 13.4.5, "ejb-module Attribute remote Deprecated"
- Section 13.4.6, "Support for persistence.xml in WEB-INF"
- Section 13.4.7, "Default IP Address Stack"

- Section 13.4.8, "Static EJB Method and JNDI Lookup Best Practices"
- Section 13.4.9, "Support for BLOB-BLOB and CLOB-CLOB Mappings"
- Section 13.4.10, "Migrating an Orion CMP Application With an Unmapped Entity Bean"
- Section 13.4.11, "Set Managed Datasource Attribute manage-local-transactions To False When Using Oracle JMS Connector"
- Section 13.4.12, "Excessive Bean Loading in Bi-directional, One-to-Many, and Many-to-Many Relationships with Orion CMP"

13.4.1 EJB 3.0 Support

In release 10.1.3.1.0, OC4J supports all but a small subset of the functionality specified in the final EJB 3.0 specification.

You may need to make code changes to your EJB 3.0 OC4J application when you upgrade your OC4J instance to 10.1.3.1.

For information on migrating a 10.1.3.0 JPA preview application to 10.1.3.1 JPA, see "Migrating a 10.1.3.0 TopLink JPA Preview Application to 10.1.3.1 TopLink Essentials JPA" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*.

13.4.2 EJB 3.0 Interceptors Supported in JDK 1.5 Only

Most EJB 3.0 session bean and message-driven bean features are supported with deployment descriptors with JDK 1.4. However, you cannot use EJB 3.0 interceptors in JDK 1.4. This is due to the fact that `InvocationContext` method `getContextData()` returns a JDK 1.5 generic type.

13.4.3 Remote EJB 3.0 Stateful Session Bean Does Not Failover When Using Extended Persistence

The EJB 3.0 specification states: "Propagation of persistence contexts only applies within a local environment. Persistence contexts are not propagated to remote tiers."

In a clustered OC4J environment, this means that an EJB 3.0 stateful session bean with a remote interface using an extended persistence context does not failover.

To work-around this limitation, you must configure your stateful session bean to use the `ejbPassivate` callback to null out any references to entities managed in the extended persistence context and then re-establish them in the `ejbActivate` callback.

13.4.4 Orion CMP Is Deprecated

The Orion persistence manager is deprecated. Oracle recommends that you use OC4J and the TopLink persistence manager for new development. Using the TopLink migration tool, you can migrate an existing OC4J application that uses EJB 2.0 entity beans with the Orion persistence manager to use EJB 2.0 entity beans with the TopLink persistence manager.

For more information, see "Migrating OC4J Orion Persistence to OC4J TopLink Persistence" in the *Oracle TopLink Developer's Guide*.

13.4.5 ejb-module Attribute remote Deprecated

In this release, `ejb-module` attribute `remote` is deprecated in `orion-ejb-jar.xml` and `orion-web.xml`.

To access a remote EJB in an unclustered separate Web tier and EJB tier, use `ejb-ref-mapping` attributes `remote-server-ref` and `jndi-properites-file`.

For information, see "Configuring an Environment Reference to a Remote EJB: Unclustered Separate Web Tier and EJB Tier" in the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*

13.4.6 Support for persistence.xml in WEB-INF

In this release, OC4J extends the JPA specification to support `persistence.xml` in either `WEB-INF/classes/META-INF` or `WEB-INF`.

OC4J first looks in `WEB-INF/classes/META-INF`. If it finds a `persistence.xml` file there, that is the one OC4J uses. If it does not find a `persistence.xml` file there, it looks in `WEB-INF`.

13.4.7 Default IP Address Stack

Due to a bug in JDK 1.5 (and below), you cannot bind a socket to an IPv6 address on RedHat 4 (Linux 2.6).

To work around this problem, OC4J uses IPv4 as its default IP address stack.

To override this default, set system property `java.net.preferIPv4Stack=false`.

13.4.8 Static EJB Method and JNDI Lookup Best Practices

In this release, OC4J supports JNDI lookup in static EJB methods according to the rules that Table 13–1 lists. Consider these rules when implementing static EJB methods that use JNDI lookup.

Table 13–1 Static EJB Method and JNDI Lookup Rules

EJB Static Method JNDI Lookup ...	Rule
To another application that is fully deployed and initialized.	Supported
To the default application.	Supported
To an unspecified application (which reverts to the default application).	Supported
To the application that owns the EJB while that application is in the process of being deployed and initialized.	Not supported. In this case, OC4J throws a `NameNotFoundException`.
To another application that is in the process of being deployed and initialized.	Not supported. In this case, OC4J throws a `NameNotFoundException`.

13.4.9 Support for BLOB-BLOB and CLOB-CLOB Mappings

In this release, using the TopLink Essentials JPA persistence provider or the TopLink CMP persistence manager, OC4J supports BLOB-BLOB and CLOB-CLOB mappings.

13.4.10 Migrating an Orion CMP Application With an Unmapped Entity Bean

Before migrating an Orion CMP application to use the TopLink CMP persistence manager in OC4J, ensure that you associate each entity bean with a table. If one or more entity beans are not associated with a table, the migration will fail with the following error message:

"The entity (<entity bean name>) in orion-ejb-jar.xml is not mapped as no table is specified. You need to provide the completely mapped orion-ejb-jar.xml to the migration tool. You can obtain the completely mapped orion-ejb-jar.xml from the /application-deployment directory after deploying the application".

13.4.11 Set Managed Datasource Attribute manage-local-transactions To False When Using Oracle JMS Connector

When you configure an OC4J managed data source in data-sources.xml, you must set attribute manage-local-transactions to false if you plan to use the managed data source with Oracle JMS Connector (OJMS). This applies in both the queue and topic case.

The default algorithm that the managed data source uses to determine whether or not a connection may participate in a global transaction is inappropriate when using OJMS and may falesly prevent an MDB from joining a global transaction.

When this attribute is set to false, it allows OJMS and the underlying database management system to correctly determine the actual transaction status of a connection.

13.4.12 Excessive Bean Loading in Bi-directional, One-to-Many, and Many-to-Many Relationships with Orion CMP

In previous releases, when using Orion CMP, if you add an EJB to the many side of a bi-directional, one-to-many, or many-to-many relationship, OC4J would load every existing member of the many side of the relationship from the database. In some circumstances, this could create a performance problem.

In this release, OC4J no longer exhibits this behavior.

13.5 Web Services Issues and Workarounds

This section describes release notes for Web Services. It covers the following topics:

- Section 13.5.1, "Configuration Issues"
- Section 13.5.2, "WebServicesAssembler Issues"
- Section 13.5.3, "WSDL-Related Issues"
- Section 13.5.4, "Schema Features Limitations"
- Section 13.5.5, "Test Page Issues"
- Section 13.5.6, "Deployment Issues"
- Section 13.5.7, "Other Issues"

> **Note:** You can exercise your Web service and pinpoint errors by running it with a client created by WebServicesAssembler or JDeveloper. For more information on creating clients, see the *Oracle Application Server Web Services Developer's Guide* and the JDeveloper online help.

13.5.1 Configuration Issues

This section describes problems that might arise as a result of incorrect configuration:

- Section 13.5.1.1, "Installation Fails in Web Services Inspection Language (WSIL) Configuration"

13.5.1.1 Installation Fails in Web Services Inspection Language (WSIL) Configuration

The Ant scripts used to install the WSIL-App component are sensitive to certain external configuration options. If Ant is not configured correctly, then the WSIL install might fail with a `NoClassDefFound` error.

When deploying the WSIL application using Ant, you must be sure that you are using the Ant distribution that is provided with OracleAS Web Services 10g. This release contains all of the Ant tasks needed for deployment.

For more information about the contents and functionality of the Ant distribution that is provided with OracleAS Web Services 10*g*, see the *Oracle Containers for J2EE Deployment Guide*.

13.5.2 WebServicesAssembler Issues

This section describes problems that might arise in the operation of WebServicesAssembler.

- Section 13.5.2.1, "Multiple Service Elements in Top Down Web Service Assembly"
- Section 13.5.2.2, "Relative Path Names Are Not Supported in WSDL or XSD Imports"
- Section 13.5.2.3, "WebServicesAssembler Requires Schema Imports in the WSDL to Be Qualified by the schemaLocation Attribute"
- Section 13.5.2.4, "The assemble Ant Task Raises an Exception when Java Files Contain J2SE 5.0 Annotations"

13.5.2.1 Multiple Service Elements in Top Down Web Service Assembly

WebServicesAssembler does not support multiple service elements for the `topDownAssemble` command.

13.5.2.2 Relative Path Names Are Not Supported in WSDL or XSD Imports

WebServicesAssembler does not support relative path names, such as the following, in WSDL or XSD files.

```
<import location="../../file" ...>
```

As a work around use the WebServicesAssembler `fetchWsdl` command or the `fetchWsdlImports` argument. The `fetchWsdl` command is used in top down Web service assembly to copy the base (or top level) WSDL file and all of its imported and included WSDLs and schemas into a specified output directory. The boolean `fetchWsdlImports` argument indicates whether you want to make a local copy of the WSDL and everything it imports.

13.5.2.3 WebServicesAssembler Requires Schema Imports in the WSDL to Be Qualified by the schemaLocation Attribute

The `schemaLocation` attribute provides hints to a schema processor about where to find the schema for one or more namespaces. Values are provided as a list of URIs, separated by white-space characters. URIs must appear in pairs—first the namespace URI, then the location of the schema document for that namespace.

To process a schema successfully, WebServicesAssembler requires schema imports to be qualified by the `schemaLocation` attribute.

The following example specifies the schema location for the WS-I Basic Profile.

```
<xsd:import namespace="http://ws-i.org/profiles/basic/1.1/xsd"
schemaLocation="http://ws-i.org/profiles/basic/1.1/xsd"/>
```

13.5.2.4 The assemble Ant Task Raises an Exception when Java Files Contain J2SE 5.0 Annotations

If you use the `assemble` Ant task to generate Web services from Java files that contain J2SE Annotations, then an exception will be raised. The `assemble` Ant task cannot correctly process annotated Java files.

To avoid this exception, use `assemble` on the command line.

13.5.3 WSDL-Related Issues

This section describes problems that might arise in how OracleAS Web Services interprets WSDL files.

- Section 13.5.3.1, "Support for Globalization Support (NLS) Characters in the WSDL"
- Section 13.5.3.2, "Services that use Multiple Message Formats Cannot be Deployed in a Single Web Application"
- Section 13.5.3.3, "genWsdl Command Does not Preserve Order of Variables"

13.5.3.1 Support for Globalization Support (NLS) Characters in the WSDL

Globalization Support (also known as" NLS" or "National Language Support") characters that occur in names in the WSDL, such as in the name of a service, port type, operation, binding or port, are not supported. This may also result in errors on the Web Services Test Page.

13.5.3.2 Services that use Multiple Message Formats Cannot be Deployed in a Single Web Application

Multiple message formats, such as RPC-encoded and document-literal, are not supported in a single Web application.

To avoid this problem, ensure that your Web application defines only one message format.

13.5.3.3 genWsdl Command Does not Preserve Order of Variables

If you use the WebServicesAssembler `genWsdl` command or Ant task, then the variables in the generated WSDL file will be in a different order from those in the original Java class files. This can cause problems if you continue to modify your Java code after generating the WSDL file. For example, clients may no longer be able to access the server's Web services.

To work around this problem:

1. Generate the WSDL file with `genWSDL`.
2. Edit the generated WSDL file to place the variables in the desired order.
3. If you are assembling the Web service bottom up, then replace the original WSDL file in the EAR/WAR file with the edited WSDL file.

13.5.4 Schema Features Limitations

This section describes Web Services schema features limitations. It covers the following topics:

- Section 13.5.4.1, "RPC Encoded Does Not Support Complex Types With Attributes"
- Section 13.5.4.2, "XML Types xsd:choice and xsd:group Are Not Supported for Proxy or Top Down Web Service Assembly"
- Section 13.5.4.3, "XML Type anyURI Is Not Supported for WSIF"

13.5.4.1 RPC Encoded Does Not Support Complex Types With Attributes

If the schema contains a binding with an RPC-encoded message format and WebServicesAssembler encounters a `complexType` with attributes, then it will throw an "unsupported type encountered" error message.

13.5.4.2 XML Types xsd:choice and xsd:group Are Not Supported for Proxy or Top Down Web Service Assembly

If you are assembling Web services to- down or assembling Web service proxies, WebServicesAssembler cannot consume WSDLs that contain the `xsd:choice` or `xsd:group` XML types. If you want to consume a WSDL that contains these XML types, set the WebServicesAssembler `dataBinding` argument to `false` and code the `SOAPElement` so that the payload conforms to the schema definition in the WSDL file.

13.5.4.3 XML Type anyURI Is Not Supported for WSIF

The XML data type `anyURI` is not supported in applications that employ WSIF (Web Service Invocation Framework). If Oracle Web Services encounters an `anyURI` data type under WSIF, it will return an error similar to the following:

```
org.apache.wsif.WSIFException: Method retUri(class java.net.URI) was not found in
portType.
```

To work around this limitation, use the `xsd:string` data type instead of `xsd:anyURI`.

13.5.5 Test Page Issues

This section describes Web Services test page issues. It covers the following topics:

- Section 13.5.5.1, "Recursive Schema Definitions Are Not Supported in the Web Services Test Page"
- Section 13.5.5.2, "Formatted XML Content Returned from a Service Invocation on the Web Services Test Page May Be Shown Incorrectly"
- Section 13.5.5.3, "Test Page May Not Show Errors Originating from an Invalid Web Service WSDL"
- Section 13.5.5.4, "Invalid Values in a Web Services Test Page Form Field May Result in an "Unable to get header stream in saveChanges" Error"
- Section 13.5.5.5, "Web Services Test Page Does Not Support Globalization Support (NLS) Characters in User Name or Password"
- Section 13.5.5.6, "Web Services Test Page Does Not Support the Schema Features: group, choice, union, or Derived Simple Types as Attributes"

- Section 13.5.5.7, "Test Page Stress Test Report May Be Displayed Incorrectly Under Firefox or Mozilla"

13.5.5.1 Recursive Schema Definitions Are Not Supported in the Web Services Test Page

Services that use recursive schema definitions are not fully supported from the Web Services Test Page. The HTML form in the Test Page allows you to add a recursive element, but when the message is sent, the recursive elements will be empty. An example of a recursive schema definition is shown below, where the element with the name of list has a reference back to itself:

```
<xs:element name="list">
      <xs:complexType>
          <xs:sequence>
                <xs:element ref="list" minOccurs="0" maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:attribute name="name" type="xs:string" use="required"/>
          <xs:attribute name="value" type="xs:string"/>
      </xs:complexType>
 </xs:element>
```

If you wish to construct a message in the Test Page that contains a recursive element, then you must select the **XML Source** radio button and enter the contents of the message manually.

13.5.5.2 Formatted XML Content Returned from a Service Invocation on the Web Services Test Page May Be Shown Incorrectly

The returned content on the Formatted XML Test Page may be missing or display incorrectly if it includes a string containing XML entities for greater than (`>`) or less than (`<`) characters.

To check the content of the returned content, switch to the **XML Source** view.

13.5.5.3 Test Page May Not Show Errors Originating from an Invalid Web Service WSDL

If the Web Services Test Page invokes a service with an invalid WSDL, then you may see an empty or broken page. Neither the Test Page nor the logs will display any WSDL errors when such a service is invoked.

You can pinpoint WSDL errors in a Web service in any of the following ways:

- Generate a service client with JDeveloper or with WebServicesAssembler.
- Use the WSDL validation command in JDeveloper.
- Use the WS-I validation tool in JDeveloper.

13.5.5.4 Invalid Values in a Web Services Test Page Form Field May Result in an "Unable to get header stream in saveChanges" Error

If you submit an invalid value in one of the Web Services Test Page's form fields, the field will be highlighted in red. If you submit the Test Page with an invalid value, then you may receive the following response:

```
Unable to get header stream in saveChanges
```

To avoid this error, correct invalid entries before submitting the page for execution.

13.5.5.5 Web Services Test Page Does Not Support Globalization Support (NLS) Characters in User Name or Password

If you include Globalization Support (also known as "NLS" or "National Language Support") characters in a user name or password for authentication in the Web Services Test Page, then authentication may fail with the following message:

```
Unable to authenticate <username>
```

In addition, the Test Page displays Globalization Support characters in the user name as "?" (question marks).

13.5.5.6 Web Services Test Page Does Not Support the Schema Features: group, choice, union, or Derived Simple Types as Attributes

If the Web Services Test Page encounters any of the following schema features: `group`, `choice`, `union`, or derived simple type as an attribute, then the HTML form will not display input controls for them.

For example, if the schema contains the following code:

```
<xsd:element name="workflowContext" type="workflowContextType"/>
   <xsd:complexType name="workflowContextType">
     <xsd:choice>
       <xsd:element name="credential" type="credentialType"/>
       <xsd:element name="token" type="xsd:string"/>
     </xsd:choice>
   </xsd:complexType>
```

The HTML form will not display an input control for `workflowContext`.

As a work around, you can select the **XML Source** radio button and enter the message content manually.

13.5.5.7 Test Page Stress Test Report May Be Displayed Incorrectly Under Firefox or Mozilla

If you run the Web services stress test from the Test Page in the Firefox or Mozilla browsers, then the report that is returned may not show correct aggregate values. To obtain the correct aggregate values, use the Internet Explorer browser instead.

13.5.6 Deployment Issues

This section describes problems that might arise during Web services deployment:

- Section 13.5.6.1, "EJB 2.1 Web Services Deployed with an Invalid oracle-webservices.xml File"

13.5.6.1 EJB 2.1 Web Services Deployed with an Invalid oracle-webservices.xml File

If an EJB 2.1 Web service is not available after you deploy it, then check whether the service deployment descriptor file, `oracle-webservices.xml`, is valid. It is possible to deploy a service with invalid resource references without an alert being sent.

13.5.7 Other Issues

This section describes other problems that might arise during the operation of OracleAS Web Services:

- Section 13.5.7.1, "Get NodeLists by Using getFirstChild and getNextSibling Instead of getChildNode"
- Section 13.5.7.2, "Using the 'class' Attribute in Ant Build Scripts to Specify JAX-RPC Web Service Handlers"
- Section 13.5.7.3, "BEA Clients are Unable to Deserialize Responses from OC4J Web Services"
- Section 13.5.7.4, "Mapping Issue with Simple Types (with Restrictions) on the .NET Platform"
- Section 13.5.7.5, "genValueType Command Does Not Validate Restrictions"
- Section 13.5.7.6, "XML Serialization Does Not Accept the Array Java Data Type for Document-Literal-Bare Message Format"

13.5.7.1 Get NodeLists by Using getFirstChild and getNextSibling Instead of getChildNode

You may see a performance degradation when iterating over a `NodeList` obtained by using `node.getChildNode()`. This degradation will only be significant for a `NodeList` with a very long length.

Instead of using the `NodeList` obtained by `node.getChildNode()`, the current Oracle XDK implementation offers an optimization of navigating a list of child nodes by using `node.getFirstChild()` and looping over `node.getNextSibling()`. The following code sample illustrates this technique.

```
Node n = ...;
if (n.hasChildNodes()) {
   for(Node nd=n.getFirstChild(); nd!=null; nd=nd.getNextSibling()){
         nd.getValue(); // do something with nd
      }
}
```

13.5.7.2 Using the 'class' Attribute in Ant Build Scripts to Specify JAX-RPC Web Service Handlers

If you edit a build.xml file that defines web service handlers in an Ant task, the handler code allows you to specify the handler class name using either the 'class' or 'handlerClass' attributes. However, if you use handlerClass to specify the class name in JDeveloper, the editor will display a red line under handlerClass and incorrectly indicate that it is not defined on the handler element. This occurs because the XML schema that is registered with JDeveloper does not recognize the handlerClass attribute.

To avoid this error, use the class attribute to specify the handler class name.

13.5.7.3 BEA Clients are Unable to Deserialize Responses from OC4J Web Services

When OracleAS Web Services uses a soap encoded array of complex types, the element's xsi type is always set to the value of `soapenc:Array` (that is, `xsi:type=soapenc:Array`). OracleAS Web Services then uses the soap encoded arrayType to specify the actual type and length of the array (that is, `soapenc:arrayType=<the Actual type>[length]`).

In contrast, BEA 9.0 clients expect an element's `xsi:type` to reflect the actual type. If a BEA client receives a response from OracleAS We Services that contains a soap

encoded array of complex types, then the client throws an error similar to the following:

```
internal error: no builtin runtime type for
com.bea.staxb.buildtime.internal.bts.BuiltinBindingType
```

If interoperability with BEA and one or more of the following platforms: @ AXIS, IBM, or .NET are required, then avoid using soapenc arrays.

13.5.7.4 Mapping Issue with Simple Types (with Restrictions) on the .NET Platform

If you define an element of type `simpleType` with a restriction of `xs:integer`, it will be mapped to `java.math.BigInteger` on all Java platforms, such as OC4J, AXIS, and BEA.

For example, the element `maxconcat` in the following XML code sample will be mapped to `BigInteger` on all Java platforms:

```
    <xs:element name="maxconcat" minOccurs="0" maxOccurs="1"
type="aqltype:maxconcat"/>
com.bea.staxb.buildtime.internal.bts.BuiltinBindingType
    <xs:simpleType name="maxconcat">
    <xs:restriction base="xs:integer">
    <xs:minInclusive value="1"/>
    <xs:maxInclusive value="255"/>
    </xs:restriction>
    </xs:simpleType>
```

However, all versions of the .NET platform (1.1, 2.0, and 3.0) map simpleType elements with a restriction of xs:integer to System.String. This can cause interoperability problems in the runtime if the value of this type is not an integer.

As a workaround, .NET developers should ensure that the string value passed for simpleType is an integer when this type is used in an outbound message.

13.5.7.5 genValueType Command Does Not Validate Restrictions

In JAX-RPC Web services, the `genValueType` command generates bean classes for data types but does not validate restrictions in the XSD file.

For example, the following XSD fragment defines a `SerialNumber` data type based on string that restricts its length to 16 characters. When `genValueType` creates the bean classes, it does not validate the length.

```
...
  xsd:element name="SerialNumber">
          <xsd:simpleType>
            <xsd:restriction base="xsd:string">
              <xsd:length value="16"/>
            </xsd:restriction>
           </xsd:simpleType>
         </xsd:element>/
...
```

This is a known limitation: the Oracle Web Services JAX-RPC stack does not enforce most restrictions. To work around this problem, write your own bean classes instead of using generated bean classes.

13.5.7.6 XML Serialization Does Not Accept the Array Java Data Type for Document-Literal-Bare Message Format

If you attempt to expose a Java method that uses the `array` Java type as a Web service that uses the `document-literal-bare` (unwrapped) message format, then the serialization of the method will fail.

For example, assume that you want to expose the method `public SearchResult[] WebServiceClass()` which has the following definition:

```
public class SearchResult implements Serializable {
public SearchResult() { }
private String name;
private String value;
public void setName(String name) { this.name = name; }
public String getName() { return name; }
public void setValue(String value) { this.value = value; }
public String getValue() { return value; }
 }

 public SearchResult[] WebServiceClass(String testTriger) {
          System.out.println(testTriger);
          return STATIC_RESULT_A;
      }
```

If you create the Web service bottom up, the WSDL file will contain the following XML for the `SearchResult` method:

```
         ...
        <sequence>
         <element name="result" type="tns:SearchResult" nillable="true"
minOccurs="0"
         maxOccurs="unbounded"/>
         </sequence>
         ...
```

However, on executing the service, the following error will be returned:

```
ERROR OWS-04046 serialization error: java.lang.ClassCastException:
```

The work around for this issue is to use `doc-literal-wrapped` message format.

13.6 OC4J Services Issues and Workarounds

This section describes release notes for OC4J Services. OC4J Services include: Java Naming and Directory Interface (JNDI), Oracle Enterprise Messaging Service (OEMS), Data Sources, Remote Method Invocation (ORMI and IIOP), OC4J Transaction Support, Java Object Cache (JOC), XML Query Service (XQS), and Application Client Container.

The section contains release notes for the following OC4J Services:

- Section 13.6.1, "JNDI"
- Section 13.6.2, "Oracle Enterprise Messaging Service (OEMS)"
- Section 13.6.3, "Data Sources"
- Section 13.6.4, "OC4J Transaction Support"

- Section 13.6.5, "RMI"
- Section 13.6.6, "XQS"
- Section 13.6.7, "Application Client Container"

13.6.1 JNDI

This section describes release notes for JNDI. It covers the following topics:

- Section 13.6.1.1, "Spaces in Application Names"
- Section 13.6.1.2, "Wrong Provider URL in the jndi.properties File"
- Section 13.6.1.3, "New Package Names for RMI and Application Client Initial Context Factories"
- Section 13.6.1.4, "Deprecated JNDI Environment Variables"
- Section 13.6.1.5, "Local Host Not Supported"

13.6.1.1 Spaces in Application Names

In this release, when accessing an application through OPMN using ORMI, an application's name cannot contain spaces. For example:

```
opmn:ormi://<host>:<port>:home/my deploy
```

If the application name contains spaces, the following exception is thrown:

```
StrangeAppName not found
```

Remove any spaces in the name of the application to work around this issue.

13.6.1.2 Wrong Provider URL in the jndi.properties File

In this release, when you deploy a client JAR to a clustered server, the `jndi.properties` file written to the `/applications/appname/appname_client` directory does not have the correct provider URL to connect to one of the clustered instances. The correct provider URL for accessing an application instance in a cluster is:

```
java.naming.provider.url=opmn:ormi://myhost:6003:home/appname
```

The example assumes the OPMN port is `6003` and the instance name is `home`.

13.6.1.3 New Package Names for RMI and Application Client Initial Context Factories

In this release, the following `InitialContext` factories are deprecated:

- `com.evermind.server.RMIInitialContextFactory`
- `com.evermind.server.ApplicationClientInitialContextFactory`
- `com.oracle.iiop.server.IIOPInitialContextFactory`

The new package names for the initial context factories are:

- `oracle.j2ee.rmi.RMIInitialContextFactory`
- `oracle.j2ee.naming.ApplicationClientInitialContextFactory`
- `oracle.j2ee.iiop.IIOPInitialContextFactory`

13.6.1.4 Deprecated JNDI Environment Variables

In this release, the JNDI environment variables `dedicated.connection`, `dedicated.rmicontext`, and `LoadBalanceOnLookup` are deprecated.

To configure replication-based load balancing, use environment variable `oracle.j2ee.rmi.loadBalance` with the settings that Table 13–2 lists.

Table 13–2 Settings for Environment Variable oracle.j2ee.rmi.loadBalance

Setting	Description
`Client`	The client interacts with the OC4J process that was initially chosen at the first lookup for the entire conversation (Default)
`Context`	The client goes to a new server when a separate context is used (similar to deprecated `dedicated.rmicontext`).
`Lookup`	The client goes to a new server for every lookup.

13.6.1.5 Local Host Not Supported

The `java.naming.provider.url` JNDI property does not support the value `localhost` when a remote client connects to an application server instance that is managed by OPMN. The value must be the complete hostname or IP Address. This does not affect clients that connect to standalone application server instances.

13.6.2 Oracle Enterprise Messaging Service (OEMS)

This section describes release notes for the Oracle Enterprise Messaging Service (OEMS). It covers the following topics:

- Section 13.6.2.1, "Error Starting OC4J after OracleASjms is Undeployed"
- Section 13.6.2.2, "OC4J May Fail to Restart after Abnormal OC4J Shutdown"
- Section 13.6.2.3, "XA-styled JMS Connections Not Supported Between OC4J Versions"
- Section 13.6.2.4, "JMS Auto-Enlisting in Global Transactions is Desupported"
- Section 13.6.2.5, "Changes in JMS Client Properties Require Restart"
- Section 13.6.2.6, "Poor Performance When Persisting Messages to a Database"

13.6.2.1 Error Starting OC4J after OracleASjms is Undeployed

In this release, additional changes are necessary to start OC4J when the default instance of the OracleASjms resource adapter is undeployed.

The following additional changes must be made:

- In `$J2EE_HOME/config/application.xml` comment out the following lines:

```
<web-module id="jmsrouter_web" path="../../home/applications/jmsrouter.war" />
<ejb-module id="jmsrouter_ejb" path="../../home/applications/jmsrouter-ejb.jar"
 />
```

- In `$J2EE_HOME/config/default-web-site.xml`, comment out the following line:

```
<web-app application="default" name="jmsrouter_web" root="/jmsrouter"
 load-on-startup="true" />
```

If these changes are made, OC4J may be started, but the OracleAS JMS Router will not work.

To reinstate the JMS Router:

1. Fully redeploy the OracleASjms resource adapter instance.
2. Uncomment the lines mentioned above in `$J2EE_HOME/config/application.xml` and `$J2EE_HOME/config/default-web-site.xml`.

When OC4J is restarted, the OracleAS JMS Router should be available.

13.6.2.2 OC4J May Fail to Restart after Abnormal OC4J Shutdown

There are situations where you may encounter OC4J JMS Server startup problems, such as the following, after an abnormal OC4J shutdown:

```
(SEVERE) Failed to set the internal configuration of the OC4J JMS Server with:
XMLJMSServerConfig[file:/D:/oas0104_web/j2ee/BLUE/config/jms.xml]
WARNING: Application.setConfig Application: default is in failed state as
initialization failed.
```

If this occurs, check that no other OC4J JMS Server is running and using the same persistence files. Then remove any `.lock` files from the following directory:

ORACLE_HOME`/j2ee/`*instance_name*`/persistence`

And try restarting again.

If problems persist, confirm that the `jms.xml` file is valid.

If problems still persist, remove the `jms.state` file from the persistence directory and try again, but be aware that removing this file may result in loss of transaction information. For additional information, see the section "Abnormal Termination" in the "Oracle Enterprise Messaging Service" chapter of the *Oracle Containers for J2EE Services Guide*.

13.6.2.3 XA-styled JMS Connections Not Supported Between OC4J Versions

In this release, Oracle Application Server does not support XA-styled JMS connections with Oracle Application Server 10.1.2.

13.6.2.4 JMS Auto-Enlisting in Global Transactions is Desupported

For backward-compatibility reasons, it is still possible (but discouraged) to use the auto-enlisting feature in this release. The feature is disabled by default. Applications that previously relied on the auto-enlist feature to enlist XA and non-XA JMS connection into a global transaction, must now set the `oc4j.jms.pseudoTransactionEnlistment` configuration property to `true` in the `jms.xml` configuration file.

13.6.2.5 Changes in JMS Client Properties Require Restart

The OC4J server must be restarted when changes are made to the following JMS client properties:

- `oc4j.jms.serverPoll`
- oc4j.jms.messagePoll
- oc4j.jms.noDms

The server must be restarted for the changes to take effect no matter what method is used to update the properties (either manually editing `jms.xml` or using the Application Server Control Console).

13.6.2.6 Poor Performance When Persisting Messages to a Database

The OEMS database persistence feature performs poorly if the queue tables are configured to use old compatibility modes. The compatibility mode is set using the `compatible` parameter. For example:

```
DBMS_AQADM.CREATE_QUEUE_TABLE(
        Queue_table             => 'demoTestQTab',
        Queue_payload_type      => 'SYS.AQ$_JMS_MESSAGE',
        sort_list               => 'PRIORITY,ENQ_TIME',
        multiple_consumers      => false,
        compatible              => '8.1.5');
```

The `compatible` parameter should only be set to older modes if there are issues migrating to the new schema layouts or if existing queue tables cannot be exported to the new schema layouts.

When using the latest schema layouts, set the `compatible` parameter to `10.0.0.0.0` or omit the parameter to use the default compatibility mode. Either option ensures that the most efficient schema and locking mechanisms are used.

13.6.3 Data Sources

This section describes release notes for Data Sources. It covers the following topics:

- Section 13.6.3.1, "The oracleFatalError method is no Longer Available"
- Section 13.6.3.2, "OracleConnectionCacheImpl Deprecated"
- Section 13.6.3.3, "Orion CMP Fails Due to JDBC Driver Clash"
- Section 13.6.3.4, "Upgrading the Oracle THIN JDBC Driver"

13.6.3.1 The oracleFatalError method is no Longer Available

The `com.evermind.sql.DbUtil.oracleFatalError()` method is no longer available for retrieving fatal errors (e.g. during RAC failover scenarios). The method has been replaced by the `oracle.oc4j.sql.DataSourceUtils.isOracleFatalError()` method. This is an internal method that is not intended for public use and should only be used for backwards compatibility. The method should not be used for new development.

13.6.3.2 OracleConnectionCacheImpl Deprecated

The class `oracle.jdbc.pool.OracleConnectionCacheImpl` has been deprecated because it does not support multiple schemas. When defining the `factory-class` for connection factories and `data-source-class` for native data sources, use `oracle.jdbc.pool.OracleDataSource`.

13.6.3.3 Orion CMP Fails Due to JDBC Driver Clash

Oracle CMP only works correctly with the default JDBC driver that is supplied with this release. Problems will arise if another version of the Oracle JDBC driver is added to an OC4J instance, such as through the OC4J Shared Library feature, and configured for use by the application using Orion CMP.

When using Orion CMP, always use the Oracle JDBC driver that is shipped with OC4J.

13.6.3.4 Upgrading the Oracle THIN JDBC Driver

The JDBC THIN driver cannot be upgraded or changed at the Oracle Application Server-instance level due to component dependencies. JDBC THIN driver upgrades must be completed for each OC4J instance using the Shared Library feature.

Instructions for upgrading the JDBC THIN dirver are located on the OTN How To site:

`http://www.oracle.com/technology/tech/java/oc4j/1013/how_to/index.html`

13.6.4 OC4J Transaction Support

This section describes release notes for OC4J Transaction Support. It covers the following topic:

- Section 13.6.4.1, "The In-DB Coordinator Is Deprecated"

13.6.4.1 The In-DB Coordinator Is Deprecated

The use of the in-database transaction coordinator by OC4J is deprecated as of release 10.1.3. Oracle recommends that the middle-tier transaction coordinator be used going forward.

13.6.5 RMI

This section describes release notes for OC4J Remote Method Invocation (RMI and IIOP). It covers the following topics:

- Section 13.6.5.1, "RMI Recommendations"
- Section 13.6.5.2, "Incorrect "Provider URL..." Error Message"

13.6.5.1 RMI Recommendations

In this release, note the following recommendations:

- The RMI port is sometimes not released immediately.
- Old tunneling is deprecated. Use the new URL format, as described in the "Configuring ORMI Tunneling through HTTP" section of the "RMI" chapter of the *Oracle Containers for J2EE Services Guide*.

13.6.5.2 Incorrect "Provider URL..." Error Message

In certain cases when there is something wrong with the provider URL format, the following incorrect error message is displayed:

```
" Provider URL must be of the form
[opmn:]corbaname::host:port#/appname"
```

The URL format in the error message is incorrect. The correct URL format is:

```
[opmn:]corbaname::host:port#[instancename#]appname
```

13.6.6 XQS

This section describes release notes for the OC4J XML Query Service (XQS). It covers the following topics:

- Section 13.6.6.1, "Updated XQS Client API"
- Section 13.6.6.2, "SQL Usage has Changed"

- Section 13.6.6.3, "Incorrect XQS Type-Checking Example"
- Section 13.6.6.4, "XQS Schema Import Support"

13.6.6.1 Updated XQS Client API

The XQS Client API now includes the `XQSFactory` class. The factory provided by this class is used to create instances of the new main XQS client interfaces:

- `oracle.xqs.client.QueryParameterI`
- `oracle.xqs.client.XQSFacadeI`

The previous classes have been deprecated:

- `oracle.xds.client.QueryParameter`
- `oracle.xds.client.XQSFacade`

13.6.6.2 SQL Usage has Changed

The `<xqsview-source>` element is now used to define SQL queries for database access. The `<wsdl-source>` element is no longer used. The `<xqsview-source>` element is defined as part of a SQL-based XQS view.

13.6.6.3 Incorrect XQS Type-Checking Example

The XQS chapter in the *OC4J Services Guide* contains an error. The example XQuery expression provided in the "Type-Checking for Input Parameters" section is incorrect. The following example is correct:

```
import schema namespace ns1="urn:namespace_1" at "http://mydomain/myschema.xsd";

declare namespace xqs = "http://xmlns.oracle.com/ias/xqs";
declare function xqs:takeNS1Input($param as element(ns1:InputElement)?) external;

let $in := <ns1:InputElement>...</ns1:InputElement>
let $y := xqs:takeNS1Input($in)
return <result>$y//ns1:Content</result>
```

13.6.6.4 XQS Schema Import Support

The XQS chapter in the *OC4J Services Guide* contains an error. The "XQuery Optional Features" section indicates that the XQuery schema import feature is not supported. XQS does support the schema import feature as defined by the W3C.

13.6.7 Application Client Container

This section describes release notes for OC4J Application Client Container. It covers the following topics:

- Section 13.6.7.1, "Custom Security Callback Handler Fails"

13.6.7.1 Custom Security Callback Handler Fails

In this release, when implementing a custom security callback handler for an application client, the handler must set all three callback objects (`NameCallback`, `PasswordCallback`, and `TextInputCallback`). If you do not set all three objects, a `java.lang.NullPointerException` is given when trying to instantiate the remote connection to the OC4J server and the JNDI context setup fails.

13.7 J2EE Connector Architecture (J2CA) Issues and Workarounds

This section describes release notes for J2EE Connector Architecture (J2CA). It covers the following topics:

- Section 13.7.1, "New Class Loader Architecture for Standalone Resource Adapters"
- Section 13.7.2, "Deployment Dependencies between Standalone Resource Adapters"
- Section 13.7.3, "Class Not Found Exceptions"
- Section 13.7.4, "Restart of Default Application Required After Redeploying or Undeploying Internal Resource Adapters"

13.7.1 New Class Loader Architecture for Standalone Resource Adapters

In this release, standalone resource adapters are no longer added to the default application's class loader (except for the internal JMS and data source resource adapters). Instead, standalone resource adapters are added as shared libraries that (by default) are available to all applications. The new architecture allows multiple versions of a standalone adapter to be deployed in OC4J. See the *Oracle Containers for J2EE Resource Adapter Administrator's Guide* for detailed information.

13.7.2 Deployment Dependencies between Standalone Resource Adapters

In this release, a standalone resource adapter can only import previously deployed standalone resource adapters. Therefore, a standalone resource adapter must be deployed prior to any dependent standalone resource adapter. This is different than the behavior in 10.1.3 where a standalone resource adapter can lookup and use a standalone resource adapter which was deployed after itself.

13.7.3 Class Not Found Exceptions

Starting in this release, resource adapters that rely on the default class loader to resolve non shared-library dependencies at runtime will fail. Dependencies on libraries and other standalone resource adapters are configured explicitly by importing shared libraries. A standalone resource adapter's proprietary deployment descriptor (`oc4j-ra.xml`) is used to import shared libraries. See the *Oracle Containers for J2EE Resource Adapter Administrator's Guide* for detailed information on importing shared libraries.

13.7.4 Restart of Default Application Required After Redeploying or Undeploying Internal Resource Adapters

For the Oracle Application Server 10.1.3.1.0 implementation, you no longer need to restart the default application after deploying, redeploying, undeploying standalone resource adapters in an OC4J instance. You should restart any dependent J2EE applications that take advantage of the standalone resource adapter.

However, there are cases where a restart of the default application is still required. Specifically, if you perform a deployment operation on the adapters for accessing Oracle Enterprise Messaging Service (OEMS) file and memory based provider (`OracleASjms.rar`) or the OEMS database persistence provider (`ojms.rar`), then you will be required to restart the default application.

These adapters are Oracle-internal resource adapters for JMS connectivity and have administrative tasks that may require additional deployment and redeployment operations.

13.8 Release Notes for OracleAS JAAS Provider and Security

Be aware of the following notes when using the OracleAS JAAS Provider in release 10.1.3.1 or 10.1.3.2:

- Section 13.9.1, "OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control"
- Section 13.8.2, "Use of JAAS Permissions and JAZNMigrationTool with External LDAP Provider"
- Section 13.8.3, "Proper Specification of osso.conf File Name for SSO Configuration"
- Section 13.8.4, "User and Role APIs Replace OracleAS JAAS Provider Realm API Functions"
- Section 13.8.5, "Migration Tool Issue: Prepending Oracle Internet Directory Realm Name to Custom Principals"
- Section 13.8.6, "Controlling Caching of JNDI Contexts for LDAP Connections"
- Section 13.8.7, "AJP13 Protocol Vulnerable to Bypass User Authentication"
- Section 13.8.8, "JAZN Tool No Longer Includes -clustersupport"

13.8.1 Correct JAZNMigrationTool Syntax

In the section "Migration Tool Command Syntax" in chapter 7, "File-Based Security Provider", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the syntax shown at the beginning of the section is incomplete. It should include the package of `JAZNMigrationTool`. Here is the correct syntax:

```
% java oracle.security.jazn.tools.JAZNMigrationTool
                        [-st xml] [-dt ldap|xml]
                        [-D binddn] [-w passwd] [-h ldaphost] [-p ldapport
                       [-sf sourcefilename] [-df destfilename]
                       [-sr source_realm] [-dr dest_realm]
                       [-m policy|realm|all]
                       [-help]
```

(This *is* correctly shown in the example at the end of the section.)

13.8.2 Use of JAAS Permissions and JAZNMigrationTool with External LDAP Provider

For a situation where you are using JAAS authorization in conjunction with an external LDAP provider, this release note provides details to complete the very brief discussion in "Granting Additional Permissions to External LDAP Principals" in chapter 10, "External LDAP Security Providers", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*.

Note that `JAZNMigrationTool`, while more typically used to migrate from a file-based provider to an alternative file-based provider or to Oracle Internet Directory, can also be used in conjunction with an external LDAP provider to migrate JAAS policy information to the `system-jazn-data.xml` file on a target server.

Complete the following steps to grant necessary permissions to LDAP principals for the external LDAP provider:

1. Migrate JAAS policy information from `system-jazn-data.xml` on the development server to `system-jazn-data.xml` on the target server, using the "`-m policy`" setting. This is to migrate policy information only (to the target `system-jazn-data.xml` file)—you cannot use `JAZNMigrationTool` to directly migrate user and role information into the external LDAP provider. (More precisely, `JAZNMigrationTool` cannot create an LDIF file appropriate for external LDAP providers. It is capable of creating LDIF files appropriate for Oracle Internet Directory only, with the directory information tree and schema expected by Oracle Internet Directory.)
2. Manually edit the migrated policy information to use `LDAPPrincipal`.

   After you migrate the policy information as discussed in step 1, the resulting entries in the target `system-jazn-data.xml` file will have grantees referencing the `XMLRealmRole` principal class. For use with an external LDAP provider, these entries must be updated to reference the `LDAPPrincipal` class instead. For example, assume `system-jazn-data.xml` includes the following principal configuration in a grantee element:

   ```
   <principal>
       <realm-name>jazn.com</realm-name>
       <type>role</type>
       <class>oracle.security.jazn.spi.xml.XMLRealmRole</class>
       <name>jdoe</name>
   </principal>
   ```

   This must be updated manually to remove the `<realm-name>` and `<type>` elements and to specify `LDAPPrincipal` instead of `XMLRealmRole`, as follows:

   ```
   <principal>
       <class>oracle.security.jazn.realm.LDAPPrincipal</class>
       <name>jdoe</name>
   </principal>
   ```

3. Manually create any necessary user and role accounts in the external LDAP provider. Ensure that the user and role names you create conform to the principals referenced in the policy configuration you migrated to the target server in step 1.

Note: Additional steps to update `orion-application.xml` to enable JAAS mode and to set up necessary role mapping are already discussed in the 10.1.3.1 *Oracle Containers for J2EE Security Guide*.

13.8.3 Proper Specification of osso.conf File Name for SSO Configuration

In chapter 8, "Oracle Identity Management", of the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, in the section "Configure SSO (Optional)", under the first step, "Run the SSO Registration Tool", the following example is shown:

```
% $ORACLE_HOME/sso/bin/ssoreg.sh -oracle_home_path $ORACLE_HOME \
  -site_name myhost.mydomain.com -config_mod_osso TRUE \
 -mod_osso_url http://myhost.mydomain.com:7777 -remote_midtier \
  -config_file $ORACLE_HOME/Apache/Apache/conf/osso/osso.conf
```

Actually, if you run this exact command, using the configuration file name `osso.conf`, there will be an error indicating that `osso.conf` already exists. (You should *not* overwrite the existing `osso.conf` file.) Instead of `osso.conf`, use some other file name such as `midtier_osso.conf`, for example. A new file will be created with the name you specify, containing the SSO partner application configuration for

the middle tier you are associating with SSO. Copy this file to the middle tier you are configuring.

> **Tip:** We recommend that the file name indicate the host and port of the middle tier. For example, `midtier1_7779_osso.conf`.

13.8.4 User and Role APIs Replace OracleAS JAAS Provider Realm API Functions

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the "What's New" section notes that the new user/role API framework includes replacement functionality for the deprecated `UserManager`, `User`, and `Group` classes in the `com.evermind.security` package.

It should also be noted that the user/role API framework has replacement functionality for realm APIs in or under the `oracle.security.jazn` package.

These packages are deprecated and will not be supported in the 11*g* release.

13.8.5 Migration Tool Issue: Prepending Oracle Internet Directory Realm Name to Custom Principals

Be aware of the following issue when you use the OracleAS JAAS Provider migration tool to migrate policies from the file-based provider to the Oracle Identity Management (essentially, Oracle Internet Directory) security provider, either in "policy" mode or "all" mode: The migration tool prepends the Oracle Internet Directory realm name to custom or nonrealm principal names in grantee entries in the policy configuration. (A custom principal may come into play when authenticating through a custom login module, for example.)

In the migrated configuration, a custom principal name in a grantee entry becomes, for example, "`us/anyone`" instead of just "`anyone`", assuming "`us`" is the realm name. This results in permission issues. For ADF applications, for example, this results in public pages not working after migration to Oracle Internet Directory as the security provider.

This problem will be fixed in the 10.1.3.3 release. For 10.1.3.2 and prior 10.1.3.x releases, you can use either of the following workarounds:

- Manually remove the "`us/`" prefix from the LDIF file that the migration tool creates, prior to importing it into Oracle Internet Directory.
- Manually remove the "`us/`" prefix from relevant grantee entries after the migration, using Oracle Internet Directory administration tools.

13.8.6 Controlling Caching of JNDI Contexts for LDAP Connections

By default in 10.1.3.x implementations, OC4J uses `java.lang.ref.WeakReference` objects to cache JNDI contexts when using connection pooling for connections to the LDAP-based provider, and uses JVM garbage collection to garbage-collect the JNDI contexts.

We recommend, however, that you *not* rely on this `WeakReference` and JVM garbage collection functionality. You can disable it with the following property setting:

```
<jazn ... >
   <property name="jndi.ctx_pool.weakref.enable" value="false" />
   ...
</jazn>
```

(The default setting is "true".) When this is disabled, OC4J uses the following properties, which you should set appropriately, to control caching in the connection pool:

- jndi.ctx_pool.timeout: Timeout value, in milliseconds, for the LDAP JNDI connection pool. The default is 0, for no timeout. The recommended setting is 3600000 milliseconds, which is one hour.
- jndi.ctx_pool.threshold_size: Threshold to limit the number of idle connections in the pool. The default, and recommended initial setting, is 100.

(Both properties are ignored if jndi.ctx_pool.weakref.enable is set to "true".)

For example:

```
<jazn ... >
   <property name="jndi.ctx_pool.weakref.enable" value="false" />
   <property name="jndi.ctx_pool.threshold_size" value="100" />
   <property name="jndi.ctx_pool.timeout" value="3600000" />
   ...
</jazn>
```

Notes:

- The jndi.ctx_pool.weakref.enable and jndi.ctx_pool.threshold_size properties are not documented in the 10.1.3.x *Oracle Containers for J2EE Security Guide*.
- The jndi.ctx_pool.timeout property is documented in the 10.1.3.x *Oracle Containers for J2EE Security Guide*, but without mention of the fact that this parameter is ignored if jndi.ctx_pool.weakref.enable is set to "true" (the default).

13.8.7 AJP13 Protocol Vulnerable to Bypass User Authentication

When OC4J is running a site using the AJP13 protocol, a security vulnerability exists if a remote attacker can directly access the AJP port on the machine running OC4J. The AJP13 protocol defines an AJP parameter remote_user, which is used by OHS to implement mod_osso. An attacker can use this parameter to bypass authentication on OC4J. If a user constructs an AJP packet that inserts a valid remote_user value as an AJP parameter, the user will be able to access resources that the specified user (remote user) has permission to access.

You must ensure that the system running OC4J does not expose the AJP port to the outside world.

You can protect against the vulnerability in either of the following ways:

- Enable SSL between OC4J and Oracle HTTP Server (preferred). For 10.1.3.x releases, this is documented in the *Oracle Containers for J2EE Security Guide*. For release 10.1.2 or 9.0.4, this is documented in the *Oracle Containers for J2EE Servlet Developer's Guide*.
- Use the <access-mask> element (a subelement of <orion-web-app>) in global-web-application.xml or orion-web.xml to restrict access to appropriate host names, domains, or IP addresses. This element is documented in the *Oracle Containers for J2EE Servlet Developer's Guide*.

13.8.8 JAZN Tool No Longer Includes -clustersupport

The DCM component is no longer supported in Oracle Application Server 10.1.3. Consequently, the `-clustersupport` option is no longer available in the `jazn.jar` administrative tool.

Problem

Using the `-clustersupport` option when invoking `jazn.jar` results in the following error:

```
An error has occured in propagating the changes to the cluster.
java.lang.ClassNotFoundException oracle.security.jazn.smi.DcmUtil
```

This problem occurs because Distributed Configuration Management (DCM), used in prior releases of Oracle Application Server to replicate common configuration information across a cluster, is no longer supported with release 10.1.3. Consequently, the `-clustersupport` option is not supported in the JAZN (jazn.jar) administrative tool.

Solution

Do not use the `-clustersupport` option when invoking `jazn.jar`.

13.9 General OC4J Issues and Workarounds

This section discusses general OC4J issues:

- Section 13.9.1, "OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control"

13.9.1 OutOfMemoryError on Multiple Restarts of Standalone OC4J through Application Server Control

If you restart a standalone OC4J instance multiple times through Application Server Control, you may encounter the error `java.lang.OutOfMemoryError`, reported on the server console, and the OC4J instance will be unusable.

The workaround is to manually stop and restart the OC4J instance.

13.10 Documentation Errata

This section describes known errors in the OC4J documentation in Oracle Application Server 10g Release 3 (10.1.3.1). It covers the following book(s):

- Section 13.10.1, "Web Services Guide"
- Section 13.10.2, "Oracle Application Server Advanced Web Services Developer's Guide"
- Section 13.10.3, "Oracle Containers for J2EE Deployment Guide"
- Section 13.10.4, "Oracle Containers for J2EE Configuration and Administration Guide"
- Section 13.10.5, "Oracle Containers for J2EE Services Guide"
- Section 13.10.6, "OracleAS JAAS Provider and Security Documentation Errata"
- Section 13.10.7, "Oracle Containers for J2EE Developer's Guide"
- Section 13.10.8, "Oracle Containers for J2EE Servlet Developers Guide"

- Section 13.10.9, "Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide"

13.10.1 Web Services Guide

This section describes Web Services documentation errata. It covers the following topic(s):

- Section 13.10.1.1, "Incorrect Link Provided for wsclient_extended.zip File"
- Section 13.10.1.2, "Typos in XML Type Names in Advanced Web Services Developer's Guide"
- Section 13.10.1.3, "ServerConstants Properties Cannot be used to Access the HTTP Layer from the Client"
- Section 13.10.1.4, "Additions to List of Supported Platforms"

13.10.1.1 Incorrect Link Provided for wsclient_extended.zip File

The following incorrect link for the wsclient_extended.zip file and companion CD was used in Chapter 4 and Appendix A of the *Oracle Application Server Web Services Developer's Guide*:

http://download.oracle.com/otn/java/oc4j/10131/wsclient_extended.zip

The correct link should be:

http://www.oracle.com/technology/software/products/ias/htdocs/utilsoft.html

13.10.1.2 Typos in XML Type Names in Advanced Web Services Developer's Guide

Table H–4, "Mapping Java Collection Classes to XML Types", in the Advanced Web Services Developer's Guide, contains the following typographical errors in XML type names:

`--java.util.HashMap` maps to `owi:hashmap`. This is incorrect. The correct mapping is to `owi:hashMap` (the `M` should be upper case)

`--java.util.TreeMap` maps to `owi:treemap`. This is incorrect. The correct mapping is to `owi:treeMap` (the `M` should be upper case)

13.10.1.3 ServerConstants Properties Cannot be used to Access the HTTP Layer from the Client

In the *Web Services Developer's Guide*, the section "How Stub Clients Can Get Headers with the ServiceLifecycle Interface" describes how the `HTTP_SERVLET_REQUEST` and `HTTP_SERVLET_RESPONSE` properties in the `oracle.webservices.ServerConstants` class can be used to access the HTTP message header.

This section claims that these properties can be used on the client as well as on the server to access the HTTP message header. This is incorrect. The client cannot access the HTTP layer at all by using these properties. Any attempt to call these properties on the client will return an exception similar to the following:

`--java.util.TreeMap` maps to `owi:treemap`. This is incorrect. The correct mapping is to `owi:treeMap` (the `M` should be upper case)

```
javax.xml.rpc.JAXRPCException: Stub does not recognize
property:...
```

There is no work around.

13.10.1.4 Additions to List of Supported Platforms

Book: *Oracle Application Server Web Services Advanced Developer's Guide*

Chapter 3 lists the platforms on which Oracle Web Services is supported. The HP-UX and AIX platforms should be added to this list.

The Oracle Web Services stack is supported on the same platforms as Oracle Application Server and OC4J. For an up-to-date list of the supported platforms for each release, see the following Web site: `https://metalink.oracle.com`

13.10.2 Oracle Application Server Advanced Web Services Developer's Guide

This section describes errors in the *Oracle Application Server Advanced Web Services Developer's Guide*. It covers the following item(s):

- Section 13.10.2.1, "Incorrect XML in Examples in the "Using Web Service Providers" Chapter"

13.10.2.1 Incorrect XML in Examples in the "Using Web Service Providers" Chapter

The chapter titled "Using Web Service Providers" in the *Oracle Application Server Advanced Web Services Developer's Guide* contains examples with incorrect XML.

Example 10-5

"oracle-webservices.xml Fragment, with a <provider-description> Clause" is not well-formed xml.

- The spaces after slashes in closing tags must be removed:

  Change: `</ wsdl-service-name>` to: `</wsdl-service-name>`

  Change: `</ implementation-class>` to: `</implementation-class>`

- Closing tag is missing a slash:

  Change: `<auditing>...<auditing>` to: `<auditing>...</auditing>`

Example 10-6

"Provider Elements in the web.xml Deployment Descriptor" is well-formed but invalid XML.

The description and display-name elements are out-of-order and mis-positioned according to the JDeveloper 10.1.3.3.0.4157 schema validation:

Change:

```
<servlet-name>LoggerProviderPort</servlet-name>
<display-name>LoggerProviderPort</display-name>
<description>JAX-RPC endpoint  Provider Port</description>
```

to:

```
<description>JAX-RPC endpoint  Provider Port</description>
<display-name>LoggerProviderPort</display-name>
<servlet-name>LoggerProviderPort</servlet-name>
```

13.10.3 Oracle Containers for J2EE Deployment Guide

This section describes Web Services documentation errata. It covers the following topic(s):

- Section 13.10.3.1, "Incorrect Attribute Name in Example of Ant Task"
- Section 13.10.3.2, "Incorrect Subswitch Names for admin_client.jar Commands"
- Section 13.10.3.3, "Information Missing from Description of admin_client.jar -redeploy Command Subswitches"
- Section 13.10.3.4, "File Name oracle-ant.jar Should Be ant-oracle.jar"
- Section 13.10.3.5, "The version Property of the removeSharedLibrary Ant Task Should Be libraryVersion"
- Section 13.10.3.6, "Checking for Updates by Comparing Directory and EAR or WAR Timestamps"
- Section 13.10.3.7, "deploymentPlan Property Not Valid in Ant Task for WAR Deployment"
- Section 13.10.3.8, "Incremental Redeployment of EJB Modules Not Supported by Application Server Control"

13.10.3.1 Incorrect Attribute Name in Example of Ant Task

The "`name`" attribute should be "`connectionPoolName`" in the example of the `testDataSourceConnectionPool` Ant task under "Testing a Data Source Connection Pool" in Chapter 10, "Using OC4J Ant Tasks for Deployment." This example is in version 10.1.3.1 of the *Oracle Containers for J2EE Deployment Guide*.

The correct example follows:

```
<oracle:testDataSourceConnectionPool
deployerUri="deployer:oc4j:localhost"
userid="oc4jadmin"
password="welcome1"
applicationName="default"
connectionPoolName="ScottConnectionPool"
sqlStatement="select * from dual" />
```

13.10.3.2 Incorrect Subswitch Names for admin_client.jar Commands

The names of some command subswitches are incorrect in Chapter 11, "Using the admin_client.jar Utility for Deployment." Table 13–3 shows the incorrect and correct names for these subswitches. Also, the table shows the correct name for the `-addDataSourceConnectionPool` command, which was misspelled in the book.

Table 13–3 Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
`-addDataSourceConnectionPool`	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-testDataSourceConnectionPool`	`-connectionPoolName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`

Table 13–3 (Cont.) Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
-addManagedDataSource	-dataSourceName	-name
	-user	-dbUser
	-password	-dbPassword
-removeManagedDataSource	-dataSourceName	-name
-addNativeDataSource	-dataSourceName	-name
	-user	-dbUser
	-password	-dbPassword
-removeNativeDataSource	-dataSourceName	-name
-testDatabaseConnection	-user	-dbUser
	-password	-dbPassword
-testDataSource	-user	-dbUser
	-password	-dbPassword
-addJMSConnectionFactory	-location	-jndiLocation
-removeJMSConnectionFactory	-location	-jndiLocation

13.10.3.3 Information Missing from Description of admin_client.jar -redeploy Command Subswitches

Some information is missing from the description of the `-redeploy` command subswitches under "Redeploying an Archive" in Chapter 11, "Using the admin_client.jar Utility for Deployment":

- The `-file` subswitch can specify the name of an EAR, WAR, or RAR, not just an EAR.
- The `-bindAllWebApps [`*`webSiteName`*`]` subswitch is missing. This optional subswitch binds all Web modules to the specified Web site, or to the `default` Web site if none is specified.

  You can optionally supply a value for *`webSiteName`*, which is the *`name`* portion of the *`name`*`_web-site.xml` file that configures the Web site.

13.10.3.4 File Name oracle-ant.jar Should Be ant-oracle.jar

In *Oracle Containers for J2EE Deployment Guide*, Chapter 10, "Using OC4J Ant Tasks for Deployment", under "Preparing to Use OC4J Ant Tasks" and "Incorporating the OC4J Ant Tasks into Your Environment," the file name `oracle-ant.jar` should be `ant-oracle.jar` in two places:

- The second paragraph

  Incorrect text: The `oracle-ant.jar` file is installed by default within the *`ORACLE_HOME`*`/ant/lib` directory.

  Correct text: The `ant-oracle.jar` file is installed by default within the *`ORACLE_HOME`*`/ant/lib` directory.

- The description of `ant-oracle.xml`

Incorrect text: This is necessary only if `oracle-ant.jar` is not installed in the *ORACLE_HOME*`/ant/lib` directory.

Correct text: This is necessary only if `ant-oracle.jar` is not installed in the *ORACLE_HOME*`/ant/lib` directory.

In both places, the directory path is accurate.

13.10.3.5 The version Property of the removeSharedLibrary Ant Task Should Be libraryVersion

In *Oracle Containers for J2EE Deployment Guide*, Chapter 10, "Using OC4J Ant Tasks for Deployment", the `version` property of the `removeSharedLibrary` Ant task should be `libraryVersion` in the "Removing a Shared Library" subsection of "Creating and Managing Shared Libraries."

A corrected example for the `removeSharedLibrary` Ant task follows:

```
<oracle:removeSharedLibrary
deployerUri="${deployer.uri}"
userid="${oc4j.admin.user}"
password="${oc4j.admin.password}"
logfile="${log.dir}/filename.log"
libraryName="name"
libraryVersion="version"/>
```

13.10.3.6 Checking for Updates by Comparing Directory and EAR or WAR Timestamps

In *Oracle Containers for J2EE Deployment Guide*, Chapter 14, "Using Automatic Deployment in OC4J", the note under "Using the Check-for-Updates Feature" reads as follows:

Note: An EAR or WAR file copied to the *ORACLE_HOME*`/j2ee/`*instance*`/applications` directory will be deployed or redeployed by default upon OC4J startup, regardless of whether auto-deployment is enabled.

The EAR or WAR file is also deployed when its timestamp is newer than the timestamp of the directory that contains the file.

13.10.3.7 deploymentPlan Property Not Valid in Ant Task for WAR Deployment

The `deploymentPlan` property is incorrectly listed in Table 10-7, "deploy Properties for Standalone WAR Deployment" in Chapter 10, "Using OC4J Ant Tasks for Deployment." You cannot use a deployment plan to deploy a standalone Web module.

13.10.3.8 Incremental Redeployment of EJB Modules Not Supported by Application Server Control

Application Server Control Console is incorrectly listed as a tool under "Incremental Redeployment of EJB Modules" in Chapter 3, "Deploying EJB Modules." You cannot use Application Server Control for incremental redeployment of EJB Modules. Use one of the other tools listed instead:

- The `-updateEBJModule` command of the `admin_client.jar` command-line utility (or `admin.jar` for standalone OC4J)
- The `updateEJBModule` Ant task

- JDeveloper

For more information about EJB redeployment, see the chapter.

13.10.4 Oracle Containers for J2EE Configuration and Administration Guide

This section describes documentation errata for the *Oracle Containers for J2EE Configuration and Administration Guide*. It covers the following topics:

- Section 13.10.4.1, "Incorrect Subswitch Names for admin_client.jar Commands"
- Section 13.10.4.2, "Information Missing from Description of admin_client.jar -redeploy Command Subswitches"
- Section 13.10.4.3, "Incorrect Example for Disabling Text File Logging"
- Section 13.10.4.4, "Format for Variables That Configure Text Logging for Web Sites"
- Section 13.10.4.5, "Incorrect Description of Queue Attribute for Thread Pools"
- Section 13.10.4.6, "Configuration of OPMN Gateway Element Shows Incorrect Order"
- Section 13.10.4.7, "Starting Order Incorrect for Static Peer-to-Peer Replication"

13.10.4.1 Incorrect Subswitch Names for admin_client.jar Commands

The names of some command subswitches are incorrect in Chapter 6, "Using the admin_client.jar Utility." Table 13–4 shows the incorrect and correct names for these subswitches. Also, the table shows the correct name for the `-addDataSourceConnectionPool` command, which was misspelled in the book.

Table 13–4 Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
`-addDataSourceConnectionPool`	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-testDataSourceConnectionPool`	`-connectionPoolName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-addManagedDataSource`	`-dataSourceName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-removeManagedDataSource`	`-dataSourceName`	`-name`
`-addNativeDataSource`	`-dataSourceName`	`-name`
	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-removeNativeDataSource`	`-dataSourceName`	`-name`
`-testDatabaseConnection`	`-user`	`-dbUser`
	`-password`	`-dbPassword`
`-testDataSource`	`-user`	`-dbUser`

Table 13–4 (Cont.) Correct Names for Subswitches of admin_client.jar Commands

Command	Incorrect Subswitch Name	Correct Subswitch Name
	`-password`	`-dbPassword`
`-addJMSConnectionFactory`	`-location`	`-jndiLocation`
`-removeJMSConnectionFactory`	`-location`	`-jndiLocation`

13.10.4.2 Information Missing from Description of admin_client.jar -redeploy Command Subswitches

Some information is missing from the description of the `-redeploy` command subswitches under "Redeploying an Archive" in Chapter 6, "Using the admin_client.jar Utility":

- The `-file` subswitch can specify the name of an EAR, WAR, or RAR, not just an EAR.
- The `-bindAllWebApps [`*`webSiteName`*`]` subswitch is missing. This optional subswitch binds all Web modules to the specified Web site, or to the `default` Web site if none is specified.

  You can optionally supply a value for *`webSiteName`*, which is the *`name`* portion of the *`name`*`_web-site.xml` file that configures the Web site.

13.10.4.3 Incorrect Example for Disabling Text File Logging

In *Oracle Containers for J2EE Configuration and Administration Guide*, Chapter 11, "Logging in OC4J," under "Enabling or Disabling Text File Logging," the example for disabling text file logging comments out the entire `<log>` element, but the text before the example says to remove or comment out the `<file>` element. The incorrect example follows:

```
<!--
<log>
  <file path="application.log" />
</log>
-->
```

Here is a corrected example:

```
<log>
  <!-- <file path="application.log" /> -->
</log>
```

13.10.4.4 Format for Variables That Configure Text Logging for Web Sites

Information about the `$cookie` and `$header` variables is missing from the description of the `format` attribute of the `<access-log>` element under "Configuring Text-Based Access Logging" in Chapter 13, "Managing Web Sites in OC4J."

In the `<access-log>` subelement of the `<web-site>` element in a Web site's configuration file (`*-web-site.xml`), you can specify a number of variables in the `format` attribute that result in information being prepended to log entries. When you specify the `$cookie` or `$header` variable, the format needs to be as follows:

```
$cookie:[name]
$header:[name]
```

13.10.4.5 Incorrect Description of Queue Attribute for Thread Pools

The description of the `queue` attribute is incorrect in Table 10-2, "Attributes of <thread-pool> and <custom-thread-pool>," in Chapter 10, "Task Manager and Thread Pool Configuration." The incorrect description follows:

Attribute	Description
`queue`	The maximum number of requests that can be kept in the queue. The default value is `0`. The `queue` value should be at least twice the size of the maximum number of threads. If the value is `0` OC4J uses `Integer.MAX_VALUE` as the maximum number.

Here is a corrected description of the `queue` attribute:

Attribute	Description
`queue`	The maximum number of requests that can be kept in the queue. The default value is `0`. The `queue` value should be at least twice the size of the maximum number of threads.

13.10.4.6 Configuration of OPMN Gateway Element Shows Incorrect Order

The order of `<topology>` subelements is incorrect in the `opmn.xml` configuration example under "Configuring Cross-Topology Gateways" in Chapter 8, "Configuring and Managing Clusters and OC4J Groups," of *Oracle Containers for J2EE Configuration and Administration Guide*. The example shows a configuration for a gateway as follows:

```
<opmn>
 <notification-server>
  <port ... />
  <ssl ... />
  <topology>
   <gateway list="node1.com:6201&node2.com:6202&node3.com:6203/"/>
   <discover list="*224.0.0.37:8205"/>
  </topology>
 </notification-server>
 ...
</opmn>
```

Because the `<topology>` subelements are incorrectly ordered according to the `opmn.xsd` file, using this configuration results in an OPMN error.

The correct configuration follows:

```
<opmn>
 <notification-server>
  <port ... />
  <ssl ... />
  <topology>
   <discover list="*224.0.0.37:8205"/>
   <gateway list="node1.com:6201&node2.com:6202&node3.com:6203/"/>
  </topology>
 </notification-server>
 ...
</opmn>
```

13.10.4.7 Starting Order Incorrect for Static Peer-to-Peer Replication

The following paragraph shows an incorrect starting order for nodes under "Configuring Static Peer-to-Peer Replication" in Chapter 9, "Application Clustering in OC4J," of *Oracle Containers for J2EE Configuration and Administration Guide*.

In this configuration, each node specifies one other node as its peer. The result is that all of the nodes within the cluster are able to establish connections with one another. This scenario will work only if each node is started in succession; that is, `www1.company.com` must be started before `www2.company.com`. Otherwise, `www2.company.com` will not be able to "see" `www1.company.com`.

The following paragraph has the correct starting order.

In this configuration, each node specifies one other node as its peer. The result is that all of the nodes within the cluster are able to establish connections with one another. This scenario will work only if each node is started in succession; that is, `www3.company.com` must be started before `www2.company.com`. Otherwise, `www2.company.com` will not be able to "see" `www3.company.com`.

13.10.5 Oracle Containers for J2EE Services Guide

This section describes *OC4J Services Guide* documentation errata. It covers the following topic(s):

- Section 13.10.5.1, "Wrong Data Source Element Name"
- Section 13.10.5.2, "Wrong Defaults Listed for Connection Pool Attributes"
- Section 13.10.5.3, "Invalid Attribute"
- Section 13.10.5.4, "Revised Description for max-connections Attribute"

13.10.5.1 Wrong Data Source Element Name

The "Defining Data Source" chapter in the *OC4J Services Guide* contains an error. The Fifth bullet in the "Configuration Notes" section is incorrect. The bullet should read:

"Native data sources are defined using the `<native-data-source>` element. The `data-source-class` attribute can be set to any fully qulified class name of an object that implements the `javax.sql.DataSource` interface."

13.10.5.2 Wrong Defaults Listed for Connection Pool Attributes

The Data Source chapter in the *OC4J Services Guide* contains an error. The Connection Pool Attributes table incorrectly lists default values for the `time-to-live-timeout` attribute and the `abandoned-connection-timeout` attribute. The default value for these features is actually `0` and not `-1`. The default value (`0`) indicates that these features are disabled.

13.10.5.3 Invalid Attribute

Table 5-3, "Connection Pool Attributes," includes a description of the `disable-server-connection-pooling` attribute. This attribute is no longer supported and should not be added to the `J2EE_HOME/config/data-sources.xml` configuration file.

13.10.5.4 Revised Description for max-connections Attribute

The Data Source chapter in the *OC4J Services Guide* contains an error. The Connection Pool Attributes table states that setting the `max-connections` attribute to `0` disables

connection pooling. Setting this value to `0` does not disable connection pooling when using Oracle's Implicit Connection Cache (ICC). Instead, an SQL error is returned:

```
java.sql.SQLException: Unable to get a physical connection from the database...
there are no connections available.
```

To disable connection pooling when using the `oracle.jdbc.pool.OracleDataSource` connection factory class, set the `connectionCachingEnabled` property to `false`. For example:

```
<connection-pool name="myConnectionPool"
   <connection-factory
      factory-class="oracle.jdbc.pool.OracleDataSource"
      user="scott"
      password="tiger"
      url="jdbc:oracle:thin:@//localhost:1521/">
      <property name="connectionCachingEnabled"  value="false"/>
   </connection-factory>
</connection-pool>
```

13.10.6 OracleAS JAAS Provider and Security Documentation Errata

This section contains information about the following errata in the 10.1.3.1 *Oracle Containers for J2EE Security Guide*:

- Section 13.10.6.1, "Incorrect Notes on 'Mixed Usage' between Identity Store and Policy Store"
- Section 13.10.6.2, "Incorrect Note on Automatic Creation of Indirect User Accounts"
- Section 13.10.6.3, "Obsolete <data-source> Element Cited"
- Section 13.10.6.4, "Form Authentication Method Supported with Custom Login Modules"
- Section 13.10.6.5, "Invalid Reference to x509cert.mapping.attribute Property"

13.10.6.1 Incorrect Notes on 'Mixed Usage' between Identity Store and Policy Store

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, there are two notes that include the following: "...the result would be a mixed usage where the provider configured in `orion-application.xml` would be the identity store used for authentication, while the provider specified in `jazn.xml` would be the policy store used for authorization. This is not recommended."

One appears under "Policy Repository Setting in jazn.xml" in the "Authorization in OC4J" chapter (Chapter 5); the other under "Associate Oracle Internet Directory with OC4J" in the "Oracle Identity Management" chapter (Chapter 8).

It is not appropriate to say this is not recommended. In fact, it is the only alternative when using external LDAP or a custom login module. While certain steps or precautions must be taken, these steps are already documented.

13.10.6.2 Incorrect Note on Automatic Creation of Indirect User Accounts

In the 10.1.3.1 *Oracle Containers for J2EE Security Guide*, the following note appears in the section "Using Password Indirection" (Chapter 6): "If you choose to use indirect passwords in the current OC4J implementation, an indirect user is created in the `system-jazn-data.xml` file. Be aware that these indirect user accounts are not

removed automatically when an application is undeployed; you must use Application Server Control Console to delete any stale indirect user accounts manually."

This note is misleading, as the indirect user account is created automatically only in the case of Web services, when Application Server Control Console is used to configure a keystore or keystore passwords (signature key and encryption key).

The point of the note should simply be that if an indirect user account is created, either automatically or manually, undeploying the application will not remove the account automatically; you must do so manually.

13.10.6.3 Obsolete <data-source> Element Cited

In the 10.1.3.1 and 10.1.3.0.0 *Oracle Containers for J2EE Security Guide*, in the section "Using Password Indirection" (Chapter 6), a passage refers to the `password` attribute of the `<data-source>` element in file `data-sources.xml`. This actually should refer to the `password` attribute of the `<native-data-source>` element or `<managed-data-source>` element, which combined to replace the `<data-source>` element in the 10.1.3.0.0 release.

13.10.6.4 Form Authentication Method Supported with Custom Login Modules

The *Oracle Containers for J2EE Security Guide* incorrectly states in at least two locations that the form authentication method is not supported with custom security providers (custom login modules). This is incorrect—in 10.1.3.x implementations, the form method *is* supported with custom security providers.

The error occurs in the following locations:

- 10.1.3.0.0:
  - Chapter 2, "Overview of OC4J Security", section "Authentication in the OC4J Environment";
  - Chapter 13, "Web Application Security Configuration", section "Specifying auth-method in web.xml".
- 10.1.3.1 and higher:
  - Chapter 2, "Java Platform Security", section "Web Application Standard Authentication Methods"
  - Chapter 17, "Web Application Security Configuration", section "Specifying auth-method in web.xml".

13.10.6.5 Invalid Reference to x509cert.mapping.attribute Property

The *Oracle Containers for J2EE Security Guide* incorrectly refers to the OracleAS JAAS provider property `x509cert.mapping.attribute`. In particular, Chapter 13, Web Application Security Configuration, in the section "Using Client-Cent Authentication" contains the following incorrect example:

```
<orion-application ... >
...
   <jazn provider="XML" ... default-realm="myrealm" ... >
      <property name="x509cert.mapping.attribute" value="CN"/>
...
   </jazn>
...
</orion-application>
```

This example and other references to `x509cert.mapping.attribute` are incorrect since the `x509LoginModule` utilizes the `mapping.attribute` property as do other providers. For more information about this property and how to configure it, see the release note at Section 13.1.20, "Specifying the Mapping Attribute"".

13.10.7 Oracle Containers for J2EE Developer's Guide

This section describes documentation errata for *Oracle Containers for J2EE Developer's Guide*, including the following topic:

- Section 13.10.7.1, "Missing Character in Service URL Strings"
- Section 13.10.7.2, "Incorrect Setting for Client Module in orion-application.xml"

13.10.7.1 Missing Character in Service URL Strings

In *Oracle Containers for J2EE Developer's Guide*, Chapter 5, "Creating MBeans to Manage Your Applications," under "Remote Management Using the JMX Remote API (JSR-160)," some of the service URL strings in the code segments are missing a required colon character (":"). The incorrect entries are like this one:

```
String url="service:jmx:rmi///opmn://opmnhost1.company.com:6003/home"
```

In this entry, ":" is missing between "`rmi`" and "`///`".

The correct service URL string follows:

```
String url="service:jmx:rmi:///opmn://opmnhost1.company.com:6003/home"
```

13.10.7.2 Incorrect Setting for Client Module in orion-application.xml

The description of the `<client-module>` element recommends the wrong value for the `user` attribute under "Elements in the orion-application.xml File" in Appendix A, "OC4J-Specific Deployment Descriptors." The descriptions of the `auto-start` and `user` attributes incorrectly recommend setting `user` to `true` when `auto-start='true'`.

These attribute settings, however, would prevent OC4J from calling the main method in an application client archive (CAR) at startup. When the `auto-start` attribute is set to `true`, you need to set `user` to `anonymous`. The descriptions of these `<client-module>` attributes should read as follows:

- `auto-start`: Whether to automatically start the application in-process at OC4J server startup. The default is `false`. If this attribute is set to `true`, the `user` attribute must be set to `anonymous`.
- `user`: Set to `anonymous` to run the client in-process. If the `auto-start` attribute is set to `true`, the `user` attribute must be set to `anonymous`.

13.10.8 Oracle Containers for J2EE Servlet Developers Guide

This section describes documentation errata for *Oracle Containers for J2EE Servlet Developer's Guide*, including the following topic:

- Section 13.10.8.1, "Do Not Specify a Host for the <host-access> domain Attribute"

13.10.8.1 Do Not Specify a Host for the <host-access> domain Attribute

The value specified for the `domain` attribute of a `<host-access>` element of an `orion-web.xml` file must be a domain, NOT a host.

In the *Oracle Containers for J2EE Servlet Developer's Guide*, 10g (10.1.3.1.0), Appendix B Web Module Configuration Files, Table B-9 "<host-access> Attributes" incorrectly states either a host or a domain can be specified for the `domain` attribute.

Only a domain can be specified for the `domain` attribute of a `<host-access>` element of an `orion-web.xml` file.

13.10.9 Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide

This section describes documentation errata for the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*. It includes the following topic:

- Section 13.10.9.1, "Do Not Edit the boot.xml File As Documented"

13.10.9.1 Do Not Edit the boot.xml File As Documented

In the *Oracle Containers for J2EE Enterprise JavaBeans Developer's Guide*, Chapter 20 Configuring Data Sources, section "Associating TopLink With an Oracle JDBC Driver", under "EJB 2.1. CMP Applications", we explain how to define a new Oracle JDBC shared library in the `boot.xml` file. Oracle recommends users should not edit the `boot.xml` file as documented, as this is not supported by Oracle.

14 Oracle TopLink

This chapter describes issues associated with Oracle TopLink (TopLink). It includes the following topic:

- Section 14.1, "General Issues and Workarounds"
- Section 14.2, "Documentation Errata"

14.1 General Issues and Workarounds

This section describes general issues and workarounds. It includes the following topic:

- Section 14.1.1, "Object-Relational Issues"
- Section 14.1.2, "Object-XML (JAXB) Issues"
- Section 14.1.3, "Miscellaneous Issues"

14.1.1 Object-Relational Issues

This section contains information on the following issues:

- Section 14.1.1.1, "Incorrect outer join SQL on SQLServer2005"
- Section 14.1.1.2, "UnitOfWork.release() not Supported with External Transaction Control"
- Section 14.1.1.3, "ReportQuery Results for Aggregate Functions may be Truncated"
- Section 14.1.1.4, "Attribute Joining of One-to-One Mappings not Supported with Inheritance"
- Section 14.1.1.5, "Using Oracle Database Advanced Data Types may Fail with Some Data Sources"
- Section 14.1.1.6, "Returning Policy with Optimistic Locking"
- Section 14.1.1.7, "Using Timestamp"
- Section 14.1.1.8, "Configuring Sequencing in sessions.xml"

14.1.1.1 Incorrect outer join SQL on SQLServer2005

TopLink generates incorrect outer join for SQL Server v2005. The outer join syntax generated is correct for earlier versions of this database. To work around this limitation, reconfigure the database compatibility (refer to the SQLServer documentation for details). Alternatively, you can use a custom TopLink database platform.

14.1.1.2 UnitOfWork.release() not Supported with External Transaction Control

A unit of work synchronized with a Java Transaction API (JTA) will throw an exception if it is released. If the current transaction requires its changes to not be persisted, the JTA transaction must be rolled back.

When in a container-demarcated transaction, call `setRollbackOnly()` on the EJB/session context:

```
@Stateless
 public class MySessionBean
{
  @Resource
  SessionContext sc;
  .
  public void someMethod() {
  ...
  sc.setRollbackOnly();
  }
  }
```

When in a bean-demarcated transaction then you call `rollback()` on the UserTransaction obtained from the EJB/session context:

```
Stateless
TransactionManagement(TransactionManagementType.BEAN)
  public class MySessionBean implements SomeInterface {
  .
    @Resource
    essionContext sc;
  .
  public void someMethod() {
    sc.getUserTransaction().begin();
    ...
    sc.getUserTransaction().rollback();
  }
 }
```

14.1.1.3 ReportQuery Results for Aggregate Functions may be Truncated

When using a ReportQuery to return calculated values, the data type of the column is used to convert the returned results. As a result, values returned for mapped attributes using average, variance, and standard deviation will be converted into the mapped attribute type and could result in loss of precision through truncation.

To work around this issue, use the field instead of the attribute's query key. For example:

- Using the attribute's query key results in truncated value:

  ```
  rq.addAverage("salary");
  ```

- Use the database column instead to avoid truncation:

  ```
  rq.addAverage("salary", eb.getField("SALARY.SALARY"));
  ```

14.1.1.4 Attribute Joining of One-to-One Mappings not Supported with Inheritance

It is not possible to execute a query on a class involved in an inheritance hierarchy which also has one-to-one joined attributes configured. This issue has already been addressed in TopLink Essentials and the solution will be available in the next release or a patch-set of this release.

14.1.1.5 Using Oracle Database Advanced Data Types may Fail with Some Data Sources

When using Oracle9i and Oracle10*g* database platform-provided advanced data types with some data source implementations, failures may occur. The platform does not or cannot correctly unwrap the raw Oracle specific JDBC connection and cannot complete the necessary conversions. To avoid this issue, you can use TopLink internal connection pooling.

14.1.1.6 Returning Policy with Optimistic Locking

The returning policy, which allows values modified during INSERTs and UPDATEs to be returned and populated in cached objects, does not work in conjunction with numeric version optimistic locking. The value returned for all UPDATEs is **1** and does not provide meaningful locking protection.

Do not use numeric optimistic locking in conjunction with a returning policy.

14.1.1.7 Using Timestamp

TopLink assumes that date and time information returned from the server will use `Timestamp`. If the JDBC driver returns a `String` for the current date, TopLink will throw an exception. You should use a driver that returns `Timestamp` or change the policy to use local time instead of server time.

14.1.1.8 Configuring Sequencing in sessions.xml

When configuring a custom sequence table for a session, TopLink Workbench will throw an exception and your edits will not be written to the `sessions.xml` when it is saved. As a workaround, configure sequencing at the project level. See "Configuring Sequencing at the Project Level" in the *Oracle TopLink Developer's Guide* for details.

14.1.2 Object-XML (JAXB) Issues

This section contains information on the following issues:

- Section 14.1.2.1, "Using Non-ASCII Characters with a JAXB 1.0 TopLink Project"
- Section 14.1.2.2, "XML Document Preservation"
- Section 14.1.2.3, "Multiple Composite Object Mappings Using Self "." XPath not Supported"
- Section 14.1.2.4, "Marshalling a Non-root Object with Document Preservation"

14.1.2.1 Using Non-ASCII Characters with a JAXB 1.0 TopLink Project

When you generate class and method names that include non-ASCII characters, TopLink will throw an exception. This problem occurs when creating a JAXB 1.0 TopLink project from an XML schema that contains non-ASCII characters. Ensure that your XML schema does not contain any non-ASCII characters.

14.1.2.2 XML Document Preservation

XML document preservation enables the partial conversion of an XML document into its mapped object model. The XML contents are preserved so that unmapped content is not lost and is included when object is marshalled back into XML.

When using the Preserve Document option with an XML descriptor, you must also set the option on all other root descriptors.

When using document preservation, only a root object can be marshaled. Attempting to marshal a non-root object with document preservation on will result in an exception.

14.1.2.3 Multiple Composite Object Mappings Using Self "." XPath not Supported

TopLink supports only a single composite object mapping using the self (".") XPath. This does not restrict the number of composite object mappings, only the number of mappings where the composite object is mapped into the parent element instead of a child element.

14.1.2.4 Marshalling a Non-root Object with Document Preservation

When using document preservation (see "Configuring Document Preservation" in the *Oracle TopLink Developer's Guide*), only a root object can be marshalled. Attempting to marshal a non-root object with document preservation on will result in an exception.

14.1.3 Miscellaneous Issues

This section contains information on the following issues:

- Section 14.1.3.1, "Shared Installation"
- Section 14.1.3.2, "Welcome Page"
- Section 14.1.3.3, "Using JDK 1.6u1 with Linux Platforms"

14.1.3.1 Shared Installation

By default, the TopLink installation allows *only the user who performed the installation* to access the installed files. If your TopLink installation is in a shared environment you must manually change the file permissions for all files in the `<ORACLE_HOME>` directory after completing the installer. Executable files require **read and execute** access; non-executable files require **read** access. Refer to your operating system documentation for information on setting file permissions.

14.1.3.2 Welcome Page

After installing Oracle TopLink, the Welcome page will appear in English – regardless of the language you selected during installation. To display your language-specific select the appropriate file in the `<ORACLE_HOME>\toplink\doc\` folder.

14.1.3.3 Using JDK 1.6u1 with Linux Platforms

When launching Oracle TopLink Workbench using JDK 1.6u1 on a Linux platform, the following output error may appear every 30 seconds:

```
java.util.prefs.FileSystemPreferences syncWorld
WARNING: Couldn't flush user prefs: java.util.prefs.BackingStoreException:
java.lang.IllegalArgumentException: indent-number.
```

This error appears due to a bug in the Sun JDK 1.6 (6396599). As a result of this bug, you cannot save your TopLink Workbench preferences. You can minimize the error log and continue to work, without incident, although the error will continually be written to the log.

14.2 Documentation Errata

This section includes information on the following issue:

- Section 14.2.1, "Creating project.xml Programatically"

14.2.1 Creating project.xml Programatically

The command for creating the project.xml file programatically, as listed in the *Oracle TopLink Developer's Guide*, is incorrect. The correct command is:

```
java -classpath
toplink.jar;toplinkmw.jar;xmlparserv2.jar;ejb.jar;oracle.toplink.workbench.mapping
s.DeploymentXMLGenerator <MW_Project.mwp> <output file.xml>
```

15 High Availability

This chapter describes issues related to highly available topologies using the OracleAS High Availability. This chapter contains the following issues:

- Section 15.1, "General Issues and Workarounds"
- Section 15.2, "Configuration Issues and Workarounds"
- Section 15.3, "Documentation Errata"

15.1 General Issues and Workarounds

This section describes general issues and workarounds. It includes the following topic:

- Section 15.1.1, "Compatible ASG Releases for OracleAS Instances from Different Oracle Application Server Releases"
- Section 15.1.2, "Compatible ASG Releases in an OracleAS Disaster Recovery Topology"
- Section 15.1.3, "Adding an Instance from a Remote Client Adds an Instance on the Local Instance and Not on the Remote Instance"
- Section 15.1.4, "Switchover Operation in an Asymmetric Topology Requires All Components to be Shutdown on Instances on the Primary Site that Do Not Have a Standby Peer"
- Section 15.1.5, "HTTP Server Configuration When Using a Server Load Balancer"
- Section 15.1.6, "Problem Performing a Clone Instance or Clone Topology Operation"
- Section 15.1.7, "OracleAS Guard Release 10.1.2.1.1 Cannot Be Used with Oracle RAC Databases"
- Section 15.1.8, "OracleAS Guard Returned an Inappropriate Message When It Could Not Find the User Specified Database Identifier"
- Section 15.1.9, "Database Instance on Standby Site Must Be Shutdown Before Issuing an asgctl create standby database Command"
- Section 15.1.10, "Problem in an Oracle RAC-non Oracle RAC Environment with Naming Conventions"
- Section 15.1.11, "In an Oracle RAC-non Oracle RAC Environment, an asgctl create standby database Operation Returns an Inappropriate Error When the Database Is Already in a Physical Standby State"
- Section 15.1.12, "GNU Tar is Required for ASG Clone Topology or Clone Instance Operations"

- Section 15.1.13, "ASG Operations Fail if Multiple DB ORACLE_HOMEs Exist on the Same System"
- Section 15.1.14, "Placing the Oracle BPEL Process Manager Dehydration Store in a Database Managed by OracleAS Guard"
- Section 15.1.15, "Application Server Components Tested and Certified with OracleAS Guard"
- Section 15.1.16, "ASG to Catch Array Overflow Exceptions in Queries to Primary"
- Section 15.1.17, "Startup of Database on the Standby2 Fails after a Switchover"
- Section 15.1.18, "The create standby Command Fails if the Redo Log Files Directories do not Exist at the Standby"
- Section 15.1.19, "Corrupt Index Blocks in Metadata Repository Databases"
- Section 15.1.20, "Database SIDs Must be the Same for Database Peers at Primary and Standby Sites"
- Section 15.1.21, "Use All Uppercase Characters for Database Initialization Parameters to Avoid Instantiate and Sync Problems"
- Section 15.1.22, "Workaround for ASG_DUF-3800 "Failed trying to connect to the OPMN Manager" Error"
- Section 15.1.23, "Use the Same Port for ASG on the Production and Standby Sites to Avoid clone instance Operation Problems"
- Section 15.1.24, "Use Fully Qualified Path Names with the add instance Command"
- Section 15.1.25, "ASG Cloning is Not Supported when the Number of Oracle Homes is Different at the Primary and Standby Hosts"
- Section 15.1.26, "Start ESB Repository before Starting ESB Runtime Instances"
- Section 15.1.27, "Use Static Routing for ESB Servers"

15.1.1 Compatible ASG Releases for OracleAS Instances from Different Oracle Application Server Releases

By default, when you install an Oracle Application Server instance using a particular release of Oracle Application Server, a particular release of Application Server Guard (ASG) is installed into the Oracle home for the instance. You also install ASG on standalone hosts on which external resources (such as an Oracle database) are located that you want to include in your OracleAS Disaster Recovery topology.

Multiple releases of ASG are available. It is possible (recommended) in some cases to upgrade the ASG release that was installed in an Oracle Application Server instance home when you installed that instance. To upgrade the ASG release in an Oracle Application Server instance home, download the ASG standalone kit for the recommended ASG release from the Oracle Technology Network (OTN), and then use that ASG standalone kit to install the recommended ASG release into the home. You also use the ASG standalone kit to install ASG on standalone hosts that you want to include in your OracleAS Disaster Recovery topology.

Use Table 15–1 and Table 15–2 to determine whether a particular ASG release is compatible when installed into an Application Server instance home for a particular Oracle Application Server release. The left column of the table shows the different ASG releases for which an ASG standalone installation kit is available. The remaining

columns show different Oracle Application Server releases for which an Oracle Application Server instance can be created.

This list describes the meaning of the entries in Table 15–1 and Table 15–2:

- **N**: This ASG release is not compatible with an instance from this Oracle Application Server release.
- **X**: This ASG release cannot be installed into the Oracle home for an instance from this Oracle Application Server release.
- **Y-NR**: This ASG release is compatible with an instance from this Oracle Application Server release, but Oracle recommends that you *do not* install this ASG release into the instance's Oracle home because another ASG release is recommended.
- **Y**: This ASG release is compatible with an instance from this Oracle Application Server release. Oracle recommends you install this ASG release into the instance's Oracle home.

Table 15–1 shows the compatible ASG releases for Oracle Application Server instances from Oracle Application Server 10.1.2.0.2 through 10.1.3.3.

Table 15–1 Compatible ASG Releases for OracleAS Instances from Releases 10.1.2.0.2 Through 10.1.3.3

ASG Release	10.1.2.0.2 OracleAS Instance	10.1.2.1 OracleAS Instance	10.1.2.2 OracleAS Instance	10.1.3.0 OracleAS Instance	10.1.3.1 OracleAS Instance	10.1.3.2 OracleAS Instance	10.1.3.3 OracleAS Instance
10.1.2.0.2	Y-NR	X	X	N	N	N	N
10.1.2.2	Y	Y	Y	N	N	N	N
10.1.2.2.1 (ASG-only release)[1]	Y	Y	Y	N	N	N	N
10.1.3.0	N	N	N	Y-NR	X	N	X
10.1.3.1	N	N	N	Y-NR	Y-NR	Y-NR	X
10.1.3.3	N	N	N	Y	Y	Y	Y

[1] This is the ASG release that was provided (installed by default) with the OracleAS 10.1.4.2 release. It is compatible with the OracleAS 10.1.2.x releases. There is no OracleAS 10.1.2.2.1 release.

For example, if you have an Oracle Application Server 10.1.3.1 instance and you want to know which ASG release to install in the instance home, you can use Table 15–1 to determine the following:

- No ASG 10.1.2.x release is compatible with an Oracle Application Server 10.1.3.1 instance.
- The ASG 10.1.3.0 release cannot be installed into the Oracle home for an Oracle Application Server 10.1.3.1 instance.
- The ASG 10.1.3.1 release is compatible with an Oracle Application Server 10.1.3.1 instance, but Oracle recommends that you *do not* install the ASG 10.1.3.1 release into the Oracle home for an Oracle Application Server 10.1.3.1 instance.
- The ASG 10.1.3.3 release is compatible with an Oracle Application Server 10.1.3.1 instance and Oracle recommends that you install the ASG 10.1.3.3 release into the Oracle home for an Oracle Application Server 10.1.3.1 instance.

Table 15–2 shows the compatible ASG releases for Oracle Application Server instances from Oracle Application Server 10.1.4.0 through 10.1.4.2.

Table 15–2 Compatible ASG Releases for OracleAS Instances from Releases 10.1.4.0 Through 10.1.4.2

ASG Release	10.1.4.0 OracleAS Instance[1]	10.1.4.1 OracleAS Instance[2]	10.1.4.2 OracleAS Instance[3]
10.1.2.0.2	Y-NR	Y-NR	X
10.1.2.2	Y-NR	Y-NR	Y-NR
10.1.2.2.1 (ASG-only release)[4]	Y	Y	Y
10.1.3.0	N	N	N
10.1.3.1	N	N	N
10.1.3.3	N	N	N

[1] ASG 10.1.2.0.2 is installed by default.

[2] ASG 10.1.2.0.2 is installed by default.

[3] ASG 10.1.2.2.1 is installed by default.

[4] This is the ASG release that was provided (installed by default) with the OracleAS 10.1.4.2 release. It is compatible with the OracleAS 10.1.2.x releases. There is no OracleAS 10.1.2.2.1 release.

15.1.2 Compatible ASG Releases in an OracleAS Disaster Recovery Topology

This chart shows which ASG release combinations are compatible in in an OracleAS Disaster Recovery topology. A topology is a collection of Oracle Application Server instance homes and standalone host homes that combine to comprise the OracleAS Disaster Recovery production site and standby site. Each Oracle Application Server home has a specific ASG release installed, either by default or by an ASG standalone installation. Since OracleAS Disaster Recovery operations are distributed, there is a collection of recommended ASG releases that should be installed across the topology. Example for the EDG deployment, the collection of Oracle homes should be upgraded to ASG version 10.1.3.3 or 10.1.2.2.x.

Use Table 15–3 to determine whether two ASG releases are compatible in an OracleAS Disaster Recovery topology. Find the first ASG release in the left column of the table and then find the second ASG release in one of the other columns of the table.

This list describes the meaning of the entries in Table 15–3:

- **Y-NR**: The first ASG release is compatible with the second ASG release, but Oracle recommends that you *do not* use this ASG release combination in your topology.
- **Y**: The first ASG release is compatible with the second ASG release. Oracle recommends that you use this ASG release combination in your topology.

Table 15–3 shows which ASG releases are compatible with other ASG releases.

Table 15–3 Compatible ASG Releases in a Topology

ASG Release	10.1.2.0.2	10.1.2.2	10.1.2.2.1	10.1.3.0	10.1.3.1	10.1.3.3
10.1.2.0.2	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR
10.1.2.2	Y-NR	Y	Y	Y-NR	Y-NR	Y
10.1.2.2.1	Y-NR	Y	Y	Y-NR	Y-NR	Y
10.1.3.0	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR

Table 15–3 (Cont.) Compatible ASG Releases in a Topology

ASG Release	10.1.2.0.2	10.1.2.2	10.1.2.2.1	10.1.3.0	10.1.3.1	10.1.3.3
10.1.3.1	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR	Y-NR
10.1.3.3	Y-NR	Y	Y	Y-NR	Y-NR	Y

15.1.3 Adding an Instance from a Remote Client Adds an Instance on the Local Instance and Not on the Remote Instance

When using the asgctl `add instance` command, the OracleAS Guard client must be run from a system that is already included in the topology.

For example, when an OracleAS Guard client is connected to the OracleAS Guard server that is to be added to an existing topology, the following error is returned:

```
ASG_IAS-15785: ERROR: The topology is missing the instance that exists in the home
where the ASG server is running.
You must first discover or add the instance in home
```

The workaround to this problem is to use an OracleAS Guard client from a system that is already included in the topology to perform the asgctl `add instance` command to add an instance to the topology.

15.1.4 Switchover Operation in an Asymmetric Topology Requires All Components to be Shutdown on Instances on the Primary Site that Do Not Have a Standby Peer

Prior to performing an asgctl switchover operation in an asymmetric topology for instances that do not have a standby peer, you must perform an opmnctl stopall command to shutdown all components on each of these ignored instances on the primary site.

When an XML policy file is in use for an asymmetric topology and has the `<instanceList successRequirement ="Ignore"` set for an instance, for example, as shown in the following example, then in a switchover operation OracleAS Guard ignores that instance:

```
.
.
.
<instanceList successRequirement = "Ignore">
  <instance>instance B</instance>
</instanceList>
.
.
.
```

OracleAS Guard, on a switchover operation, shuts down all components on the old primary site except for OracleAS Guard and OPMN and ignores instance B because the policy file specifies to do so. The switchover operation fails because all components are not shut down on the primary site, in this case instance B because the policy file specifies to ignore instance B on the primary site, which has no standby peer.

To workaround this problem, the OracleAS Disaster Recovery Administrator must perform an opmnctl stopall operation for all components on instance B prior to the switchover operation in order for the switchover operation to succeed in this asymmetric topology.

15.1.5 HTTP Server Configuration When Using a Server Load Balancer

If you are using a Server Load Balancer to direct HTTP requests to multiple Oracle HTTP Server instances, Web access to some applications (such as the Application Server Control console and Oracle Web Services Manager) may be redirected to the physical HTTP Server hosts.

To ensure that redirected requests are always sent to the load balancer, configure an Oracle HTTP Server virtual host for the load balancer.

For example, if Oracle HTTP Server is listening on port 7777 and a load balancer called `bigip.acme.com` is listening on port 80, then consider the following entry in the `httpd.conf` file:

```
NameVirtualHost *:7777
<VirtualHost *:7777>
ServerName bigip.us.oracle.com
Port 80
ServerAdmin youyour.address
RewriteEngine On
RewriteOptions inherit
</VirtualHost>
```

15.1.6 Problem Performing a Clone Instance or Clone Topology Operation

At the current time, the semantics of an asgctl clone topology operation will not clone databases that are outside of the Oracle Application Server home, thus only the default database installed into the Oracle Application Server home by some infrastructure installation types will be cloned. The asgctl create standby database command should be used by users not familiar with Oracle Data Guard.

15.1.7 OracleAS Guard Release 10.1.2.1.1 Cannot Be Used with Oracle RAC Databases

OracleAS Guard version shipped with this release is 10.1.2.1.1. This version of OracleAS Guard cannot be used with Oracle RAC Databases. For all other purposes, this OracleAS Guard version is completely supported by Oracle.

To use OracleAS Guard with an Oracle RAC database, it is recommended to use Release 10.1.2.2 stand alone version of OracleAS Guard with this release. OracleAS Guard 10.1.2.2 version (with instructions) is available for download from Oracle OTN as an OracleAS Guard stand alone install, or please contact Oracle Support for further instructions.

15.1.8 OracleAS Guard Returned an Inappropriate Message When It Could Not Find the User Specified Database Identifier

When adding an Oracle RAC instance to the topology using the OracleAS Guard add instance command and OracleAS Guard could not find the user specified identifier, an inappropriate error message was returned. If the user had entered the database name rather that the Oracle instance SID, there was no indication that this was the problem.

Now if OracleAS Guard is unable to locate the oratab entry (on UNIX) or the system registry service (on Windows) for the user specified database identifier, the following ASG_SYSTEM-100 message now precedes the existing ASG_DUF-3554 message and both messages will be displayed to the console:

```
ASG_SYSTEM-100: An Oracle database is identified by its database unique name (db_
name)
```

```
ASG_DUF-3554: The Oracle home that contains SID <user specified identifier> cannot
be found
```

15.1.9 Database Instance on Standby Site Must Be Shutdown Before Issuing an asgctl create standby database Command

Oracle recommends that you shut down the database on the standby site if it is up and running before issuing the asgctl create standby database command; otherwise, the following error is returned:

```
ASG_DGA-12500: Standby database instance "<instance_name>" already exists on host
"<hostname>"
```

15.1.10 Problem in an Oracle RAC-non Oracle RAC Environment with Naming Conventions

There is a problem with the naming conventions used in the Oracle RAC/non Oracle RAC environment. The asgctl set primary database command must be issued for both the primary and standby site within asgctl to define the service name mapping within OracleAS Guard before attempting an asgctl create standby database command; otherwise, the following error message is returned.

```
ASG_DUF-4902: Object not found in clipboard for key "orcl1keySourceDb".
```

15.1.11 In an Oracle RAC-non Oracle RAC Environment, an asgctl create standby database Operation Returns an Inappropriate Error When the Database Is Already in a Physical Standby State

An error ora-01671 will occur, when attempting to perform an asgctl create standby database operation from a database that is already in 'physical standby' state. An appropriate error message should be echoed indicating that a standby database is already running, rather than returning this error. This is a known issue.

15.1.12 GNU Tar is Required for ASG Clone Topology or Clone Instance Operations

When using the ASG clone topology or clone instance operations, the tar utility is utilized. The target system(s) of these operations must have a version of GNU tar in the default PATH of the system user account in which the standalone ASG install runs.

GNU tar can be obtained at the following location:

http://www.gnu.org/software/tar

15.1.13 ASG Operations Fail if Multiple DB ORACLE_HOMEs Exist on the Same System

If you have multiple ORACLE_HOME directories on the same system in a disaster recovery setup, the `set primary database` command fails with the following error:

```
prodnode1: -->ASG_DUF-4950: An error occurred on host "stama03v1" with IP
"XXX.XX.XX.XXX" and port "7890"
prodnode1: -->ASG_ORACLE-300: ORA-12514: TNS:listener does not currently know of
service requested in connect descriptor
prodnode1: -->ASG_DUF-3700: Failed in SQL*Plus executing SQL statement:
connect sys/******@rac as sysdba;.
prodnode1: -->ASG_DUF-3502: Failed to connect to database orcl.
```

```
prodnode1: -->ASG_DUF-3027: Error while executing  at step - Default Step.
.
The database credentials have been set successfully, but they have not been
validated
```

To work around this issue, make sure you have only one database on the system sharing the same inventory for a disaster recovery setup.

15.1.14 Placing the Oracle BPEL Process Manager Dehydration Store in a Database Managed by OracleAS Guard

If you are running Oracle BPEL Process Manager in an OracleAS Disaster Recovery topology, you want to ensure that:

- the Oracle BPEL Process Manager dehydration data stored in databases at the primary and standby sites are continuously synchronized
- when a switchover operation occurs, Oracle BPEL Process Manager uses the database at the standby site.

To achieve this:

- Store the dehydration data in a database.
- Set up log archiving and set Oracle Data Guard protection of the standby database at the maximum availability mode (instead of at the maximum protection mode). This allow logs to be applied continuously at the standby site without shutting down the primary database if the standby database is taken offline.

  Note: You should not configure Oracle Data Guard to maximum protection mode because, by definition, this mode takes the primary database offline if the standby database is taken offline.

  By default, the ASG "create standby database" command configures the standby database in maximum performance mode. You need to change the mode to maximum availability, as shown in step 2 below.

- Include the database in the OracleAS Disaster Recovery topology. You want this database to be monitored by OracleAS Guard, even if Oracle Application Server was not utilized to set up Oracle Data Guard. This ensures that the database and related services are failed over in coordination with the Oracle Application Server services.

To create a standby database and put it in maximum availability mode using the ASG "create standby database" command, perform these steps:

1. Create a database on the standby site and include it in the OracleAS Disaster Recovery topology. Here are two ways in which you can achieve this:
   - Install a database manually on the standby site and then run the ASG "instantiate topology" command on the primary site.

     ```
     ASGCTL> instantiate topology to standbynode1
     ```

     standbynode1 refers to the physical name of the standby node. The standby node has a corresponding node on the primary site.

     For details on ASG commands and OracleAS Disaster Recovery, see the *Oracle Application Server High Availability Guide*.

OR

- Run the ASG "create standby database" command on the primary node to create a standby database on the standby node. The command configures the primary database for maximum performance and defines `log_archive_dest_n` with the "LGRW SYNC AFFIRM" archive attributes for the standby database.

  ```
  ASGCTL> create standby database orcl1 on standbynode1
  ```

  orcl1 refers to the database name, and *standbynode1* refers to the physical name of the standby node.

2. Upgrade the configuration to maximum availability mode.

   a. On the primary database, run the following SQL command:

   ```
   SQL> alter database set standby database to maximize availability;
   ```

   b. On the standby database, run the following SQL command to place the standby database in managed recovery mode. (This places the standby database in a constant state of media recovery.)

   Note: Configuring the standby database for managed recovery is not a requirement of maximum availability, but it provides for shorter failover times.

   ```
   SQL> alter database recovery managed standby database
         [disconnect from session];
   ```

   Add the optional "disconnect from session" part if you want to end the session after the command.

Notes:

- In the steps above, the Oracle Data Guard protection mode of the primary database changes from maximum performance to maximum availability.

  For details on the different Oracle Data Guard protection modes (maximum protection, maximum availability, and maximum performance), see the *Oracle Data Guard Concepts and Administration* guide.

- Running the primary database in maximum availability mode may cause a "hang" waiting for an available online log file. A maximum availability primary database will not reuse an online log file until it has been archived to the standby database. This could happen if the standby database is taken offline for a long time.

- Only data with same synchronization requirements should be stored in the same database.

  For example, the Oracle BPEL Process Manager dehydration store and the OracleAS Portal data should be stored in separate databases because the synchronization objectives of Oracle BPEL Process Manager and OracleAS Portal are different. The synchronization objective of Oracle BPEL Process Manager dehydration store is to maintain consistency between the dehydration store and the BPEL process, while the synchronization objective of OracleAS Portal is to ensure that data and configuration maintained within the middle tier and database do not diverge.

Actions Performed by the "sync topology" Command

When you run the ASG "sync topology" command in this configuration, it performs the following:

- Performs a log switch at the primary and ensures that the log is shipped and archived
- Performs process management at the primary and standby sites
- Encapsulates the incremental changes for all the data in the Oracle homes
- Restores the standby peers to the configuration level of the primary
- Propagates the changes to all standby instances
- For standby databases:
  - With managed recovery running, the "sync topology" command simply reports the sync-scn and the current database-scn of the standby database. For this configuration, the standby database-scn is guaranteed to be beyond the sync-scn. ASG logs the sync scn level as it corresponds to the current scn level of the standby database.
  - Without managed recovery running, the "sync topology" command recovers the standby database to the sync-scn. It is equivalent to running the following command:

    ```
    alter database recover managed standby database until change <sync-scn>
    ```

15.1.15 Application Server Components Tested and Certified with OracleAS Guard

OracleAS Guard has been tested and certified with most of the components in the Oracle Application Server 10g SOA Release (the only components not verified with ASG are BAM and Registry.

For some specific recommendations for BPEL PM and ESB configuration with OracleAS Guard see the OracleAS Guard Release Notes.

15.1.16 ASG to Catch Array Overflow Exceptions in Queries to Primary

The asgctl `create standby database` command may fail with an ASG_DUF-4950 error and an error message stack on the console similar to the following:

```
ASG_DUF-4950: An error occurred on host "myhost" with IP "1.1.1.1" and port "7890"
ASG_SYSTEM-100: 10
ASG_DUF-4900: An exception occurred on the server.
ASG_DGA-13009: Error during Create Physical Standby
```

In the duf_client.log file on the primary site DB node, the following messages would be found:

```
java.lang.ArrayIndexOutOfBoundsException: 10
at oracle.duf.DufJdbc.queryRedoLogInfo(DufJdbc.java:535)
at oracle.duf.DufDb$jdbc.queryRedoLogInfo(DufDb.java:4966)
at oracle.duf.DufDb$jdbc.access$2000(DufDb.java:4884)
at oracle.duf.DufDb.queryRedoLogInfo(DufDb.java:3439)
```

This problem occurs because ASG does not properly handle a database configured with 10 or more redo log files.

To avoid this problem, reduce the number of database redo log files to fewer than 10.

This problem is fixed in release 10.1.3.3.

15.1.17 Startup of Database on the Standby2 Fails after a Switchover

Sometimes after an ASG switchover operation has been performed, a database has the following problem:

```
SQL> startup;
ORA-09925: Unable to create audit trail file
Linux Error: 2: No such file or directory
Additional information: 9925
```

When the asgctl `create standby database` command is executed on Linux, ASG creates the initfile with `audit_file_dest` set to $ohome/admin/<SID>/admin instead of $ohome/admin/<SID>/adump on the standby site. For RAC consisting of multiple nodes, one of the nodes has the admin directory created, while the other one does not.

To avoid this problem, issue the following command on the standby RAC node #2 before attempting any manual startups:

```
mkdir $ohome/admin/<SID>/admin
```

This problem is fixed in release 10.1.3.3.

15.1.18 The create standby Command Fails if the Redo Log Files Directories do not Exist at the Standby

The asgctl `create standby database` command fails if the redo log files directories on the production site do not exist at the standby.

ASG expects the target redo log directory structure to be symmetrical with the redo log directory structure on the production site. If they do not exist in the same directories, a failure will result with the following output:

```
ASG_ORACLE-300: ORA-00301: error in adding log file '/PATH/redo010.log' - file
cannot be created
ASG_ORACLE-300: ORA-27040: file create error, unable to create file
ASG_DUF-3700: Failed in SQL*Plus executing SQL statement:  ALTER DATABASE ADD
STANDBY LOGFILE GROUP 10
'/PATH/redo010.log' SIZE 52428800 /* ASG_DGA */;.
ASG_DUF-3535: Failed to create standby redo log.
ASG_DUF-3535: Failed to create standby redo log.
ASG_DGA-13011: Error during Create Physical Standby: Finish-configure standby.
ASG_DUF-3027: Error while executing Creating physical standby database - finish
phase at step - finish step.
```

To avoid this problem, create the target redo log file directories on the standby site in the same directories as the production site.

15.1.19 Corrupt Index Blocks in Metadata Repository Databases

After an ASG switchover or failover operation, metadata index block corruption may occur in a Disaster Recovery metadata repository database.

For a full description of the problem and an explanation of how to deal with it, refer to Oracle*MetLink* note 386830.1 at:

https://metalink.oracle.com/metalink/plsql/ml2_documents.showDocument?p_database_id=NOT&p_id=386830

15.1.20 Database SIDs Must be the Same for Database Peers at Primary and Standby Sites

The SIDs must be the same for database peers at a primary site and standby site(s) in a Disaster Recovery topology.

15.1.21 Use All Uppercase Characters for Database Initialization Parameters to Avoid Instantiate and Sync Problems

Use all uppercase characters for database initialization parameters.

In the following example, the database initialization parameter, service, that is used in the archive log destination parameter is in all uppercase characters (SERVICE):

```
log_archive_dest_2="SERVICE=SIDM valid_for=(online_logfiles,primary_role)
db_unique_name=SIDM"
```

But in the following example, the database initialization parameter, service, that is used in the archive log destination parameter is in lowercase characters (service):

```
log_archive_dest_2="service=SIDM valid_for=(online_logfiles,primary_role)
db_unique_name="SIDM"
```

When the database initialization parameter is not in all uppercase characters, error messages similar to the following can occur during an `instantiate topology` or `sync topology` operation:

```
stajo05: -->ASG_DUF-4950: An error occurred on host "stajo05" with IP
"140.87.25.33" and port "7890"
stajo05: -->ASG_SYSTEM-100: String index out of range: -9
stajo05: -->ASG_DUF-3760: Failed to query archive log destination
information.
stajo05: -->ASG_IAS-15753: Error preparing to instantiate the topology on
host "stajo05"
stajo05: -->ASG_DUF-3027: Error while executing Instantiating each instance
in the topology to standby topology at step - prepare step.
```

15.1.22 Workaround for ASG_DUF-3800 "Failed trying to connect to the OPMN Manager" Error

When using the 10.1.2.2 ASG standalone kit to update a 10.1.4.x Oracle home, ASG installed a copy of optic.jar in its component path that is not compatible with the optic.jar of the Oracle home. Although this will not affect the operation of the runtime system, it could potentially cause problems with some future ASG operations in certain configurations.

To prevent these potential problems:

1. Rename optic.jar in the $ORACLE_HOME/dsa/jlib directory to optic.jar.orig on all nodes of the topology.
2. Restart the ASG component, if started.

If the above workaround is not performed, you may receive the ASG_DUF-3800 error "Failed trying to connect to the OPMN Manager" error message during a `switchover topology` operation if your Disaster Recovery configuration includes Oracle Application Server release 10.1.4.0.1 Identity Management and the standalone ASG kit for release 10.1.2.2.

The error messages received may be similar to:

```
"4-May 12:51:20  stamx12 152.68.64.214:7890(home/opt/maa/oracle/product/10.1.4/im)
4-May 12:51:20      Running opmnctl reload command:
"/opt/maa/oracle/product/10.1.4/im/opmn/bin/opmnctl reload".
4-May 12:51:25  stamx11: -->ASG_DUF-4950: An error occurred on host "stamx11"
with IP "140.87.21.201" and port "7890"
stamx11: -->ASG_DUF-4950: An error occurred on host "stamx11" with IP
"152.68.64.213" and port "7890"
stamx11: -->ASG_DUF-3800: Failed trying to connect to the OPMN Manager.
stamx11: -->ASG_DUF-3027: Error while executing Starting each instance in the
topology at step - starting instance step.
stamx11: -->ASG_DUF-3027: Error while executing Switchover each instance in
the topology to standby topology at step - starting and resyncing instance
step."
```

15.1.23 Use the Same Port for ASG on the Production and Standby Sites to Avoid clone instance Operation Problems

Use the same port for ASG on the primary site and standby site(s) to avoid error messages such as the following during a `clone instance` operation:

```
3-May 15:45:43  >>clone instance prodsso1 to stbyinfra1
3-May 15:45:43  stamx11: -->ASG_DUF-4950: An error occurred on host
"stamx11" with IP "140.87.21.201" and port "7890"
stamx11: -->ASG_DUF-3601: Error connecting to server host 152.68.64.213
on port 7890
stamx11: -->ASG_DUF-3512: Error creating remote worker on node 152.68.64.213:7890.
```

The dsa.conf file contains ASG configuration information, and it is configured into the Application Server instance's backup/restore IP configuration. The dsa.conf file configuration is handled symmetrically between Application Server instances. Due to this, the dsa.conf file from a production site's instance will be syncronized to the corresponding standby site's instance.

The port numbers between the production and standby instance pairings should match for ASG.

15.1.24 Use Fully Qualified Path Names with the add instance Command

As a best practice, use fully qualified path names with the `add instance` command.

15.1.25 ASG Cloning is Not Supported when the Number of Oracle Homes is Different at the Primary and Standby Hosts

The ASG `clone topology` and `clone instance` commands are not supported by DR configurations if there are a different number of Oracle Homes at the primary and standby hosts.

As part of the cloning operation, the Oracle Inventory for each host is cloned. Therefore, the assumption is that the Oracle Home configuration is symmetrical for any host that is being cloned.

For a full description of supported Disaster Recovery asymmetric topologies, refer to Section 5.1.3.2 of the *Application Server High Availability Guide* for release 10.1.3.2.0.

15.1.26 Start ESB Repository before Starting ESB Runtime Instances

In a distributed ESB environment where ESB Repository Server and ESB Runtime Server are in different Oracle homes, you need to start the ESB Repository before starting the ESB runtime instances.

15.1.27 Use Static Routing for ESB Servers

The URL of an Oracle Enterprise Service Bus (ESB) service endpoint looks similar to the following:

```
http://esb-runtime-server:7777/event/ESBSystemName/ESB_ServiceName
```

The `/event` is the context root ESB runtime engine server, which is a J2EE application. Behind the ESB server, there can be one or more ESB systems, and each system can contain one or more ESB services. Furthermore, you can configure one ESB Server in one OC4J container to house ESBSystem1 and ESBSystem2, and another ESB Server in another OC4J container to house ESBSystem3 and ESBSystem4, and so on.

A problem arises in that these ESB servers are on the same OPMN cluster and behind the same HTTP Servers. A call to `http://virtualurl:80/event/ESBSystem1/ESBServer1` may be routed by Oracle HTTP Server to an ESB Server that is not associated with the specified ESB system and an error may occur.

Workaround

You can use static routing to work around this problem. Edit the Oracle HTTP Server `mod_oc4j.conf` file and add static mount points pointing to each specific OC4J that provides a service. For example, if OC4J instances 1 and 3 provide service 1, and OC4J instance 2 provides service 2, you would have mount directives like these:

```
Oc4jMount /event/ESBSystemName/ESB_Service1/* instance://ias_instance_1:home
Oc4jMount /event/ESBSystemName/ESB_Service1/* instance://ias_instance_3:home
Oc4jMount /event/ESBSystemName/ESB_Service2/* instance://ias_instance_2:home
```

Note: For more information on mount point configurations, refer to the section on the `Oc4jMount` directive in *Oracle HTTP Server Administrator's Guide 10g (10.1.3.1.0)*, Chapter 7, "Understanding Modules".

15.2 Configuration Issues and Workarounds

This section describes configuration issues and their workarounds. It includes the following topics:

- Section 15.2.1, "The asgctl shutdown topology Command Does Not Shut Down an MRCA Database That is Detected To Be of a repCa Type Database"
- Section 15.2.2, "Only One Oracle RAC Node with an Instance on the New Primary Site Is Started Up Following an asgctl switchover Operation"
- Section 15.2.3, "An asgctl add instance Operation from a Remote Client Adds an Instance on the Local System Rather than on the Intended Remote System"
- Section 15.2.4, "Connecting to an OracleAS Guard Server May Return an Authentication Error"

- Section 15.2.5, "All emagents Must Be Shut Down Before Performing OracleAS Guard Operations"
- Section 15.2.6, "Procedure to Patch a 10.1.2.0.0 Disaster Recovery Setup with a 10.1.2.1.0 Patchset"
- Section 15.2.7, "Running Instantiate Topology Across Nodes After Executing a Failover Operation Results in an ORA-01665 Error"
- Section 15.2.8, "OracleAS Guard Is Unable to Shutdown the Database Because More Than One Instance of Oracle RAC is Running"
- Section 15.2.9, "Add Instance Adds an Instance to Topology with Empty Instancename"
- Section 15.2.10, "Create Standby Fails with if Initiated on a Different ASGCTL Shell"
- Section 15.2.11, "Resolve Missing Archived Logs"
- Section 15.2.12, "Heartbeat Failure After Failover in Alert Logs"
- Section 15.2.13, "Create Standby Database Fails If Database Uses OMF Storage or ASM storage"
- Section 15.2.14, "Database Already Exists Errors During Create Standby"
- Section 15.2.15, "Steps to Add a Database with OMF or ASM to ASG Topology"

15.2.1 The asgctl shutdown topology Command Does Not Shut Down an MRCA Database That is Detected To Be of a repCa Type Database

The asgctl shutdown topology command only handles non-database instances. Thus, in a repCA environment when OracleAS Guard detects an instance and determines it to be a repCa type database, its instance is ignored in a shutdown topology operation. Any repCA type database is considered to be managed outside of OracleAS Guard.

Therefore, within an environment where an MRCA database has been added to the topology, the database will not be handled by the asgctl shutdown topology command.

15.2.2 Only One Oracle RAC Node with an Instance on the New Primary Site Is Started Up Following an asgctl switchover Operation

In a Disaster Recovery environment that involves Oracle RAC databases, after a switchback operation(`switchover topology to <primary site>`), the database will be started up on only one of the Oracle RAC nodes by OracleAS Guard; however, the remaining Oracle RAC instances on the primary site must be started up manually.

15.2.3 An asgctl add instance Operation from a Remote Client Adds an Instance on the Local System Rather than on the Intended Remote System

After performing an asgctl add instance operation from a remote client, it was noted that the instance was being added to the local system rather than to the intended remote system.

As a workaround to this problem, the Disaster Recovery Administrator must first perform an asgctl discover topology operation on the local client system before attempting to perform an asgctl add instance operation to add an instance to the remote system.

15.2.4 Connecting to an OracleAS Guard Server May Return an Authentication Error

When a user connects to an OracleAS Guard server and gets an authentication error even though the correct user name and password were entered, the user should try to put the following flag in the `dsa.conf` file in the `<ORACLE_HOME>/dsa` directory and try the operation again: `dsa_realm_override=1`.

Note that this DSA configuration file parameter is not documented in the "OracleAS Guard Configuration File Parameters" section of the OracleAS Guard Release Information `readme.txt` file.

15.2.5 All emagents Must Be Shut Down Before Performing OracleAS Guard Operations

Before performing any OracleAS Guard operations, you must shut down the emagents. This operation is required for OracleAS Guard commands that recycle OracleAS services. You can issue the `asgctl run` command in a script to perform this operation from within OracleAS Guard. See the OracleAS Disaster Recovery chapters in the *Oracle Application Server High Availability Guide* for more information.

Otherwise, for example you may get an `ORA-01093: ALTER DATABASE CLOSE only permitted with no sessions connected` error message.

Shutting down emagents is only described for performing a switchover operation. However, it applies to all OracleAS Guard operations. The documentation will be updated in a future release.

15.2.6 Procedure to Patch a 10.1.2.0.0 Disaster Recovery Setup with a 10.1.2.1.0 Patchset

Assuming you already have an existing Disaster Recovery Setup for a 10.1.2.0.0 production database, follow these conceptual steps to apply a 10.1.2.1.0 Disaster Recovery Patchset:

1. Break the Disaster Recovery setup. Perform an asgctl failover command.
2. Apply the patch 10.1.2.1.0.
3. Recreate the Disaster Recovery setup. Perform an asgctl create standby database command followed by an asgctl instantiate topology command. Alternatively, see the Oracle Data Guard documentation for more information about how to reestablish the standby database.

15.2.7 Running Instantiate Topology Across Nodes After Executing a Failover Operation Results in an ORA-01665 Error

If you attempt to perform an asgctl instantiate topology operation immediately following an asgctl failover operation, an `ORA-01665: control file is not a standby control file` error message is returned.

To work around this problem, you must first perform an asgctl create standby database command to create the standby database on the remote host. See Section 15.3.1, "Availability of a Previously Undocumented asgctl Command: create standby database" for more information about this previously undocumented asgctl command. Also see Section 15.2.6, "Procedure to Patch a 10.1.2.0.0 Disaster Recovery Setup with a 10.1.2.1.0 Patchset" for more information.

15.2.8 OracleAS Guard Is Unable to Shutdown the Database Because More Than One Instance of Oracle RAC is Running

When you are running OracleAS Guard in an Oracle RAC environment, you should have only one Oracle RAC instance running while performing OracleAS Guard operations. Otherwise, an error will occur where the primary database will complain that it is mounted by more than one instance, which will prevent a shutdown.

For example, when performing an OracleAS Guard create standby database operation in an Oracle RAC environment with more than one Oracle RAC instance running, the following error will be seen:

```
ASGCTL> create standby database orcl1 on stanb06v3
.
.
.
      This operation requires the database to be shutdown. Do you want to
continue? Yes or No
y
      Database must be mounted exclusive
stanb06v1: -->ASG_DUF-4950: An error occurred on host "stanb06v1" with IP
 "141.86.22.32" and port "7890"
stanb06v1: -->ASG_DUF-3514: Failed to stop database orcl1.us.oracle.com.
stanb06v1: -->ASG_DGA-13002: Error during Create Physical Standby:
Prepare-primary processing.
stanb06v1: -->ASG_DUF-3027: Error while executing Creating physical standby
 database - prepare phase at step - primary processing step.
```

15.2.9 Add Instance Adds an Instance to Topology with Empty Instancename

When you create a new database instance using the Database Configuration Assistant (DBCA), the SID defaults to the database name. If you enter a name in the SID field other than the database name, and then later add this database to the Disaster Recovery topology, the instancename in the topology added is empty.

To avoid this problem, make sure the DBName (without domain) and DBSID are the same when creating the database for a Disaster Recovery setup on primary or standby sites.

15.2.10 Create Standby Fails with if Initiated on a Different ASGCTL Shell

The `create standby` database command fails if initiated by ASG clients from any node other than the source primary node where the database resides. To avoid the problem, run the `create standby` command from the same primary (source) node, where the database for the primary site resides.

For example, if you ran the `create standby` command from the production database to the standby database where prodnode1 is the primary site database nodename and standbynode1 is its standby database nodename. The `ASGCTL shell` should always be invoked and connected to prodnode1. If you try to run `ASGCTL shell` from standbynode1 and connect to prodnode1, the `create standby` command fails.

15.2.11 Resolve Missing Archived Logs

If a `sync topology` command in a RAC-RAC Linux environment fails and you receive missing archive logs errors (as shown below), ping the standby node using

tnsping. If you are unable to ping the rstandby node, stop and restart the listener for that node and retry the tnsping.

```
ASG_SYSTEM_-100: Please resolve missing archived logs and try again.
```

15.2.12 Heartbeat Failure After Failover in Alert Logs

The following warning appears in the alert logs of the database after a failover scenario, where the new primary database fails to tnsping its remote database instance.

```
Errors in file c:\oracle\product\10.2.0\admin\orcl\udump\orcl1_rfs_1816.trc:
 ORA-16009: remote archive log destination must be a STANDBY database
 .
 Fri Sep 08 09:11:13 2006
 Errors in file c:\oracle\product\10.2.0\admin\orcl\bdump\orcl1_arc1_496.trc:
 ORA-16009: remote archive log destination must be a STANDBY database
 .
 Fri Sep 08 09:11:13 2006
 PING[ARC1]: Heartbeat failed to connect to standby 'orcl1_remote1'. Error is
16009.
 Fri Sep 08 09:11:50 2006
 Redo Shipping Client Connected as PUBLIC
 -- Connected User is Valid
 RFS[67]: Assigned to RFS process 628
 RFS[67]: Database mount ID mismatch [0x4342404d:0x4341ffb0]
 Fri Sep 08 09:11:50 2006
 Errors in file c:\oracle\product\10.2.0\admin\orcl\udump\orcl1_rfs_628.trc:
 ORA-16009: remote archive log destination must be a STANDBY database
 .
 Redo Shipping Client Connected as PUBLIC
 -- Connected User is Valid
 RFS[68]: Assigned to RFS process 2488
 RFS[68]: Database mount ID mismatch [0x4342404d:0x4341ffb0]
 Fri Sep 08 09:12:05 2006
 Errors in file c:\oracle\product\10.2.0\admin\orcl\udump\orcl1_rfs_2488.trc:
 ORA-16009: remote archive log destination must be a STANDBY database
 .
 Fri Sep 08 09:12:14 2006
 Errors in file c:\oracle\product\10.2.0\admin\orcl\bdump\orcl1_arc1_496.trc:
 ORA-16009: remote archive log destination must be a STANDBY database
```

To avoid these error messages in the alert logs, null the log_archive_dest_2 parameter using the following commands:

```
alter system set log_archive_dest_2='SERVICE=null LGWR ASYNC REOPEN=60';
alter system set log_archive_dest_state_2='defer';
```

15.2.13 Create Standby Database Fails If Database Uses OMF Storage or ASM storage

The `create standby database` command fails with ASG_ORACLE-300: ORA-01276 errors if the database storage option uses OMF (Oracle Managed Files) or ASM (Automatic Storage Management).

To work around the problem, create a new database instance using DBCA on the primary site with alternate storage options before running the`create standby database` command.

15.2.14 Database Already Exists Errors During Create Standby

If you run a `create standby` command to overwrite an existing database, you get the following error messages:

```
Checking whether standby instance already exists
proddnode1: -->ASG_DUF-4950: An error occurred on host "proddnode1" with IP
"a.b.c.d" and port "7891"
standbynode1: -->ASG_DUF-4950: An error occurred on host "standbynode1" with IP
"e.f.g.h" and port "7891"
standbynode1: -->ASG_DGA-12500: Standby database instance "db102" already exists
on host "standbynode1".
standbynode1: -->ASG_DGA-13001: Error during Create Physical Standby:
Prepare-check standby.
standbynode1: -->ASG_DUF-3027: Error while executing Creating physical standby
database - prepare phase at step - check standby step.
```

Use the `oradim -delete -sid <DBSID>` command on Windows, or remove the database entry from oratab on UNIX platforms to make sure entries in the standby site for the database do not exist. Now rerun the create standby database to overwrite any existing database successfully.

15.2.15 Steps to Add a Database with OMF or ASM to ASG Topology

The asgctl `create standby database` command is designed to automate the creation of simple standby databases. It does not support some database options, such as the OMF (Oracle Managed Files) or ASM (Automatic Storage Management) storage options. If you plan to use the `create standby database` command to create a database at the standby site, create a new database instance on the primary site using DBCA (Database Configuration Assistant) without specifying the OMF or ASM storage options.

To create a new database instance with the OMF or ASM storage options, follow the instructions in the "Creating a Standby Database the Uses OMF or ASM" section of the *Oracle Data Guard Concepts and Administration* manual at:

`http://www.oracle.com/technology/documentation/index.html`

Then, after creating the database with the OMF or ASM storage options, use the asgctl `add instance` command to add the instance to the Disaster Recovery topology, so that it can be included in Disaster Recovery operations, such as failover and instantiate topology operations. See Section A.1.23 "OracleAS Guard Add Instance Command Fails When Attempting to Add an Oracle RAC Database to the Topology" of the *Oracle Application Server High Availability Guide* for release 10.1.3.2 for more information about using the asgctl `add instance` command.

15.3 Documentation Errata

This section describes documentation errata and omissions. It includes the following topics:

- Section 15.3.1, "Availability of a Previously Undocumented asgctl Command: create standby database"
- Section 15.3.2, ""Oracle BPEL Process Manager Clustering" Chapter Can Be Found in the Oracle BPEL Process Manager Installation Guide"
- Section 15.3.3, "Additional Site Switchover Information for RAC Deployments"

- Section 15.3.4, "Configuring Jgroups and OC4J Groups in BPEL Active-Active Topology"

15.3.1 Availability of a Previously Undocumented asgctl Command: create standby database

The asgctl create standby database command is not documented. The following information describes this command in more detail.

The syntax for the asgctl create standby database command is as follows:

```
create standby database <database_name> on <remote_host>
```

<database_name> is the primary database unique name used to create the standby database on the remote host system.

<remote_host> is the name of the host system on which the standby database is to be created.

Oracle software and OracleAS Guard software are required to be installed on the node designated as <remote_host>.

The init.ora parameter file generated for the standby database is configured assuming a non Oracle RAC enabled standby database. If the standby database is to be Oracle RAC enabled, the following initialization parameters must be defined appropriately:

- cluster_database
- cluster_database_instances
- remote_listener

Users should use this command sparingly and only as needed.

15.3.2 "Oracle BPEL Process Manager Clustering" Chapter Can Be Found in the Oracle BPEL Process Manager Installation Guide

In the *Oracle Application Server High Availability Guide*, section 5.2.2, "Oracle BPEL Process Manager in an Active-Active Topology", contains a reference to the "Oracle BPEL Process Manager Clustering" chapter in the *Oracle BPEL Process Manager Administrator's Guide*. This chapter is actually located in the *Oracle BPEL Process Manager Installation Guide*.

15.3.3 Additional Site Switchover Information for RAC Deployments

The *Oracle Application Server High Availability Guide* for 10.1.3.2 includes the "Site Switchover Operations" subsection in Section 5.12.1.1 "Scheduled Outages."

In step 5 in the numbered list in the "Site Switchover Operations" subsection, the following two list elements regarding RAC deployments should be added as list elements c and d:

1. For Oracle RAC Disaster Recovery deployments, shut down all the RAC instances and start up a single RAC node prior to the switchover.
2. After setting up the ORACLE_HOME, ORACLE_SID, and PATH variables on the database node, start up the database node:

```
DBHOME/bin/sqlplus /as sysdba
SQL> startup
```

15.3.4 Configuring Jgroups and OC4J Groups in BPEL Active-Active Topology

Section 5.2.2, "Oracle BPEL Process Manager in an Active-Active Topology," in *Oracle Application Server High Availability Guide 10g Release 3 (10.1.3.1.0)* does not include the required Jgroups and OC4J groups configuration recommendations. Refer to *Oracle Application Server Enterprise Deployment Guide 10g Release 3 (10.1.3.3.0)* for complete information on configuring Jgroups and OC4J groups.

16

Oracle Application Server Portal

This chapter describes issues associated with OracleAS Portal. It includes the following topics:

- Section 16.1, "Portlet and Provider Issues and Workarounds"
- Section 16.2, "Documentation Errors"

16.1 Portlet and Provider Issues and Workarounds

This section describes issues and workarounds related to OmniPortlet, Web Clipping, Simple Parameter Form, Page portlet, and WSRP providers. This section includes the following topic:

- Section 16.1.1, "Error Configuring OC4J Standalone for OmniPortlet Deployment"

16.1.1 Error Configuring OC4J Standalone for OmniPortlet Deployment

As part of the procedure to deploy OmniPortlet in a multiple middle-tier environment, you are required to create a database preference store to store the OmniPortlet preference information.

If you installed OC4J release 10.1.3, and added a `data-source` entry in the `data-sources.xml` file, then you will get errors. This is because data sources are defined differently in OC4J release 10.1.3 due to a change in the format of the `data-sources.xml` file.

To configure OC4J release 10.1.3 for OmniPortlet deployment, perform the following steps:

1. Add a new entry in the `data-sources.xml` file as described in step 8 under Section 6.3.2, "Configuring OC4J Standalone" in *Oracle Application Server Portal Developer's Guide*.
2. Edit the `provider.xml` file located in the directory, *`ORACLE_HOME`*`/j2ee/OC4J_Portal/applications/portalTools/omniPortlet/WEB-INF/providers/omniPortlet`. Edit the `preferenceStore` tag as shown in bold:

```
<provider class="oracle.webdb.reformlet.ReformletProvider">
   <vaultId>0</vaultId>
   <session>true</session>
   <preferenceStore
class="oracle.portal.provider.v2.preference.DBPreferenceStore">
      <name>omniPortletprefStore</name>
      <connection>jdbc/PooledConnection</connection>
   </preferenceStore>
```

3. Restart OC4J.

16.2 Documentation Errors

This section describes known errors in OracleAS Portal documentation. It includes the following topic:

- Section 16.2.1, "Edit Defaults Mode"

16.2.1 Edit Defaults Mode

In *Oracle Application Server Portal Developer's Guide*, the last list item under Section 3.2.6, "Edit Defaults Mode" reads as follows:

Configure OmniPortlet to use the DBPreferenceStore, and follow the steps in Section "5.3.6 Step 6: Configure Portal Tools and Web Providers (Optional)" of *Oracle Application Server Portal Configuration Guide*.

These steps in *Oracle Application Server Portal Configuration Guide* are applicable *only* for OC4J versions prior to 10.1.3. This list item should read as follows:

Configure OmniPortlet to use the database preference store. Depending on the version of OC4J that you have installed, perform either of the following:

- If you have installed an OC4J release prior to 10.1.3, then perform the steps described in section "5.3.6 Step 6: Configure Portal Tools and Web Providers (Optional)" of *Oracle Application Server Portal Configuration Guide*.
- If you installed OC4J release 10.1.3, then perform the following steps:

  1. Add a new entry in the `data-sources.xml` file as described in step 8 under Section 6.3.2, "Configuring OC4J Standalone" in *Oracle Application Server Portal Developer's Guide*.
  2. Edit the `provider.xml` file located in the directory, *`ORACLE_HOME`*`/j2ee/OC4J_Portal/applications/portalTools/omniPortlet/WEB-INF/providers/omniPortlet`. Edit the `preferenceStore` tag as shown in bold:

```
<provider class="oracle.webdb.reformlet.ReformletProvider">
   <vaultId>0</vaultId>
   <session>true</session>
   <preferenceStore
class="oracle.portal.provider.v2.preference.DBPreferenceStore">
      <name>omniPortletprefStore</name>
      <connection>jdbc/PooledConnection</connection>
   </preferenceStore>
```

  3. Restart OC4J.

17

Oracle Business Rules

This chapter describes issues associated with Oracle Business Rules. It includes the following topic:

- Section 17.1, "Standalone OC4J Rule Author Installation"
- Section 17.2, "Multiple Inheritance Exception When Using XML Facts"
- Section 17.3, "Deploying Rule Author on Non-Oracle Containers"
- Section 17.4, "RL serviceDateValidation Error: Fact Class Should Be Declared Earlier"

17.1 Standalone OC4J Rule Author Installation

To install Rule Author in a Standalone OC4J, do the following:

1. Deploy Rule Author EAR, found in `/Disk2/rules/webapps/ruleauthor_s.ear`.
2. Create a security group "rule-administrators".
3. Create a Rule Author user, for example, `ruleadmin`, and add this user to the "rule-administrators" group.
4. Copy the "rules" directory from an installation of Oracle Application Server into the ORACLE_HOME of the Standalone OC4J install.
5. Stop and restart OC4J.

17.2 Multiple Inheritance Exception When Using XML Facts

When using XML Facts, the following error may occur when attempting an `assertXPath` call:

```
Oracle Business Rules RL: RL code error
RLRuntimeException: fact class multiple inheritance not supported
at line 1 column 1 in main

caused by

MultipleInheritanceException: fact class 'mypkgname.MyClassNameImpl' cannot extend
both 'mypkgname.MyClassNameType' and 'mypkgname.MyClassName'
```

This may be caused by the fact class declaration for `ObjectFactory` appearing before the fact class declaration for the other JAXB classes in the generated RL.

The workaround for this issue is to delete `ObjectFactory` from the imported XML facts list. There are no known scenarios in which rules will be written using this class, so it is safe to remove.

If this does not resolve the problem, it may be necessary to prevent a fact class declaration for top-level XML Object in the generated RL.

The workaround for this issue is to uncheck the "Support XPath Assertion" for the top-level object. In the case of the previous error message, this would be "mypkgname.MyClassName".

17.3 Deploying Rule Author on Non-Oracle Containers

The documentation in section, C.3 of the *Oracle Business Rules User's Guide* incorrectly lists the location on the OracleAS Companion CD Disk of the non-Oracle .ear files for the supported non-Oracle containers. For some platforms, these .ear files are found on Disk3 of the OracleAS Companion CD Disk, and not on Disk2, as documented.

17.4 RL serviceDateValidation Error: Fact Class Should Be Declared Earlier

In certain cases, you can receive the following RL generation error:

"Fact class should be declared earlier ...".

For example, with the following generated RL for a data model:

```
ruleset DM {
 function CreateDataAndTestRules()
 {
 servOrders.ServiceOrderTypeImpl sot = new
servOrders.ServiceOrderTypeImpl();
.
.
.
```

This causes the implemented `Impl` class to be autofactclassed before the Type is factclassed. When the Type is then referred to in the rules, the following error is thrown:

ClassName: A syntax error is found. Error:fact class should be declared earlier at line 5 column 3 in `serviceDateValidation`

To fix this problem:

Classes with complex type hierarchies, for example they both extends a class and implements an interface must have classes referenced in a particular order. If the classes are not referenced in the correct order, then the rules engine cannot correctly determine the class hierarchy.

There are two ways to fix this problem:

- Check "supports XPath" for the `ServiceOrderType` class; this introduces a slight performance cost.
- Change the code in the `CreateDataAndTestRules` function. For example, change the instance creation to:

  ```
  servOrders.ServiceOrderType sot = new servOrders.ServiceOrderTypeImpl();
  ```

This parses in the right order such that the superclass is created before the implementing class.